End of Life Nutrition and Hydration

Comprehensive Nutrition Assessment and Intervention for Older Adults

Becky Dorner & Associates

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Becky Dorner & Associates, Inc.
www.beckydorner.com
info@beckydorner.com
1-800-342-0285

End of Life Nutrition and Hydration

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Acknowledgements

Author/Editor:
Becky Dorner, RDN, LD, FAND is widely-known as one of the nation's leading experts on nutrition, aging, and long-term care. Her career of over 30 years has been dedicated to advocating for excellence in nutrition care to optimize health for older adults. An experienced speaker and extensively published author, Becky is the Founder/President of Nutrition Consulting Services, Inc., whose dedicated team of RDNs and NDTRs have served health care facilities since 1983; and Becky Dorner & Associates, Inc., which offers a broad library of resources and continuing professional education programs.

Becky's mission to improve nutrition care for older adults has inspired her to present more than 550 programs for national, international and state professional meetings in 5 countries and 50 states; and to publish more than 270 manuals, CEU programs and practical articles for professional journals and newsletters. Her free email magazine keeps 35,000 health care professionals up to date on the latest news in the field.

An active leader since 1984, national leadership positions have included: Academy of Nutrition and Dietetics Board of Directors, Speaker-elect/Speaker/Past Speaker of the House of Delegates, Chair of the Council on Future Practice, Academy Research Committee, Evidence Analysis Library, Academy Delegate, Chair, Consultant Dietitians in Health Care Facilities (now Dietetics in Health Care Communities or DHCC) Dietetic Practice Group (DPG), and Board of Directors National Pressure Ulcer Advisory Panel.

Honors include: Fellow of the Academy of Nutrition and Dietetics (Academy), Academy Award of Excellence in Business and Consultation, NE Outstanding Nutrition Entrepreneur, Academy Recognized Young Dietitian of the Year and DHCC Distinguished Member Award.

Contributing Editor:
Liz Friedrich, MPH, RD, CSG, LDN, FAND is a Registered Dietitian and president of Friedrich Nutrition Consulting in Salisbury, NC. The company provides a variety of nutrition consulting services with a focus on gerontological nutrition.

She has co-authored numerous articles in journals and magazines, including the Academy of Nutrition and Dietetics Position Paper titled Individualized Nutrition Approaches for Older Adults in Health Care Communities (2010) and Enteral Nutrition for Older Adults in Nursing Facilities (2011).

Liz was also the Associate Director of Nutrition411.com, a respected website for dietitians, and is an evidence analyst for the Academy of Nutrition and Dietetics' Evidence Analysis Library. In 2009 Liz became Board Certified as a Specialist in Gerontological Nutrition.

Liz has served as the Delegate for the Nutrition Entrepreneurs dietetic practice group to the Academy of Nutrition and Dietetics House of Delegates, and as a volunteer for the North Carolina Dietetic Association (NCDA) and the Nutrition Entrepreneurs Dietetic Practice Group (NE DPG) in many different board positions. She is the recipient of two North Carolina Dietetic Association awards, the Recognized Young Dietitian of the Year (1991) and the Member of the Year (2000).

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Note: The following inservices are available on the enclosed CD for hard copy purchases and can be downloaded for e-book purchase from the link provided on your original order confirmation.
-Comfort-Guided Nutrition Care Inservice
-Tube Feed or Not Tube Feed? Inservice
-End of Life Hydration and Hydration Inservice

End of Life Nutrition and Hydration

Chapter 1: Nutrition Assessment at the End of Life

Introduction

When an individual has a serious illness and is unable to consume enough food and fluid, the health care team and patient or their surrogate must begin to consider ways to maintain nutritional status. An individual's goals of care (palliative, curative, or restorative) play into nutrition care-planning decisions.

At the end of life, anorexia or decreased appetite, difficulty swallowing, or other conditions can interfere with eating and digestion and/or absorption of food and nutrients, resulting in altered nutritional status. If indicated and desired, artificial nutrition and hydration (ANH), also known as enteral nutrition (EN), or more commonly known as tube feeding can be provided. A thin, flexible tube is inserted directly into the stomach, bypassing the mouth and esophagus. EN is preferred over parenteral nutrition (infusion of nutrition through the vein) when the gastrointestinal (GI) tract is healthy because it helps to stimulate or maintain gut function, causes fewer complications, and is the least invasive and least expensive route for providing ANH (1).

Making the choice as to whether or not to initiate tube feeding, particularly near the end of life, can be difficult and emotional. This manual will outline options for end-of life care, including comfort-guided nutrition care (often referred to as palliative care). It will discuss the risk and benefits of enteral nutrition at the end of life, and provide practical information on the initiation and monitoring of tube feeding if it is desired. The *Policies and Procedures*, *Regulatory Information*, and *Appendix* provide supporting materials.

Individuals that are nearing the end of life will require a nutrition plan of care that is based on nutrition screening and assessment, input from the patient and their family or surrogate, and input from the facility interdisciplinary team (IDT). Goals of care (palliative, curative, or restorative) should be outlined and used to help determine the plan of care. Decisions about the initiation, continuation, or discontinuation of ANH should be made the same way other health care decisions are made by evaluating the risk and potential benefits, goals of treatment, and patient preferences (2).

Advance Directives Regarding Nutrition and Hydration

The *Patient Self-Determination Act*, a federal law enacted in 1991, requires that individuals be informed about their right to participate in health care decisions, including their right to have an advance directive. Individuals must not only be informed of nutrition options, but deemed competent to make decisions. A competent individual is defined as someone who is informed and able to make their own healthcare decisions. If a person is considered competent, he or she may change or cancel advance directives at any time. A surrogate is someone who is an authorized proxy that will act in the resident's/patient's place if that individual loses the ability to make their own decisions about healthcare. If the individual is not able to participate in decision-making, their advance directive, if one exists, can help guide the IDT.

There are two main types of advance directives, living wills and durable powers of attorney. They are both legal documents that allow individuals to convey their decisions about end of life care to family, friends and health care professionals. Unfortunately, some documents, such as a Do Not Resuscitate (DNR) don't specify whether interventions such as tube feeding or IV fluids are desired. A living will stipulates the type of care the individual desires to sustain life, including tube feedings; while a durable power of attorney identifies the individual's surrogate or proxy,

who will make health care decisions when the individual is not capable of making their own decisions.

The gold standard for advance care planning would be that an individual and family or surrogate hold thoughtful conversations about end of life decisions, provide detailed documentation of a person's wishes, and have a well-informed surrogate decision-maker (3). However, many individuals have not addressed and/or documented their end of life wishes. Studies show that about 4 in 10 Americans age 65 and older do not have advance directives or have not written down their goals for end of life medical treatment (4).

In January 2016, the Centers for Medicare and Medicaid Services (CMS) implemented a new rule that allows Medicare to cover advance care planning discussions between health care professionals (physician and nurse practitioners) and patients (5). Conversations can be held in medical offices or facility settings. Two new current procedural terminology (CPT) codes, 99497 and 99498, have been developed to allow billing for initial and follow-up advance planning conversations (6).

Healthcare facilities usually request advance directives upon admission so that the individual, their surrogate, and the IDT all understand the individual's desires in end of life situations. Advance directives should be reassessed when a significant decline in condition occurs. A *Sample Advance Directive* can be found in the Appendix of this manual. Advanced directive forms for each state can be downloaded at:
http://www.caringinfo.org/i4a/pages/index.cfm?pageid=3289.

End of Life Care Planning

When a decline in status is observed, the plan of care will usually change for a patient/resident. More information on care planning can be found in Chapters 5 and 6, and the Appendix. The following guidelines can help provide clarity to the IDT for developing a plan of care.

- The IDT should initiate an accurate and complete assessment (including nutrition assessment by the RDN or designee), review the medical record, and determine if the care plan was implemented correctly and appropriately by qualified staff. Interventions should be evaluated. The plan of care should be changed based on the desires of the individual.
- End of life decisions should be initiated only after the IDT is confident that all other medical and nutritional interventions have been presented and/or implemented.
- The medical record should contain the individual's advance directive documents such as the Living Will and/or Durable Power of Healthcare/Medical Attorney to indicate the individual's end of life desires. These documents should be revisited with the patient and/or representative to assure they are still appropriate.
- If no advance directives regarding artificial nutrition and hydration are on file, and it appears necessary to initiate such interventions to sustain life, a member of the IDT should consult with the patient/resident and/or surrogate to determine the individual's desires. In some facilities one individual (such as the physician, registered dietitian nutritionist, or nurse manager) might be designated to have these sensitive conversations. Facility protocols should be in place so that a patient/family/surrogate is not approached repeatedly.

- The individual's choices for end of life care should be documented in the medical record. Advanced directive forms for each state can be downloaded at http://www.caringinfo.org/i4a/pages/index.cfm?pageid=3289.
- If the patient and/or surrogate are in agreement that aggressive measures are not indicated, the physician should write an order for "comfort measures only" or "palliative care" (depending on facility protocols) and orders followed based on the facility's definitions of comfort or palliative care. Referral to hospice care may be initiated, if appropriate and desired. Facility staff should honor the individual's wishes and provide care delivery as determined via the physician's order.
- If artificial nutrition and/or hydration is desired, orders should be written and the plan of care carried out as outlined in the upcoming pages of this document.
- The care plan should be updated as needed to reflect the end of life decisions made by the individual or the individual's surrogate. Interventions as described in the plan of care should be implemented and revised as necessary to reflect the individual's needs and choices to provide the highest quality of life possible.

The Role of the Registered Dietitian Nutritionist (RDN)

The RDN plays a significant role on the interdisciplinary team (IDT) including serving as an advocate for the patient and providing medical nutrition therapy (MNT) to meet the individual's changing goals for care. The RDN can also play an integral role in ethical deliberations with the IDT and/or an individual regarding end of life nutrition care (7). A variety of skills are necessary to help facilitate these conversations, including clinical skills, negotiation skills, and ability to provide understanding and empathy. The RDN can also play a role in establishing facility ethics policies, participating in ethics committees, and educating patients, families, and health care professionals on the risks and benefits of tube feeding at the end of life. The Academy of Nutrition and Dietetics (Academy) Practice Paper titled "Ethical and Legal Issues in Feeding and Hydration" is a valuable tool for RDNs and can be accessed by Academy members at http://www.eatrightpro.org/resource/practice/position-and-practice-papers/practice-papers/practice-paper-ethical-and-legal-issues-in-feeding-and-hydration.

End of Life Medical Nutrition Therapy

Regardless of the nutrition care plan, nutrition screening and the Academy's Nutrition Care Process should be implemented with changes made as needed to assure goals of care are met.

Nutrition Screening

Each health care facility or agency should have a solid nutrition screening policy in place to identify level of risk for undernutrition or malnutrition and to make appropriate referrals to the registered dietitian nutritionist (RDN). The nutrition screening process should focus on identifying risk factors that may contribute to unintended weight loss, undernutrition, dehydration, poor food/fluid intake, and inability to eat independently. It is important to use a validated nutrition screening tool and to rescreen individuals after any significant change in condition. (Refer to the next page for a list of Validated Nutrition Screening Tools).

In outpatient settings, The Self MNA® Mini Nutritional Assessment may be useful (found at http://www.mna-elderly.com/forms/mini/mna_mini_english.pdf. The *DETERMINE Your Health Checklist* may also be used in outpatient or home and community based settings, and it can be found at http://nutritionandaging.fiu.edu/downloads/NSI_checklist.pdf.

End of Life Nutrition and Hydration

All healthcare facilities and agencies should have a nutrition screening policy that defines the time frame for completing a screen. The referral to the RDN and time frame for the completion of a comprehensive nutrition assessment should be outlined in facility policies and as defined by regulatory agencies.

Validated Nutrition Screening Tools (8-11)
• Mini Nutrition Assessment® (MNA®): www.mna-elderly.com and www.mna-elderly.com/forms/mini/mna_mini_english.pdf • Malnutrition Universal Screening Tool (MUST): www.bapen.org.uk/must_tool.html • Malnutrition Screening Tool (MST) http://static.abbottnutrition.com/cms-prod/abbottnutrition.com/img/Malnutrition%20Screening%20Tool_FINAL.pdf • Simplified Nutrition Assessment Questionnaire (SNAQ) http://www.fightmalnutrition.eu/fight-malnutrition/screening-tools/snaq-tools-in-english/

Nutrition Care Process

If nutrition screening determines that an individual is at moderate or high risk of undernutrition or malnutrition, or has existing malnutrition, then a referral should be made to the RDN to complete a comprehensive nutrition assessment. The RDN should document nutrition care using the Academy's Nutrition Care Process steps of nutrition assessment, nutrition diagnosis, nutrition interventions, and nutrition monitoring and evaluation. Information on the Academy's Nutrition Care Process is available at http://www.eatrightpro.org/resources/practice/nutrition-care-process.

Nutrition Assessment

Nutrition assessment includes a nutrition-focused physical assessment, review of medical records, a patient/resident interview, and review of other pertinent facility documents such as pressure injury and weight reports. The *Subjective Global Assessment* (SGA) is a validated tool which may assist the RDN in completing a comprehensive nutrition assessment. However, this is not widely used in the U.S. (12,13). The SGA can be accessed at http://subjectiveglobalassessment.com/.

A comprehensive nutrition assessment should include some basic information such as (1):

- Medical history, medical diagnosis and recent changes in condition.
- Height, current weight, usual body weight, weight history and significant changes in weight (>5% in 30 days, or >10% in 180 days).
- Estimation of protein, calorie and fluid needs.
- Current food and fluid intake as compared to calculated nutritional needs.
- Eating ability (able to feed self, requires assistance, needs total assistance).
- Interview with the individual and/or family or staff for food preferences and intolerances.

- Medications that may affect food/fluid intake or tolerance (food-medication interactions).
- Other factors which may impact nutritional status (such as chewing/swallowing ability, GI problems, depression, pressure injuries, etc.).
- Signs/symptoms of dehydration (i.e. poor skin turgor, flushed dry skin, coated tongue, oliguria, irritability, confusion).
- Current nutrition interventions (including feeding assistance, changes in dining location or level of assistance, and oral nutritional supplements).
- Monitoring and evaluation of nutrition interventions and outcomes.
- Intolerances and allergies: drug allergies, food allergies or intolerances, food or fluid aversions.
- Dental/oral: chewing and swallowing ability, dentition.
- Cognitive status: altered cognitive function, dementia, Alzheimer's disease.
- Presence of depression or anxiety that is affecting intake.
- Religious or cultural customs that influence eating and end of life decisions.
- Prognosis and anticipated length of life.

The nutrition care plan should be developed based on the assessment and the risk factors identified. Goals should be measurable. Interventions should be individualized and revised as often as needed based on the individual's responses, outcomes and desires.

Nutrition Focused Physical Examination (1,14,15)

Nutrition focused physical examination includes an inspection of the body to determine information regarding the individual's nutrition status. By evaluating the individual's eyes, mouth, skin, nails, hair and extremities, additional information related to nutrition status may be revealed. The individual's overall appearance can help a clinician determine whether the person appears to be underweight or cachectic, which may be associated with inadequate total energy intake related to anorexia, poor appetite, hypermetabolism, or any number of other factors. Protein energy malnutrition (PEM) may be indicated by muscle wasting, abdominal distention, edema and/or weakness in the extremities, and factors such as flaky dermatitis or pigmentation changes in the skin.

An oral examination may reveal issues with chewing and/or swallowing due to poor dental condition, inadequate or poor fitting dentures, sore mouth, lesions, inflamed or swollen gums, or other factors. Vitamin C or riboflavin deficiency may be indicated by bleeding gums. Skin examinations help to assess for presence of ulcers, lesions, skin tears, rashes, bruises, turgor, dryness or flakiness.

See information in the Appendix on Nutrition Focused Physical Assessment for more details.

Laboratory Assessment

Biochemical data analysis may help clinicians to evaluate overall health issues. Lab values can be useful for identifying and evaluating interventions for anemia and dehydration but may not be useful in identifying malnutrition.

Evaluating Protein Status

Because plasma protein measurements are quick and inexpensive, and because many plasma proteins are synthesized in the liver, plasma protein has historically been used to

assess protein status and identify protein energy malnutrition. In recent years, the understanding of these lab values has changed. Neither albumin nor prealbumin are considered accurate markers of protein or nutritional status. Although they may assist the clinician to establish progress, they may not correlate with clinical observations of nutritional status (1,16,17). Since it is impossible to separate nutrition from total health status, these lab values are more useful in helping to establish overall prognosis and severity of illness.

Dehydration

Dehydration can have serious consequences for an older adult: decreased functional ability, predisposition to falls and infections, fluid and electrolyte imbalances, disorientation, and even death. In addition to these negative consequences, dehydration can be difficult to detect early signs due to the disoriented state it often causes especially in older adults. The ultimate goal is to prevent dehydration from occurring, by identifying potential risk factors, developing a preventative care plan and providing sufficient fluid (18). Dehydration may be unavoidable in those whose food and fluid intake is poor near the end of life. In some cases intravenous (IV) hydration may be indicated if it is in agreement with an individual's advance directives. IV fluids can help maintain hydration but will not provide adequate nutrition to sustain life.

Each individual should be provided with sufficient fluid intake to maintain proper hydration and health; however, at the end of life, fluid consumption may be poor. The amount of fluid needed is specific for each individual, and fluctuates as the individual's condition fluctuates. For example, increased fluids are needed if a person has a fever or diarrhea (1,18). The nutrition assessment should focus on identifying risk factors that may contribute to the development of dehydration and clinical factors that may be present. Interventions should be individualized and revised as often as needed. Recommendations to prevent dehydration include identifying favorite beverages, offering them frequently, and encouraging fluid intake both with and between meals.

Risk Factors for Dehydration (18)

Risk factors for dehydration include:

- Coma/decreased sensorium
- Fluid loss and increased fluid needs -- Fluid loss exceeds the amount of fluids consumed (e.g., loss from vomiting, fever, diarrhea, uncontrolled diabetes)
- Fluid restriction secondary to renal dialysis
- Functional impairments that make it difficult to drink, reach fluids or communicate fluid needs (e.g. aphagia, dysphagia)
- Refusal of fluids
- MDS 3.0 triggered Care Area Assessment (CAA) for dehydration (See *MDS 3.0 Indicators of Dehydration/Fluid Maintenance* in Chapter 6)

Fluid and Electrolyte Volume Deficit Disorders

There are 3 types of fluid and electrolyte volume deficit disorders:

- Hypertonic dehydration-water deficit (water loss is greater than sodium loss): fever, elevated temperature, air fluidized beds, dry oxygen, diuretics, laxatives, cardiac glycosides, inadequate access to fluids (dependence, dementia, reduced consciousness).
- Isotonic dehydration (equal amounts of body water and sodium lost)—GI fluid losses (diarrhea, vomiting, excess ostomy output).

- Hypotonic dehydration (sodium loss exceeds water loss)—diuretics and low sodium diet, glucocorticoid deficiency, hypothryoidism, Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH) (19).

The following table describes how each type of electrolyte volume deficit disorder is assessed using laboratory values.

Lab Value	Indication of Dehydration		
	Hypertonic	**Isotonic**	**Hypotonic**
Serum Osmolality	>Normal	WNL	<Normal
Serum Sodium	>Normal	WNL	<Normal
Hemoglobin/Hematocrit	>Normal	>Normal	>Normal
Serum Albumin	>Normal	>Normal	>Normal
Blood Urea Nitrogen (BUN)	>Normal	>Normal	>Normal

Source: Litchford M. *Laboratory Assessment of Nutritional Status: Bridging Theory and Practice*, Greensboro, NC: Case Software and Books, 2010. Used with Permission. (Reference 19)

Anemia

Anemia is defined as a blood disorder in which there are a reduced number of red blood cells, low hemoglobin or a low hematocrit (1). The World Health Organization (WHO) classifies anemia as a hemoglobin level less than 12 mg/dL in females and 13 mg/dl in males (20). When anemia is present, the blood has reduced oxygen-carrying capacity which can lead to various side-effects and negative consequences such as lower endurance, impaired temperature regulation, decreased immune function, increased rates of infection, impaired cognitive functioning/memory, and possibly increased mortality in older adults (20). There are several different types of anemia, including anemia of chronic disease. Treatment of underlying disease improves most cases of anemia of chronic disease (21). Near the end of life, it may not be realistic or possible to correct anemia.

Signs and symptoms of anemia include apathy, fatigue, headaches, impaired cognition, impaired wound healing, inflammation of the tongue, lips or mucous membranes of the mouth, pale nail beds, concave nails, pica, frequent infections, intolerance to cold temperatures, generalized weakness and itching (21). Once the risk of anemia has been established, the presence and type of anemia must be determined in order to provide appropriate nutritional interventions. In addition to deficiencies of iron, vitamin B_{12} and folate, anemia of chronic disease can occur with chronic illness or medical conditions independent of deficiencies.

A complete blood count provides information about both the presence and the type of anemia. A low hemoglobin or hematocrit confirms the presence of anemia. The mean corpuscular volume (MCV) and mean corpuscular hemoglobin (MCH) provide information about the type of anemia. Based on the results of the complete blood count, further lab work can be drawn to determine the type of anemia. Once the type of deficiency is established, prompt nutrition interventions can focus on replacing the deficient vitamin or mineral through food sources and supplements if required. (See *Laboratory Tests and Nutrition Indicators Related to Anemia* in the Appendix).

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Malnutrition

Introduction

Malnutrition is a broad term often used to describe patients who appear to have compromised nutritional status, poor intake, unintended weight loss, pressure injuries, or cachexia. The Academy of Nutrition and Dietetics (Academy) Nutrition Care Process Terminology (NCPT) defines malnutrition as "inadequate intake of protein and/or energy over prolonged periods of time resulting in loss of fat stores and/or muscle stores, including starvation-related malnutrition, chronic disease or condition-related malnutrition and acute disease or injury-related malnutrition" (22). As the Academy definition of malnutrition indicates, in recent years the diagnosis of and understanding of malnutrition has changed and it is now recognized as a complex syndrome that may be caused by different disease states.

Consequences of Malnutrition

Malnutrition is associated with many adverse outcomes, including an increased risk of pressure injuries and/or impaired wound healing, immune suppression, increased infection rate, loss of function, increasing risk of falls, longer length of hospital stay, higher hospital readmission rates, higher treatment costs, and increased mortality (23). Nutrition screening, assessment, and early nutrition intervention can reduce these complication rates (23).

Diagnosing Malnutrition

In the past, protein energy malnutrition (PEM), or an inadequate intake of both calories and protein, was diagnosed using serum albumin and/or prealbumin. PEM was classified as mild, moderate or severe based on a patient's serum protein levels. However, in the last decade the scientific understanding of hepatic proteins like albumin and prealbumin has evolved. It is now understood that serum albumin and prealbumin are negative acute-phase reactants that decrease in response to acute and/or chronic inflammatory disorders (24). Conditions that lead to this decrease include (but are not limited to) infection, trauma, surgery, burns, tissue damage, cancer, strenuous exercise, and childbirth (24). Serum albumin and prealbumin will rise when the underlying condition has resolved but not necessarily with increased protein intake (25). Given this new knowledge, experts agree that a low serum albumin and/or prealbumin may be an indicator of morbidity or mortality, but is not an indicator of nutritional status (17,26).

As the medical community began to understand the relationship of serum hepatic proteins to inflammation, the understanding of malnutrition began to change. As a result it has become clear that malnutrition is a complex syndrome that manifests in different ways and that diagnosing malnutrition based on serum albumin or prealbumin levels alone is no longer applicable. In an attempt to clarify the definition of malnutrition, an international consensus committee met and in 2010 proposed that malnutrition be categorized in three ways (27).

1. Starvation related malnutrition: chronic starvation without inflammation (for example, medical conditions like anorexia nervosa or economic conditions that result in lack of food intake).
2. Chronic disease related malnutrition: when chronic diseases or conditions that impose sustained inflammation of a mild to moderate degree are present, such as organ failure, pancreatic cancer, rheumatoid arthritis, or sarcopenic obesity.
3. Acute disease or injury related malnutrition: when inflammation is acute rather than chronic, for example, major infection, burns, trauma, or closed head injury.

In 2012 the Academy of Nutrition and Dietetics and the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) released a consensus statement on the identification and documentation of malnutrition. The authors suggest the three-pronged approach to identifying malnutrition mentioned above and then suggests six characteristics for diagnosing malnutrition. The characteristics are outlined below.

Proposed Clinical Characteristics Used To Categorize Malnutrition (17)

- **Energy intake:** monitor meal intake and compare with energy needs.
- **Interpretation of weight loss:** evaluate weight loss in light of clinical condition and assess weight changes over time.
- **Loss of body fat**, particularly subcutaneous fat.
- **Loss of muscle mass**, including wasting of the temples, clavicles, shoulders, scapula, thigh, or calf.
- **Fluid accumulation:** localized or generalized edema which often masks weight loss.
- **Reduced grip strength** as measured by a dynamometer.

The consensus statement proposes specific criteria within each of the 6 categories to further diagnose malnutrition as non-severe or severe. For more information, refer to the chart in the Academy and A.S.P.E.N. Consensus article which can be accessed at http://malnutrition.andjrnl.org/Content/articles/1-Consensus_Statement.pdf.

Nutrition-focused physical assessment is one key to identifying malnutrition because it helps identify loss of body fat or muscle mass, fluid accumulation and reduced grip strength.

Despite the changes in our understanding of malnutrition, some doctors, nurse practitioners, physician's assistants, nurses, and RDNs still order albumin levels to evaluate nutritional status. Currently ICD-10 codes for protein-energy malnutrition remain unchanged, although conversations are in progress to change them to incorporate the proposed new terminology for identifying malnutrition (17).

The malnutrition criteria proposed in 2012 are a work in progress. The characteristics used to define and categorize malnutrition may change over time. Acute and long-term care facilities are beginning to develop protocols for adopting the current criteria. RDNs and NDTRs can help educate staff in their facility about the changes in diagnosis of malnutrition, discourage use of serum hepatic proteins to identify malnutrition, and encourage facilities to adopt the new criteria.

Estimating Nutritional Needs

The RDN should use clinical judgment when estimating nutritional needs. It is important to document the methods used to estimate nutrition needs and the reason why a specific method was selected. The RDN should monitor and evaluate for adjustments in nutrients as needed. Calories, protein, and fluids provided should be adjusted up or down based on the individual and clinical judgment after a comprehensive assessment has been completed.

Energy Needs

In healthy adults, energy needs decline with aging so calorie intake must be reduced to maintain weight (28). A corresponding decrease in physical activity level usually occurs with aging. As basal energy needs decrease and activity levels slow, less energy is needed (28). Most experts agree that the most accurate method of predicting caloric needs is the use of indirect calorimetry (29,30). However, equipment used to measure calories via indirect

calorimetry is not often readily available in most facilities. In these cases, kilocalories (kcalories) must be estimated using a standardized mathematical formula.

There is controversy over which mathematical equation provides the most accurate caloric calculations in the adult population. This is especially true for older adults, including those who are obese. Historically, nutrition professionals used the Harris Benedict equation as the standard formula for calculating kcalorie needs. However, research indicates that this equation is not the most accurate predictor of energy needs for older adults. There is no one equation that is recommended for all populations.

The Mifflin-St. Jeor equation is considered the most reliable indicator of resting energy expenditure (REE), prediction in healthy obese and non-obese adults (29). However, there is little research available to indicate accuracy of prediction for certain populations such as older adults (28,29). Hypermetabolic conditions such as infection, stress, trauma, and pressure injuries may increase caloric needs. See the Appendix for more information on Nutritional Needs During Periods of Stress.

The Academy of Nutrition and Dietetics' (Academy) Evidence Analysis Library breaks the estimation of kcalorie needs into three types of patients (31):

1. Obese (BMI $\geq$30)
    a. Indirect calorimetry (IC) if available and able to measure.
    b. For acutely and critically ill obese patients with no renal or hepatic issues, the hypocaloric regimen of 22 kcal/kg ideal body weight may be most appropriate.
    c. For critically ill mechanically ventilated, obese patients, consider use of the Ireton-Jones equation (See Appendix for more information).

2. Acutely ill: Energy needs should be based on resting metabolic rate (RMR):
    a. Indirect calorimetry (IC) if available and able to measure (IC may not be possible for patients with chest tubes, supplemental oxygen, hyperventilation, etc.)
    b. If unable to measure IC, use the Mifflin-St. Jeor equation (using actual weight for overweight and obese individuals).
    c. For spontaneously breathing patients with clinical states (such as diabetes, trauma, pancreatitis, burns) use the Ireton-Jones equation.

3. Critically ill
    a. Indirect calorimetry (IC) if available and able to measure for RMR.
    b. Respiratory quotient (RQ): If <0.7 or >1.0, the test should be repeated (low RQ may indicate hypoventilation or prolonged fasting; high RQ in absence of overfeeding may indicate hyperventilation or inaccurate collection of gas).
    c. For non-obese, critically ill patients consider the following predictive equations, which are available in Appendix of this manual:
        i. Penn State, 2003a
        ii. Swinamer equation
        iii. Ireton-Jones equation

End of Life Nutrition and Hydration

Mifflin-St. Jeor Equation (29, 31)
The Mifflin-St. Jeor Equation has been used as a standard method for calculating Resting Energy Expenditure (REE).

Males	Females
REE = 10 x weight (Kg) + 6.25 x height (cm) – 5 x age (years) +5	REE = 10 x weight (Kg) + 6.25 x height (cm) – 5 x age (years) – 161
Example	Example
Wt 70 kg, Ht 178 cm, 45 years old REE = 700 + 1112 – 225 + 5 REE = 1592	Wt 55 kg, Ht 163 cm, 45 years REE = 550 + 1019 – 225 – 161 REE = 1183

To determine Total Energy Expenditure (TEE), multiply REE by activity factor and x injury factor if appropriate.

Alternate Methods of Calculating Energy Needs (32)
Alternate methods of calculating energy needs in adults include the following:

Individuals under physiological stress with pressure injuries	30 to 35 kcalories (kcal)/kg body weight
Normal weight adults	25 to 30 kcal/kg body weight
Underweight older adults	27-28 kcal/kg body weight
Paraplegics	28 kcal/kg body weight
Quadriplegics	23 kcal/kg body weight
Obese, critically ill	22 kcal/kg body weight
Healthy older adult women	18-22 kcal/kg body weight
Healthy older adult men	20-24 kcal/kg body weight

Estimating Protein Needs
Daily protein requirements for older adults should be 1.0 gram per kilogram body weight. Protein requirements may vary depending on a number of factors, including but not limited to: renal status, hepatic function, presence of metabolic stress (i.e. pressure injury or wound, infection, etc.), undernutrition or protein energy malnutrition (PEM), and/or presence of hepatic (liver) disease. A comprehensive nutrition assessment is needed to determine the appropriate level of protein. Refer to the table on the next page for approximate protein needs of various diseases and conditions.

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Diseases and Conditions	Protein Needs
Adults	
• Maintenance	0.8 - 1.0 g/kg/day
• Older Adults	1.0 g/kg/day
Cancer	
• Cancer	1.0 - 1.5 g/kg/day
• Cancer cachexia	1.5 - 2.5 g/kg/day
Critical illness including burns, sepsis, traumatic brain injury	1.5 - 2.0 g/kg/day
GI issues	
• Inflammatory bowel disease	1.0 - 1.5 g/kg/day
• Short bowel syndrome	1.5 - 2.0 g/kg/day
Hepatic disease	
• Hepatitis	1.0 - 1.5 g/kg/day
• Cirrhosis	1.0 - 1.2 g/kg/day
Obesity, *with hypocaloric feeding*:	
• BMI >27, normal function of kidneys, liver	1.5 - 2.0 g/kg IBW/day
• Class I or II obesity with trauma (ICU)	1.9 g/kg IBW/day
• Class III obesity with trauma (ICU)	2.5 g/kg IBW/day
Pressure injuries (including prevention for high risk of pressure injuries)	1.25 - 1.5* g/kg/day (when compatible with goals of care) *Assess renal function to assure that high levels of protein are appropriate
Pulmonary disease	1.2 - 1.5 g/kg/day
Renal disease	
• Predialysis	0.6 - 0.8 g/kg/day
• Hemodialysis	1.2 - 1.3 g/kg, up to 1.5 - 1.8 g/kg/day
• Peritoneal dialysis	≥1.5 - 2.5 g/kg IBW/day
• Continuous renal replacement therapy (CRRT)	>1.5 - 2.5 g/kg IBW/day
Stroke	1.0 - 1.25 g/kg/day

(Sources: 1,29,33,34,35)

End of Life Nutrition and Hydration

Estimating Fluid Needs (18,29,35)

Many factors affect fluid needs including hydration status, renal status, presence of severe edema or ascites, and fluid loss from fever, draining wounds, vomiting, diarrhea, or other insensible fluid losses.

General Guidelines for Estimating Fluid Needs (1)	Preferred Method of Estimating Fluid Needs for Obese Individuals (1)
1. 1500 mL for the first 20 kg +20 mL/kg for each kg >20 kg 2. 1 mL per kcalorie consumed 3. Urine output + 500 mL/day	1000 mL fluid for the first 10 kg actual body weight +50 mL fluid/kg for the next 10 kg actual body weight • For persons <50 years old: +20 mL fluid/kg for each additional kg • For persons >50 years old: +15 mL fluid/kg for each additional kg Note: Adjusts for extremes in body weight. May be used for individuals who are overweight or obese.

Alternate Methods of Calculating Fluid Needs (mL/day) (1,29)	
1. 1000 mL/kg for the first 10 kg body weight +50 mL/kg for the second 10 kg body weight +15 mL/kg for remaining kg body weight	2. 30 mL/kg actual weight May be more for dehydration, or less for chronic renal disease or congestive heart failure
3. (Kg body weight – 20) x 15 + 1500 Example: Weight is 350# (159 kg): 159 kg <u>- 20 kg</u> 139 kg	139 kg x 15 mL = 2085 mL 2085 mL + 1500 mL = 3585 mL

Factors That May Increase Fluid Needs (29,32,36)		
• Burns • Certain medications such as diuretics • Circulating air bed for wound healing treatment • Dehydration • Diarrhea • Draining fistula	• Draining wound • Emesis • Fever (fluid needs may increase by 12.5% for every 1º F increase in body temperature) • Gastric and/or renal losses (extraordinary fluid needs should be based on average 24 hour output) • Hot and/or dry environment	• Hyperventilation (fluid needs may increase by 10 to 60%) • Hyperthyroidism (fluid needs may increase by 25 to 50%) • Moderate or profuse perspiration (needs may increase 10 to 25%) • Polyuria • Pressure injuries

Factors That May Require Decreased Fluid Intake (1,18)
• Congestive heart failure • Edema • Hepatic failure with ascites • Renal failure (severe) • SIADH (syndrome of inappropriate antidiuretic hormone)

Signs of Over-hydration (1,29)
• Decrease in sodium, potassium, albumin, BUN, creatinine • Edema • Increase in blood pressure • Decrease in pulse rate

The MDS 3.0 and Care Plan

The MDS 3.0 Resident Assessment Instrument (MDS 3.0) used in skilled nursing facilities is a basic assessment which can help to generate referrals to interdisciplinary team members including the RDN. Referrals are typically based on the triggered Care Area Assessments (CAAs) related to nutritional status, feeding tubes, and/or dehydration/fluid maintenance. Triggers may include a BMI of less than 18.5, unintended weight loss, therapeutic or mechanically altered diets, feeding tubes, parenteral or IV feeding, pressure injuries, fever, pneumonia, or vomiting (37).

For individuals receiving tube feeding, The MDS 3.0 requires that the percentage of energy needs that are obtained from enteral nutrition be recorded (see MDS Section K in Appendix). The RDN can estimate that percentage using food intake records, tube feeding orders, and Intake and Output (I and O) records.

As end of life decisions are developed, the care plan should be updated accordingly. More information on care planning can be found in Chapter 5 and in the Appendix.

References for Chapter 1: Nutrition Assessment at the End of Life

1. Dorner, B. Diet and Nutrition Care Manual: *A Comprehensive Nutrition Care Guide*. Naples, FL: Becky Dorner & Associates, Inc.: 2016.
2. National Hospice and Palliative Care Organization Commentary and Position Statement on Artificial Nutrition and Hydration. National Hospice and Palliative Care Web site. http://www.nhpco.org/sites/default/files/public/ANH_Statement_Commentary.pdf. Accessed April 13, 2016.
3. Schwartz DB. Integrating patient-centered care and clinical ethics into nutrition practice. *Nutr Clin Pract.* 2013; 28(5):543-555.
4. Pew Research Center. Views on End of Life Medical Treatments. November 2013. Accessed April 18, 2016.
5. Kaiser Family Foundation. 10 FAQ's: Medicare's Role in End of Life Care. http://kff.org/medicare/fact-sheet/10-faqs-medicares-role-in-end-of-life-care/. Accessed April 18, 2016.
6. National Hospice and Palliative Care Organization: Reimbursement for Advance Care Planning: http://www.nhpco.org/press-room/press-releases/reimbursement-advance-care-planning. Accessed April 18, 2016.
7. Maillet JO, Swhwartz DB, Posthauer ME. Position of the Academy of Nutrition and Dietetics: Ethical and Legal Issues in Nutrition and Hydration. *J Acad Nutr Diet*. 2013;113:828-833. doi:10.1016/j.jand.2013.03.020. Accessed April 18, 2016.
8. Mini-nutrition assessment®-Short Form. http://www.mna-elderly.com/forms/mini/mna_mini_english.pdf. Accessed August 29, 2012.
9. Ferguson M, Capra S, Bauer J, Banks M. Development of a valid and reliable malnutrition screening tool for adult acute hospital patients. *Nutrition*.1999; 15(6):458-64.
10. BAPEN (British Association of Parenteral and Enteral Nutrition) Malnutrition Advisory Group. *The MUST Report, Nutritional screening of adults: a multidisciplinary responsibility*. (2008). Retrieved from http://www.bapen.org.uk/screening-for-malnutrition/must/introducing-must. Accessed September 1, 2016.
11. Wilson MM, Thomas DR, Rubenstein L, Chibnall J, Anderson S, Baxi A, Diebold M and Morley J. Appetite assessment: simple appetite questionnaire predicts weight loss in community-dwelling adults and nursing home residents. *American Journal of Clinical Nutrition.* 2005; 82 (5):1074-1081.
12. Guigoz Y, Vellas B, Garry PJ. Assessing the nutritional status of the elderly: The Mini Nutritional Assessment as part of the geriatric evaluation. Nutr Rev. 1996;54:S59-S65.

13. Sacks G, Dearman K, Replogle W, Cora V, Meeks M and Canada T. Use of Subjective Global Assessment to Identify Nutrition –associated Complications and Death in Geriatric Long–Term Care Facility Residents, Journal of the American College of Nutrition. 2000; 19 (5): 570-577.
14. Litchford MD. Nutrition Focused Physical Assessment: Making Clinical Connections. Greensboro NC: Case Software, 2012.
15. Peterson S. Nutrition-Focused Physical Assessment. In Charney P, Malone A. Pocket Guide to Nutrition Assessment. 3rd ed. Chicago IL: Academy of Nutrition and Dietetics; 2016: 76-102.
16. Covinsky KE, Covinsky MH, Palmer RM, Sehgal AR. Serum albumin concentration and clinical assessments of nutritional status in hospitalized older people: different sides of different coins? J Am Geriatr Soc. 2002;50:631-637.
17. White JV, Guenter P, Jensen G et al. Consensus Statement of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition: Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition). *J Acad Nutr Diet*. 2012;112:730-738. doi: 10.1016/j.jand.2012.03.012. Accessed April 18, 2016.
18. State Operations Manual Appendix PP-Guidance to Surveyors for Long Term Care Facilities. Rev 157, 6-10-16. https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html. Accessed November 16, 2016.
19. Litchford M. *Laboratory Assessment of Nutritional Status: Bridging Theory and Practice*, Greensboro, NC: Case Software and Books, 2010.
20. World Health Organization. Nutritional Anaemias: Report of a WHO Scientific Group.Geneva, Switzerland: World Health Organization; 1968. http://whqlibdoc.who.int/trs/WHO_TRS_405.pdf. Accessed April 18, 2016.
21. Escott-Stump S. Nutrition and Diagnosis-Related Care, 8th ed. Wolters Kluwer, 2015; 706-707.
22. Academy of Nutrition and Dietetics. Nutrition Terminology Reference Manual (eNCPT): Dietetics Language for Nutrition Care. http://ncpt.webauthor.com. Accessed February 17, 2015.
23. Tappenden KA, Quatrara B, Parkhurst ML, et al. Critical role of nutrition in improving quality of care; an interdisciplinary call to action to address adult hospital malnutrition. J Acd Nutr Diet. 2013;113:1219-1237.
24. Gabay K, Kushner I. Acute-phase proteins and other systemic responses to inflammation. NEJM. 1999:340(6):448-454.
25. Bahn L. Serum proteins as markers of nutrition: what are we treating? In Parrish CR, ed. Nutrition Issues in Gastroenterology, Series # 43. Practical Gastroenterology. 2006;46-64. http://www.medicine.virginia.edu/clinical/departments/medicine/divisions/digestive-health/clinical-care/nutrition-support-team/nutrition-articles/BanhArticle.pdf. Accessed February 17, 2015.
26. Collins N, Friedrich L. Changing the malnutrition paradigm. Ostomy Wound Management. 2013; 59(2): http://www.o-wm.com/article/nutrition-411-changing-malnutrition-paradigm. Accessed February 17, 2015.
27. Jensen GL, Mirtallo J, Compher C, Dhaliwal R, Forbes A, Grijalba RF, Hardy G, Kondrup J, Labadarios D, Nyulasi I, Castillo JC, Waitzberg D. Adult starvation and disease-related malnutrition: A proposal for etiology-based diagnosis in the clinical practice setting from the International Consensus Guideline Committee. JPEN. 2010;34(2):156-159.
28. Chernoff R. Carbohydrate, fat, and fluid requirements in older adults. In Chernoff R. Geriatric Nutrition: The Health Professional's Handbook, 4th ed. Burlington MA: Jones and Bartlett Learning; 2014:27-34.

29. Academy of Nutrition and Dietetics Nutrition Care Manual. https://www.nutritioncaremanual.org/. Accessed April 18, 2016.
30. Schoeller, D. Making Indirect Calorimetry a Gold Standard for Predicting Energy Requirements for Institutionalized Patients. J Am Diet Assoc. 2007;107:390-2.
31. Academy of Nutrition and Dietetics Evidence Analysis Library. www.adaevidencelibrary.com. Accessed August 29, 2012.
32. Eckstein L, Adams K, editors. *Pocket Resource for Nutrition Assessment, 2013 ed.* Dietetics in Health Care Communities, A Dietetic Practice Group of the American Dietetic Association, 2013.
33. National Pressure Ulcer Advisory Panel-European Pressure Ulcer Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers; Clinical Practice Guideline. Emily Haesler (Ed). Cambridge Media: Osborne Park, Western Australia; 2014.
34. Malone A, Russell MK. Nutrient Requirements. In Charney P, Malone A. Pocket Guide to Nutrition Assessment. 3rd ed. Chicago IL: Academy of Nutrition and Dietetics; 2016: 213-236.
35. Winkler MF, Malone AM. Medical Nutrition Therapy for Metabolic Stress: Sepsis, Trauma, Burns, and Surgery. In Mahan LK, Escott-Stump S, Raymond JL. Krause's Food and the Nutrition Care Process, 13th ed. St. Louis MO: Elsevier Saunders; 2012:884-900.)
36. Ireton-Jones CS. Intake: Energy. In Mahan LK, Escott-Stump S, Raymond JL. Krause's Food and the Nutrition Care Process, 13th ed. St. Louis MO: Elsevier Saunders; 2012;19-31.)
37. Litchford M. MDS 3.0 and Nutrition Care Plans. St. Charles, IL: Dietary Managers Association; 2011:29-30.

Chapter 2: Determining Nutrition Care Plan at the End of Life

Considerations for Determining a Nutrition Care Plan at the End of Life

When a decline in nutritional status is identified, a variety of interventions, including texture and consistency modifications, mealtime support and assistance, adaptive feeding equipment, and fortified foods or oral nutritional supplements (ONS) can be implemented. The *Significant Weight Loss Protocol Algorithm* in the Appendix can help assure appropriate interventions have been put in place to maximize oral intake. Suggested interventions can be found in the Appendix of this document. Tube feeding may be considered when food intake is poor over several days or weeks or weight loss occurs over time. Tube feeding may also be recommended when dysphagia (swallowing impairment) is severe, preventing adequate intake. The IDT should assure that all other strategies have been attempted before tube feeding is considered. Advance directives should be reviewed and a conference with the individual, the family and/or surrogate, physician, and IDT should be held to determine what is in the best interest of the individual.

Tube feeding is considered a medical intervention. From a medical standpoint it is no different from use of dialysis or a ventilator (1,2). Like other medical interventions, it should be evaluated by weighing the burdens versus benefits. Patients, families, and surrogates should understand that EN is considered a medical treatment that can be declined when everyone concerned understand what can and cannot be achieved with tube feeding (3,4).

Most individuals and family members view tube feeding as food rather than a delivery system for nutrients. The nurturing, caregiving, and celebratory aspects of food and meals can complicate end of life decisions. Ethical issues surrounding food and feeding are complex, as food and drink have both psychological and physiological functions that often play an essential role in total care (3). Each person involved in the decision to tube feed an individual brings his or her own influences, knowledge, attitudes and social, cultural and religious beliefs to the discussion. For individuals with no advance end of life care planning, health-care decisions may need to be made during an acute situation, when other influences may be overshadowed by the need for immediate treatment decisions (5). Those considering ANH may be influenced by fear or guilt related to making a decision that would result in their loved one dying of starvation or dehydration. Family members may have the mistaken impression that they have decided to let their loved one die versus the concept that the loved one is succumbing to their illness and being allowed a natural death (5). Families may feel a moral duty and emotional need to provide food and water to their dying loved ones, even if the risks outweigh the benefits (6). For these reasons, it is important to emphasize that the loss of desire to eat and drink is a natural part of the dying process (6).

Personal preferences about end of life treatment are strongly related to religious affiliation, race, and ethnicity. For example, most white mainline Protestants (72%), white Catholics (65%) and white evangelical Protestants (62%) say they would stop their medical treatment if they had an incurable disease and were suffering a great deal of pain. By contrast, most black Protestants (61%) and 57% of Hispanic Catholics say they would tell their doctors to do everything possible to save their lives in the same circumstances. On balance, blacks and Hispanics are less likely than whites to say they would halt medical treatment if they faced these kinds of situations (7). The IDT (including the RDN) should be aware and respect each individual's cultural and religious values that may affect their decision. It is critical to view each individual as a person, not a disease process, when considering end of life care (5).

In addition to ethical, cultural, or religious reasons to choose tube feeding, an individual may have other reasons, such as hoping to experience a family event, resolve personal issues, or get their financial affairs in order before death. Families and patients may assume that ANH prolongs life, even though this is not supported by the evidence (6).

Benefits and Risks of Enteral Nutrition

The risks and benefits of tube feeding will be different for each individual and should be thoroughly reviewed with the individual and/or surrogate before implementing ANH. The IDT should present information on the risks and benefits of tube feeding (outlined below), but the decision is up to the individual. The *"Conversation Starters"* found in the Appendix section of this manual should help the IDT with talking points for conversations with patients/residents and families.

It is difficult to estimate the prevalence of tube feeding in the United States. However, based on information generated from the Centers for Medicare & Medicaid Services (CMS), 5.0% of patients in skilled nursing facilities were receiving enteral feedings in January 2014 (6). One study of CMS files indicated there were 53.6 tube placements per 1000 enrollees, with the majority (68.1%) of placements occurring in the acute care setting such as hospitals (8).

Enteral nutrition is necessary and appropriate in many situations, including but not limited to recovery from trauma, surgery, or stroke. Many long-term care, hospital, and home health patients/residents are successfully tube fed for both short and long periods of time. The table below outlines some of the reasons that EN might be indicated.

Medical Conditions/Treatments That May Indicate the Need for Enteral Nutrition (9)	
• Inadequate oral intake • Physical signs/symptoms of malnutrition, or at risk of malnutrition with inability to consume adequate nutrients by mouth • High nutrient requirements which prohibit ability to consume an adequate diet by mouth • Gastrointestinal obstructions or fistulas	• Severe swallowing disorder which prohibits ability to consume an adequate diet by mouth • Impaired motility in GI tract • Neurological disorders or coma • Cognitive or mental incapacitation which prohibits ability to consume an adequate diet by mouth

Medical Contraindications of Enteral Feeding May Include
• Severe vomiting or diarrhea
• Intestinal obstruction or less than 50% of bowel remaining
• Acute pancreatitis
• Septic shock
• Inability to obtain or maintain enteral access (9)

Most experts agree that a feeding tube should be placed if the individual will survive more than 4 weeks after placement and will benefit from the procedure (10-12). Some key questions to consider when making a decision to initiate EN include:

- Does the individual suffer from a condition that is likely to benefit from EN?
- Will nutritional support improve outcome and/or accelerate recovery/improve prognosis?
- Does the individual suffer from an incurable disease, but one in which quality of life and well-being can be maintained or improved by EN?
- Does the anticipated benefit outweigh the potential risks of EN and tube feeding?
- Is EN in harmony with the expressed or presumed desires of the individual (or if unable to make his/her own decisions, is it in harmony with the surrogate's understanding of the individual's wishes)?
- Are there sufficient resources available to manage EN properly? If long-term EN implies a different living situation (i.e. institution vs. home) will the change benefit the individual's overall well-being? (12)
- Will EN negatively affect an individual's quality of life?

Potential Risks of Enteral Nutrition

Tube feeding is not without risks, including: (6,11,13)

- Infection around the surgical site
- Intolerance to feeding, resulting in nausea, vomiting, or diarrhea
- Fluid overload or electrolyte imbalances
- Aspiration pneumonia
- Possibility of the individual pulling the tube out
- Need for additional interventions such as catheters, blood draws, and medications to manage complications of tube feeding
- Quality of life issues, including but not limited to:
    - Limited mobility related to being attached to a feeding pump.
    - Lack of socialization due to not attending meals in a group setting.
    - Deprived sensory pleasures of eating.
    - Sleep disruption for feedings and/or flushes.
    - Need for restraints to prevent confused individual from pulling the tube.

Tube Feeding and Aspiration

The potential risk for aspiration during tube feeding is often overlooked, even by health care professionals. Aspiration is the inhalation of either oropharyngeal or gastric contents into the lungs. Aspiration can occur in almost anyone, even healthy individuals, who can aspirate on saliva. In some cases those who aspirate develop pneumonia, an infection caused by drawing a foreign substance (such as oral or gastric contents) into the respiratory tract. Usually bacterial infection is the cause of aspiration pneumonia.

Feeding tubes deliver nutrition directly into the stomach or intestine, but they don't prevent aspiration of oropharyngeal sections (4). Although some health care professionals think tube feeding is an effective treatment for those who aspirate, aspiration and aspiration pneumonia still occur in individuals who are tube fed. Aspiration pneumonia can be a serious complication of tube feeding, and has been reported as the most common cause of death after placement of a PEG feeding tube (14). Risks of aspiration for those that receive tube feeding can be minimized but are still present. (See Complications of Enteral Feeding in Chapter 4.)

Emerging research indicates that good oral care such as brushing teeth after each meal, daily tooth or denture care, and swabbing of the tongue or oral mucosa may be as important, or more important than other techniques for preventing aspiration (15).

Enteral Nutrition Near the End of Life

Artificial nutrition and hydration is highly effective in some situations, but an ethical dilemma is created when it is not clinically indicated, or when it is ineffective or potentially harmful (6). When an adult's lifespan is limited because of their advanced age, or there are medical problems or GI problems that may affect tolerance of the enteral feeding, there is little evidence to support the use of ANH to improve health or sustain life. Many long-term residents in nursing facilities are medically unstable, terminally ill, and/or cognitively impaired, so decisions regarding feeding tube placement become complicated and controversial (8). Patients with advanced, life-limiting illness often lose the ability to eat and drink and/or interest in food and fluids (2) and have minimal calorie demands (16). Declining food and fluid intake that leads to weight loss is a natural part of the dying process (4). Evidence shows that enteral feeding cannot restore consciousness, prevent imminent death, or increase a person's comfort (17). Tube feeding cannot improve the nutritional status of most terminally ill people and can result in medical complications (14).

Tube Feeding and Dementia

Dementia is considered a terminal illness; dementia patients are subject to the same declining appetite and interest in food, alterations in nutritional status, and potential for weight loss as those suffering from other terminal illnesses. Numerous studies have reported no evidence that tube feeding provides any benefit for individuals with advanced dementia in terms of survival time, mortality risk, quality of life, nutritional parameters, physical function, and improvement in, or reduction in, incidence of pressure injuries (3,18,19). Studies worldwide consistently demonstrate a very high mortality rate in older adults with advanced dementia who have feeding tubes (5,16). Taken together, the benefits and burdens do not support use of tube feeding in older adults with advanced dementia (1). However, this evidence does not always inform decisions regarding feeding tube placement in advanced dementia (6). This may be partially due to the emotional nature of the decision.

Considerations for Health Care Professionals

The decision to implement enteral feeding should be made carefully and thoughtfully, with input from the patient/resident and/or their surrogate and the IDT. Before recommending a feeding tube, the IDT should consider the treatment goal for a patient/resident and if that goal is appropriate given the individual's prognosis. The IDT should discuss expectations for improvement or survival if a feeding tube is placed (11). When all parties involved understand what can and cannot be achieved with EN, it is considered medically ethical to decline enteral feeding (3,12). The autonomy of the patient/resident or surrogate should be respected, and a final decision should be reached via a patient-centered approach (13).

Health care professionals should not be ethically obligated to offer ANH if (in their clinical judgement) there is not evidence for the therapy or if the burden or risk outweighs its benefits (6). PEG placement should not be offered in the absence of proven benefits (10). If the physician is not in agreement with an individual's decision for or against ANH, the individual should be transferred to another medical provider (6,20). If an institution has policies obligating the use of feeding tubes on religious or moral grounds and an individual does not desire feeding tube placement, they should be transferred to a facility that will honor those wishes (1,6).

End of Life Nutrition and Hydration

Despite the evidence outlining indications for use of tube feedings, some providers believe that giving tube feedings or IV therapy is a level of basic, humane care (16,21). Some believe that nutrition, similar to pain management and basic personal care, must be offered (17). When helping patients make end of life decisions, health care professionals should:

- Set aside personal and/or religious beliefs.
- Listen to patients/surrogates concerns and opinions.
- Rely on professional guidance regarding risk and benefits of tube feeding.
- Consider that each person is an individual with their own set of values regarding end of life care and inserting PEG tubes.
- Rely on professional guidance regarding the ethics of withholding or withdrawing PEG tubes.

In some cases, a patient and/or family may opt to discontinue tube feeding after it has been initiated. More information on this subject is found in Chapter 4.

References for Chapter 2: Determining Nutrition Care Plan at the End of Life

1. American Geriatrics Society Feeding Tubes in Advanced Dementia Position Statement: http://onlinelibrary.wiley.com/doi/10.1111/jgs.12924/pdf.
2. American Academy of Hospice and Palliative Care. Statement on Artificial Nutrition and Hydration Near the End of Life. September 2013. http://aahpm.org/positions/anh. Accessed April 18, 2016.
3. Maillet JO, Swhwartz DB, Posthauer ME. Position of the Academy of Nutrition and Dietetics: Ethical and Legal Issues in Nutrition and Hydration. *J Acad Nutr Diet*. 2013;113:828-833. doi:10.1016/j.jand.2013.03.020. Accessed April 18, 2016.
4. Posthauer ME, Dorner B, Friedrich EK. Enteral nutrition for older adults in healthcare communities. Nutr Clin Prac. 2014;29(4):445-458.
5. Schwartz DB. Integrating patient-centered care and clinical ethics into nutrition practice. *Nutr Clin Pract.* 2013; 28(5):543-555.
6. Barrocas A, Geppert C, Durfee SM, et al. A.S.P.E.N. Ethics position paper. Nutr Clin Prac. 2010;25(6): 672-679.
7. Pew Research Center. Views on End of Life Medical Treatments. November 2013. Accessed April 18, 2016.
8. Kuo S, Rhodes RL, Mitchell SL, et al. Natural history of feeding tube use in nursing home residents with advanced dementia. J Am Med Dir Assoc. 2009;10:264-270.
9. Dorner, B. Diet and Nutrition Care Manual: *A Comprehensive Nutrition Care Guide*. Naples, FL: Becky Dorner & Associates, Inc.: 2016.
10. Cardin F. Special considerations for endoscopists on PET indications in older patients. International Scholarly Research Network. ISBN Gastroenterology. 2012. Article ID 607149. doi:10.5402/2012/607149.
11. Plonk WM. To PEG or not to PEG: nutrition issues in gastroenterology. In: Parrish CR, ed. Practical Gastroenterology; 2005;16-31. http://www.practicalgastro.com/pdf/July05/July05Plonk.pdf. Accessed May 9, 2016.
12. Angus F, Burakoff R. The percutaneous endoscopic gastrostomy tube: medical and ethical issues in placement. Am J Gastroenterol.2003;98:272-277.
13. Schwartz DB, Barrocas A, Wesley JR, et al. Gastrotomy tuve placement in patients with advanced dementia or near end of life. Nutr Clin Pract. 2014;29(6):829-840. doi: 10.1177/0884533614546890.
14. Thomas D. Hard to swallow: management of dysphagia in nursing home residents. JAMDA. 2008; 455-458.

15. Friedrich E. Dysphagia and aspiration pneumonia: is it time to rethink our interventions? Connections: Dietetics in Health Care Communities. 2014: 40(1):8-12.
16. National Hospice and Palliative Care Organization Commentary and Position Statement on Artificial Nutrition and Hydration. National Hospice and Palliative Care Web site. http://www.nhpco.org/sites/default/files/public/ANH_Statement_Commentary.pdf. Accessed April 13, 2016.
17. Casarett D, Kapo J, Caplan A. Appropriate use of artificial nutrition and hydration-fundamental principles and recommendations. N Eng J Med. 2005;353:2607-2612.
18. Sampson EL, Candy B, Jones L. Enteral tube feeding for older people with advanced dementia. Cochrane Database Syst Rev.2009;(2):CD007209.
19. Teno JM, Gozalo P, Mitchell SL, e al Feeding tubes and the prevention or healing of pressure ulcers. Arch Intern Med. 2012; 172(9):697-701. doi: 10.1001/archinternmed.2012.1200.
20. Brody H. Hermer LD, Scott LD et al. Artifical nutrition and hydration: the evolution of ethics, evidence, and policy. J Gen Inter Med. 2011;2699): 1053-8. doi: 10.1007/s11608-011-1659-z.
21. Schultz MAF. Helping patients and families make choices about nutrition and hydration at the end-of-life. Medscape Web site. http://www.medscape.com/viewarticle/703907. June 4, 2009. Accessed April 4, 2016.

Resources for End of Life Decisions

Health care professionals, patients/residents, and families may all find it helpful to make use of the following resources for assistance with end of life decision-making regarding nutrition care:

- Caring Connections provides advance directive forms by state (to meet each individual state's laws and requirements): http://www.caringinfo.org/stateaddownload
- Consider the Conversation provides a series of videos on end of life decisions: condiserthe conversation.org
- Aging with Dignity's Five Wishes form specifically outlines an individual's wishes in certain end of life situations: http://www.agingwithdignity.org/five-wishes.php
- Family Caregiver Alliance. End of Life Decision-Making: http://www.caregiver.org/caregiver/jsp/content_node.jsp?nodeid=401
- Statements on End of Life Care from Professional organizations including:
    - The American Geriatrics Society Feeding Tubes in Advanced Dementia Position Statement: http://onlinelibrary.wiley.com/doi/10.1111/jgs.12924/pdf
    - American Medical Association Policies on End of Life Care: http://www.ama-assn.org/ama/pub/physician-resources/medical-ethics/about-ethics-group/ethics-resource-center/end-of-life-care.page
    - A.S.P.E.N Ethics Position Paper: http://ncp.sagepub.com/content/25/6/672.full.pdf+html
    - American Academy Of Hospice and Palliative Medicine Statement on Artificial Nutrition and Hydration Near the End of Life: http://aahpm.org/positions/anh
    - National Hospice and Palliative Care Organization Commentary and Position Statement on Artificial Nutrition and Hydration: http://www.nhpco.org/sites/default/files/public/ANH_Statement_Commentary.pdf
    - Position of the Academy of Nutrition and Dietetics: Ethical and Legal Issues in Feeding and Hydration: http://www.eatrightpro.org/resource/practice/position-and-practice-papers/position-papers/ethical-and-legal-issues-in-feeding-and-hydration

Chapter 3: Comfort-Guided Care

Choosing Comfort-Guided Nutrition Care

If the goal of care is determined to be comfort or palliative rather than restorative or curative, an individual's quality of life takes priority. Oral feeding (sometimes referred to as hand-feeding) may be one of the few remaining pleasures and a time for socialization for those near the end of life. To help assure the best quality of life:

- Provide favorite foods and fluids (whatever is tolerable or acceptable to each individual).
- Liberalize diet based on individual preference.
- Foods and beverages should be provided at the appropriate textures and liquid consistencies for easiest consumption and swallowing safety. An individual's right to refuse medical treatment, including consistency modifications, should be respected.
- Oral nutritional supplements (ONS) and/or fortified foods and beverages should be offered if appropriate.
- Self-feeding should be encouraged.
- Adaptive feeding equipment used as needed to facilitate self-feeding and quality of life.
- If an individual needs to be fed, food and fluids should be offered but not forced.

Nutrition documentation should reflect the goal of comfort and quality of life versus attempts to maintain optimal nutritional status. Unintended weight loss, protein energy malnutrition, pressure injuries and dehydration may be expected outcomes and this should be documented in the medical record.

Comfort-Guided Care and Wound Management

Most professionals agree that pressure injuries occurring at the end of life are often unavoidable as a result on an individual's compromised condition (1,2). Healing a pressure injury in a person receiving palliative care is often difficult and may not be the most appropriate goal (1). Adequate nutrition support may not be attainable near the end of life because of changes in hunger and thirst, decreased oral intake, and physiological changes in the body related to end of life (2). Practitioners should strive to maintain adequate nutrition and hydration to support for wound healing, compatible with the individual's goals and wishes.

Comfort-Guided Care and Appetite Enhancing Medications

Appetite enhancers (appetite stimulants and anabolic steroids) may have a role in treating unintended weight loss and/or improving food intake for some individuals. Several medications to stimulate appetite are commonly used, but none have been shown to reduce mortality in older patients with unintended weight loss (3,4). Evidence is lacking to support the use of most appetite enhancers in the extended care setting (5). Use of medications that might stimulate food intake should be consistent with the goals of care. If comfort-guided care is initiated; appetite-stimulating medications are generally not indicated or might be discontinued.

When comfort-guided care is indicated, medical care should be individualized. In many cases, laboratory tests, some medications, and routine weights are discontinued. In these situations, nutrition monitoring and evaluation can be based on an individual's intake of foods and fluids and quality of life rather than more objective measures.

End of Life Nutrition and Hydration

Palliative Care and Hospice Care

Palliative care is patient and family-centered care that optimizes quality of life by anticipating, preventing, and treating suffering for those near the end of life. Palliative care throughout the continuum of illness involves addressing physical, intellectual, emotional, social, and spiritual needs and to facilitate patient/resident autonomy, access to information and choice.

The following features characterize palliative care philosophy and delivery (6):

- Care is provided and services are coordinated by an interdisciplinary team.
- Patients/residents, families, palliative and non-palliative health care providers collaborate and communicate about care needs.
- Services are available concurrently with or independent of curative or life-prolonging care.
- Patient and family hopes for peace and dignity are supported throughout the course of illness, during the dying process, and after death.

Hospice care can be initiated when an individual has a prognosis of less than 6 months to live. Hospice care involves a team-oriented approach to expert medical care, pain management, and emotional and spiritual support expressly tailored to the individual's needs and wishes. Support is provided to the individual's loved ones as well. Hospice focuses on caring, not curing, and in most cases care is provided in the individual's home. Hospice care also is provided in freestanding hospice centers, hospitals, nursing homes and other long term care facilities. Hospice services are available to individuals of any age, religion, race, or illness. Hospice care is covered under Medicare, Medicaid, most private insurance plans, HMOs, and other managed care organizations (6). Among its major responsibilities, the interdisciplinary hospice team (6):

- Manages the individual's pain and symptoms.
- Assists the individual with the emotional, psychosocial and spiritual aspects of dying.
- Provides needed drugs, medical supplies, and equipment.
- Coaches the family/caregivers on how to care for the patient/resident.
- Delivers special services like speech, physical or occupational therapy when needed.
- Makes short-term inpatient care available when pain or symptoms become too difficult to manage at home, or the caregiver needs respite time.
- Provides bereavement care and counseling to surviving family and friends.

At the end of life, comfort of the patient/resident is important. Goals of therapy should be directed at managing symptoms rather than reversing nutritional deficits (7). Management of physiological symptoms of illness can improve a patient's quality of life as is outlined in the table below:

End of Life Symptoms That May Affect Nutritional Care

Anorexia/Loss of Appetite	• May be a side effect of pain and pain medications • Offer favorite foods (or whatever sounds good to the individual at the time) • Offer nutrient dense foods/supplements • Try 6 small meals/snacks a day, or offer food every few hours • Monitor weight weekly if appropriate based on goals

End of Life Nutrition and Hydration

Taste/Smell Alterations	• Offer anything that the individual desires • Try spicy/more flavorful foods if tolerated • Reassess medications if severe • Decreased sense of smell can decrease taste sensations • If sense of smell is heightened, and if it triggers nausea, encourage to avoid food preparation areas
Dry Mouth	• Provide good oral care (frequent swabbing or brushing) • Offer sips of fluids frequently • Offer ice chips • Use sorbets, lemon ice, or sherbet with meals or lemon drops in between meals
Sore Mouth	• Provide good oral care • If severe, refer to physician for treatment • Avoid acidic and spicy foods • Offer mild, bland flavored foods • Encourage fluids to maintain hydration • Offer soft, chopped or ground foods if needed to ease chewing and formation of bolus
Dysphagia	• Facilitate independent eating and safe swallowing with proper positioning, adaptive equipment, and appropriate food textures and fluid consistencies After Eating: • Remain upright for at least 30 minutes • Provide good oral hygiene to remove food debris • Keep head of bed elevated at least 6 inches or 30 degrees to help prevent aspiration
Weight Gain	• Assess medication side affects • Assess for fluid overload • Weigh weekly if needed and appropriate based on goals • Encourage a well-balanced diet
Weight Loss	• Common for those who experience nausea, vomiting, anorexia/loss of appetite, or extreme pain • Focus on preventing weight loss if appropriate based on individual goals • Provide appropriate pain control • Treat symptoms that affect appetite and food and fluid intake • Provide interventions if appropriate based on goals
Cramps, Heartburn, and Bloating	• Encourage to eat slowly and chew food well • Support a relaxed atmosphere at meals • Encourage small, frequent feedings; meal skipping may contribute to the problem • Try liquids between meals • Try bland foods • Avoid high fat foods if they contribute to symptoms • Avoid spicy foods, chewing gum, too many sweets if this contributes to symptoms • Avoid gas-forming foods (apples, asparagus, beans, beer, bran, broccoli, Brussels sprouts, cabbage, carbonated beverages, and cauliflower), and others based on tolerance

	• Antacids may be needed to alleviate symptoms
Nausea	• Offer small meals and snacks • Encourage the individual to eat slowly and chew food thoroughly • Try "dry meals" with liquids given between meals (one hour before or after); offer cool, clear liquids, and encourage the clients to drink slowly • Do not force the individual to eat (it may cause a permanent dislike for the foods that are forced) • Encourage the individual to avoid favorite foods during bouts of nausea to avoid developing aversion to favorite foods • Encourage the individual to rest calmly but to remain upright for 30 to 60 minutes after eating, with head of bed elevated • Be sure clothes are loose and comfortable • Encourage access to fresh when possible • Avoid known food intolerances • Avoid fatty and fried foods, heavy sweets, spicy foods and foods with very strong odors • Offer whatever foods/fluids the individual suggests he/she can tolerate or desires • Encourage to avoid food preparation area, as smells of cooking food may increase the feeling of nausea • Avoid other unpleasant odors that could contribute to nausea • Provide medications with or without food or fluid as instructed • Encourage carbonated beverages and peppermints or spearmints if they help alleviate nausea • Remove plate cover away from individual and allow odors to dissipate prior to serving
Vomiting	• Vomiting may be caused by nausea related to chemotherapy, medication interactions or other GI problems • Refer to the physician for medication to prevent the nausea that precedes vomiting • The client should remain NPO until severe vomiting passes • Once vomiting is under control, try giving small sips of clear liquids and increase amount very gradually • When clear liquids are tolerated, advance the clients to a full liquid diet • Begin with small sips and increase amounts as tolerance builds • Gradually advance to a regular diet The following foods may be more tolerable for individuals with nausea and vomiting: • Crackers, pretzels, toast, angel food cake, cream of wheat or rice • Soft, bland fruits or vegetables such as peaches, green beans • Broth or cream soups; ginger ale or lemon-lime soda, soft drinks (i.e. powdered drink mixes) • Sherbet, pudding, ice cream, Popsicles®, gelatin • Juices (other than citrus or sour juices), fruit drinks • Dairy products • Meat salad sandwiches • Desserts with fruits

End of Life Nutrition and Hydration

Constipation	• Pain medications may cause constipation. Evaluate risk/benefit of medication changes • Offer high fiber foods such as fruit and vegetables with edible skins and seeds, whole grains (breads and cereals, brown rice and other grains), and bran cereals • Add lentils, split peas, navy, pinto or kidney beans in casseroles or soups • Offer and encourage plenty of fluids • Encourage activity. The physical therapist may be able to give some suggestions • Add bran to baked products. Bran flakes or raisin bran for breakfast may be helpful. Sprinkle bran or bran cereal over puddings, fruits, salads, or add 2 to 6 tablespoons to most recipes • Prunes or prune juice are helpful to most individuals • Hot beverages may act as stimulants • Increase fiber intake gradually to avoid problems with tolerance
Diarrhea	• If diarrhea persists, there is risk for dehydration and malnutrition. Anti-diarrheal medications may be needed if severe or persistent • Encourage small, frequent feedings • If severe, request a clear liquid diet, give liquids at room temperature, and advance as tolerated • Avoid carbonated beverages, liquid with meals, high fiber foods, greasy foods, fatty or fried foods • Avoid raw fruits and vegetables • Avoid spicy foods • Encourage fluid between meals • Avoid very hot or very cold foods and beverages • Limit caffeine (coffee, tea, cola, chocolate, etc.) • Encourage bed rest • Offer salty foods or salt at the table to replace lost sodium • Offer foods high in potassium; bananas, potatoes, apricot nectar • Investigate potential food intolerances – especially lactose intolerance These foods may be better tolerated: • Starches: rice, noodles, cream of wheat or farina, white bread • Fruits and vegetables: pureed cooked vegetables, applesauce, grape or apple juice, ripe bananas, canned or cooked fruit without skin • Protein foods: yogurt, eggs (completely cooked, not fried), smooth peanut butter, chicken, turkey, tender lean beef, cottage cheese
Dehydration	• If fluids by mouth are not tolerated, an IV or tube feeding may be recommended. If on IV, appropriate fluids will be provided through the IV or tube. The RDN/NDTR should assess IV or tube feeding and flush recommendations, and monitor and reevaluate as needed
Fluid Overload Symptoms	If puffiness, bloating, shortness of breath, increased respirations, increased secretions, or signs/symptoms of heart failure are observed, physician referral for evaluation of fluid overload is recommended

Adapted from Dorner Becky, Enteral Feeding for Older Adults: Comprehensive Nutrition Assessment and Interventions. Naples, FL: Becky Dorner & Associates, Inc.; 2013. (Reference 8)

End of Life Nutrition and Hydration

End of Life Pain and Discomfort Related to Food and Fluid Intake

Sensitive counseling by the IDT can help families understand the dying process. Management of symptoms can help keep patients/residents comfortable. Studies show that patients do not experience thirst or hunger, and therefore are not likely to suffer at the end of life (9). Dying individuals who stop eating (or stop receiving ANH) experience hunger temporarily, if at all. When food and fluid intake is poor, dehydration usually occurs before starvation. Although some individuals, families and/or representatives fear a painful death if ANH is withheld or withdrawn, research does not support that belief. Dehydration results in azotemia, hypernatremia, and hypercalcemia, which are thought to produce a sedative effect on the brain prior to death. Minimizing nutrition and hydration can reduce oral and bronchial secretions, reduce the need to urinate, and reduce coughing from pulmonary congestion (10). Many hospice and palliative care health care professionals report that dying individuals who are naturally dehydrated experience a peaceful, comfortable, and "good" death (9). Artificial nutrition and hydration may increase suffering in those who are dying by adding to physical symptoms or psychological burden (6,9).

Meeting State and Federal Regulations at End of Life

RDNs that work with individuals near the end of life should be familiar with regulations that govern how health care facilities manage end of life care. The Centers for Medicare and Medicaid Services (CMS) address issues related to end of life care, resident's rights to refuse medical or surgical treatment, advance directives, and hospice services in the State Operations Manual Appendix PP: Guidance to Surveyors for Long-Term Care Facilities, which can be accessed through the CMS website at https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html. Some portions of this document (Rev. 157, 06-10-16) are located in Chapter 6.

According to CMS Appendix PP: Guidance to Surveyors for Long-Term Care Facilities (Rev. 157, 06-10-16), "resident choices and clinical indications affect decisions about the use of a feeding tube at the end of life. A resident at the end of life may have an advance directive addressing his or her treatment goals (or the resident's surrogate or representative, in accordance with State law, may have made a decision). Decreased appetite and altered hydration are common at the end of life, and do not require interventions other than for comfort. Multiple organ system failure may impair the body's capacity to accept or digest food or to utilize nutrients. Thus, the inability to maintain acceptable parameters of nutritional status for someone who is at the end of life or in the terminal stages of an illness may be an expected outcome. Care and services, including comfort measures, are provided based on the resident's choices and a pertinent nutritional assessment. The facility can help to support intake, to the extent desired and feasible, based on the information from the assessment and on considering the resident's choices. If individualized approaches for end of life care are provided in accordance with the care plan and the resident's choices, then the failure to maintain acceptable parameters of nutritional status may be an expected outcome for residents with terminal condition."

Legal Issues and End of Life Care

The right of an adult patient/resident or a legally authorized surrogate to accept or refuse medical treatment, including ANH, is well established in law (9). An informed consent discussion providing adequate information to make a decision (including prognosis, the risks and benefits of ANH, and alternative treatments) is imperative. Legal conflicts may occur when an individual who has no advance directive loses the capacity to speak for him or herself and conflicts between family members or caregivers arise (9).

Many states in the U.S. require "clear and convincing evidence" to forgo ANH in individuals who are unable to make their own decisions and have no advance directives (9). The state or other institutions may exert powers to limit the right of liberty on the basis of several concepts, such as prevention of suicide, protection of innocent third parties, especially children, and protection of the ethical integrity of the health care professional (10). While one state may allow oral substituted judgment of an individual's desires, another may require written evidence (9).

The presence of a history of court rulings around the withdrawing of ANH provide little comfort to caregivers who are concerned about legal action surrounding end of life care (3). It is prudent for health care providers to be aware of the most current versions of the laws protecting patients' rights in the state in which they practice (9). Health care professionals should document the results of interactions regarding end of life care with patients, families, and/or surrogates in the medical record. Documentation should include education provided and the outcome of the conversation so that in the event of legal action a provider's actions can be clearly understood.

References for Chapter 3: Comfort-Guided Care

1. Langemo DK, Black. Pressure ulcers in individuals receiving palliative care: A National Pressure Ulcer Advisory Panel White Paper. *Advances in Skin and Wound Care*. 2010;23(2):59-72. http://www.npuap.org/wp-content/uploads/2012/01/Pressure_Ulcers_in_Individuals_Receiving.7.pdf. Accessed November 9, 2016.
2. Langemo DK. Palliative wound care. In Baronski S, Ayello EA, eds. *Wound Care Essentials: Practice Principles.* 4th ed. Philadelphia PA:Wolters Kluwer; 2016:543-561.
3. Padala KP, Keller BK, Potter JF. Weight loss treatment in long-term care. *J Nutr Elder.* 2007;26 (3-4):1-20.
4. Ruiz GV, Lopez-Briz E, Carbonell SR, et al. Megestrol acetate for treatment of anorexia-cachexia syndrome. *Cochrane Database Syst Rev*. 2013;(3):CD004310.
5. Rudolph D. Appetite stimulants in long term care: a literature review. The Internet Journal of Advanced Nursing Practice. 2009;11(1): Retrieved November 9, 2016 from http://ispub.com/IJANP/11/1/9279.
6. National Hospice and Palliative Care Organization Commentary and Position Statement on Artificial Nutrition and Hydration. National Hospice and Palliative Care Web site. http://www.nhpco.org/sites/default/files/public/ANH_Statement_Commentary.pdf. Accessed April 13, 2016.
7. Dev R, Dalal S, Bruera E. Is there a role for parenteral nutrition or hydration at the end of life? Curr Opin Support Palliat Care. 2012;6:365-370. doi: 10.1097/SPC.0b13e328356ab4a.
8. Dorner B. Enteral Nutrition for Older Adults: Comprehensive Nutrition Assessment Interventions. Naples FL: Becky Dorner & Associates; 2013.
9. Barrocas A, Geppert C, Durfee SM, et al. A.S.P.E.N. Ethics position paper. Nutr Clin Prac. 2010;25(6): 672-679.
10. Maillet JO, Swhwartz DB, Posthauer ME. Position of the Academy of Nutrition and Dietetics: Ethical and Legal Issues in Nutrition and Hydration. *J Acad Nutr Diet*. 2013;113:828-833. doi:10.1016/j.jand.2013.03.020. Accessed April 18, 2016.

Chapter 4: Enteral Nutrition at the End of Life

Implementing Tube Feeding

If the decision has been made to place a feeding tube, together, the interdisciplinary team (IDT), including the registered dietitian nutritionist (RDN) and/or designee should follow all facility policies and procedures and state and federal regulations regarding enteral nutrition (EN). Limited time trials of tube feeding are acceptable when the benefits of ANH are questionable and the trial nature is communicated and consented to by the patient/resident and family before being initiated (1).

The IDT should continually monitor and evaluate formula administration, feeding tolerance, nutritional status, overall physical health and quality of life, and adjust the care plan when indicated.

Selecting Type of Feeding Tube

The type of feeding tube needed depends on the individual's medical status, the physiology of the GI tract, effects of existing comorbidities, and the estimated length of time that the enteral feeding will be needed. Enteral feeding is most commonly delivered via nasogastric or NG tube (access to the GI tract via a tube inserted through the nose, down the esophagus, and into the stomach), or percutaneous endoscopic gastrostomy (PEG) tube (placement of the tube directly into the stomach). If EN is expected to be short-term (less than 4 weeks), a nasogastric (NG) tube is suggested. When access is needed for longer than 4 weeks, the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N) guidelines recommend using a PEG tube (2).

A jejunostomy involves surgically implanting a percutaneous endoscopic jejunostomy (DPEJ) tube in the small intestine (jejunum) to bypass the stomach. Jejunal tubes are preferred for individuals with gastric motility disorders or increased risk of aspiration (3).

Nutrition Care of the Tube-Fed Individual

The RDN should collaborate with physicians, physician assistants, nurse practitioners, and all members of the IDT to assure appropriate nutrition support is provided. Standards of Professional Performance in Nutrition Support for RDNs have been published by the Academy of Nutrition and Dietetics (Academy) and A.S.P.E.N. (4) and can be accessed at http://ncp.sagepub.com/content/22/5/558.short.

The RDN should help the health care facility or agency to establish protocols for care and a formulary of EN formulas to meet specific needs as well as being involved in patient/resident care. The RDN and/or designee should:

- Conduct initial and follow up assessments that include a calculation of the individual's energy, protein and fluid requirements (See Chapter 1).
- Use the nutrition care process to assess, diagnose, intervene, monitor, and evaluate the progress of individuals receiving tube feeding.
- Review individuals receiving EN no less than monthly.
- Calculate the percent of calories obtained from EN for each scheduled MDS assessment (in cooperation with facility MDS coordinator).
- Assure good communication systems regarding notification of changes in the EN formula or route of administration.

- Communicate concerns to the nursing staff such as significant changes in weight, development of diarrhea, nausea, vomiting, distention, gas, high residual levels or other issues related to enteral feeding.
- Monitor adherence to facility policies and procedures for enteral feeding.
- Recommend changes in feeding and flush orders as necessary.

The enteral feeding order from the physician should include:

- Patient/resident identifiers and demographics (name, room, etc.).
- Formula (identify brand and formula name).
- Delivery site/device (i.e. gastrostomy tube, gastro-jejunostomy tube or jejunal port).
- Administration method and rate (bolus, gravity or continuous feeding pump; volume or rate of administration and timing of formula delivery; for example 24 hours or cyclic; total volume of feeding provided).
- Strength of formula if altered from full strength (including amount of time at each level of strength).
- Additional water to flush tube before/after administration of enteral feeding or medications and to meet estimated fluid needs.
- Tube placement checks; residual stomach content checks.

The initial nutritional assessment and each re-assessment for individuals receiving EN should include:

- Calculation of nutrient needs: energy, protein and fluid needs.
- Assessment of appropriateness of the feeding to meet nutrient needs (including calories, protein, total fluids, free fluids, adequacy to meet the United States Reference Daily Intake (USRDI) for vitamins and minerals), and assessment of whether the type and frequency of feeding are appropriate to meet the individual's needs.
- Review of the medication/treatment records and nurse's notes.
- Discussion with staff on tolerance of feeding.
- Review of the medical record for changes in enteral feeding orders, changes in condition or tolerance as evidenced by nausea, vomiting, diarrhea, residuals, constipation, bloating, flatulence, or other discomfort, weight status, skin condition, laboratory values, edema, food medication interactions, and oral food and fluid intake (if applicable).
- Review of input and output records and medication administration records (MAR) for amount of feeding administered (5).
- Visit to individual receiving enteral feeding to check the pump for flow rate (if applicable) and that pump is turned off and on as ordered (if applicable). Pumps should deliver the prescribed volume within 10% accuracy for adults (2) and should be calibrated periodically to assure continued accuracy (2).
- Documentation of reason for the enteral feeding and reason for the pump (if applicable).
- Documentation of attempts to transition to oral feeding, if appropriate.
- Documentation of end of life wishes and expected outcomes if palliative care, comfort care, or hospice care is initiated.

The RDN should assure that good systems are in place to communicate changes in the EN formula or route of administration, and communicate any concerns to the nursing staff. Concerns may include significant changes in weight, or the development of diarrhea, nausea, vomiting, distention, gas, high residual levels or other issues related to enteral feeding.

Implementing Enteral Nutrition

Enteral feedings should be delivered at 100% strength; dilution of formula is no longer recommended for most enterally fed individuals (6). Historically, enteral feedings were started slowly and advanced over 3 to 4 days. There is some evidence that EN can begin at goal rates in stable, adults (2). In most adults, it is possible to initiate enteral feedings at 60 mL/hour (7). Current protocols recommend (2):

- For bolus and gravity feedings, schedule 3 to 8 feedings per day. Begin with 60 - 120 mL, then increase volume by 60 - 120 mL every 8 to 12 hours until goal is reached.
- For pump feedings begin at 10 - 40 mL /hour, then advance feeding by 10 - 20 mL per hour every 8 to 12 hours until goal is reached.

Refeeding syndrome can be a serious complication of implementing full-strength tube feeding in a person who is malnourished. More information on refeeding syndrome is provided later in this chapter.

Facility protocols and standing orders for enteral feeding should be followed by all staff delivering care to individuals receiving EN. Please see Chapter 5 for additional information. The head of the bed should be elevated to 30 to 45 degrees at all times to reduce the risk of aspiration. Enteral formulas should be administered at room temperature. Manufacturer's instructions for storage, hang time and discarding open and closed systems should be followed.

Nursing staff should check the tube placement regularly for gastric residuals. Elevated residuals may not necessarily be a sign of intolerance, but a symptom of another problem such as delayed gastric empting. The RDN should recommend *against* holding EN when gastric residual volume (GRV) is less than 250 mL for two or more readings or 500 mL for one reading when there are no signs of intolerance (e.g., abdominal distention, nausea, vomiting, sepsis, sedation) in critically ill adult patients (6,8). Research indicates that holding GRV does not correlate with risk for aspiration and may result in providing an inadequate feeding (8).

Nursing should monitor the response to enteral feeding closely. Any signs of nausea, vomiting, diarrhea, abdominal distention, gas and/or residuals in excess warrant a referral to the RDN to assess for needed alterations in the EN order.

Feeding orders may need to be altered to accommodate down times for activities of daily living (ADL's), therapy, or activities. Adjustments should be made by the RDN because changing the feeding volumes or times of delivery can adversely affect nutritional status.

Selecting Enteral Formulas

Standard formulas (1 - 1.2 calories/mL) are ordered for the majority of long term tube-fed individuals. Standard formulas contain intact nutrients, are lactose free, and have a low osmolality (300 - 500 mOsm per kilogram). Some include added fiber in a combination of soluble and insoluble fiber. Soluble fiber helps prevent and control diarrhea due to its ability to increase water and sodium absorption. Insoluble fiber may decrease transit time by

increasing fecal weight. When a high fiber formula is used, fluid intake is important to prevent constipation or fecal impaction. Calorically dense formulas with 1.5 - 2 calories per mL are appropriate for individuals with normal caloric needs requiring a fluid restriction, such as congestive heart failure or renal failure. Because of the smaller volume needed to meet caloric requirements, a concentrated formula is also appropriate for high calorie requirements, cyclic feedings, nocturnal feeding or bolus feeding.

Nutritionally complete formulas meet 100% of the U.S. Recommended Dietary Reference Intake (DRI) when provided in adequate volume per the manufacturer's label. Most feedings contain 100% of the DRI for vitamins and minerals in a specified volume of feeding, often 1000 or 1500 mL. An individual receiving a volume of formula that does not provide 100% of the DRI, should receive a multivitamin/mineral supplement unless contraindicated.

Modular protein products may be needed in some cases to meet elevated protein needs. A variety of products are available in liquid or powder form. These products can be administered through the tube during routine medication passes using the manufacturer's guidelines for appropriate administration to avoid clogging tubes.

Most individuals requiring EN can and should be fed using a standard, intact nutrient enteral formula (9,10). Specialized disease-specific formulas may be appropriate in certain cases. The clinician should carefully assess needs and conditions, as well as payer guidelines prior to recommending a specialty formula. These formulations are typically more expensive than standard formulas and may not be covered by the individual's health insurance or Medicare coverage. The table below summarizes the considerations for using specialty formulas.

Considerations for Choosing a Disease-Specific Enteral Formula

Specialty Formula	Formulation Details	Available Evidence to Support Use	Areas of Consideration for Use
Diabetes/ Glucose Intolerance Formulas	Designed to improve glycemic control. Contain less carbohydrate (34-40% of total calories) and have a higher or modified fat (42-49% of calories). Since restricting of carbohydrate is not necessary, monitoring total grams of carbohydrate is more important than the source of carbohydrate. The lipid profile includes higher amounts of monounsaturated fatty acids (MUFA) than polyunsaturated or saturated fatty acids. These formulas usually contain a blend of	Enteral formulas lower in carbohydrate and higher in fat content than standard formulas produce a blunted glycemic response. The clinical significance of this effect is unclear because the study subjects ingested very small amounts of formula over a few hours, a very different pattern than that of continuous tube feeding or gravity administration of feeding. Generally, insulin can be adjusted to cover whatever enteral	Beginning with a 1.0 kcal/mL formula is often recommended for older adults. Response is evaluated and if tolerated well, a specialized formula is not necessary. This applies to formulas designed for blood glucose control. In addition, all factors that may be contributing to altered blood glucose levels should be evaluated and treated prior to switching to a specialized formula (e.g. infection, medications, etc.)

Specialty Formula	Formulation Details	Available Evidence to Support Use	Areas of Consideration for Use
	soluble and insoluble fibers to slow gastric emptying which may improve glycemic control.	formula is used.	
Renal Dysfunction Formulas	These products are formulated for individuals on dialysis or stage 5 chronic kidney disease (CKD). They are calorically dense and electrolyte restricted in sodium, potassium, phosphorus and magnesium. There is less free water compared to standard formulas and the protein content is higher. Formulas for stage 1 to 4 CKD are targeted to individuals with CKD who are not on dialysis. These formulas are lower in protein to meet the requirements for reduced protein.	Evidence indicates individuals on continuous renal replacement therapy have higher protein needs of 2g/kg/day and that standard formulas are appropriate.	Standard 1.5 - 2.0 kcal/mL formulas can often meet protein needs. Laboratory values should be assessed for appropriateness of fluid or electrolyte restrictions prior to determining the need for a specialty formula.
Immune-enhancing Formulas	Marketed as immune – enhancing formulas, these contain supplemental L-arginine, L-glutamine, nucleotides and long chain polyunsaturated fatty acids. Their beneficial properties are reported to include supporting the immune system, promoting the anti-inflammatory process, and enhancing the preservation of enterocytes.	Research continues to increase on the effects of using immune-enhancing formulas.	The clinician needs to be familiar with the evidence and should complete a comprehensive assessment before deciding to recommend this type of product. For more information and recommendations, refer to the Academy of Nutrition and Dietetics Evidence Analysis Library at www.adaevidencelibrary.com.

Source: Posthauer ME, Dorner B, Friedrich E. Enteral Nutrition for Older Adults in Healthcare Communities. Nutrition in Clinical Practice. 2014; (Volume Number 29 (4). pp. 445-458. © 2014 by American Society for parenteral and Enteral Nutrition. Reprinted by Permission of SAGE Publications. (Reference 11)

Blenderized Tube Feeding (BTF)
Blenderized tube feeding is the use of blended foods and liquids given directly via the feeding tube (12). Compared with commercial formulas, preparation of BTF in a home or a health care setting can be labor intensive, costly, have variable nutrient content, and raise food safety concerns (12). In recent years, a category of food-based tube feeding formulas has emerged in the marketplace. These products are attractive to some consumers and health care professionals because they are prepared from real food components and have little or no artificial ingredients (13,14). Although shelf-stable, some brands have a limited shelf-life (4 hours after opening) and may not be covered by medical insurance, making them less practical than other formulas for use in health care facilities. A food-based tube feeding formula that comes in a closed feeding system is also available (15).

Detailed nutrition information on enteral formulas and modular supplements are available from manufacturers as listed below:

- Abbott Nutrition www.abbottnutrition.com
- Hormel Health Labs www.hormelhealthlabs.com
- Nestle Nutrition www.nestlenutrition.com

Information on blenderized feedings is available from the manufactures as listed below:

- Liquid Hope http://functionalformularies.com/products/liquid-hope
- Real Food Blends http://www.realfoodblends.com/

Selecting a Delivery Method

Enteral feedings can be administered several ways: continuous, cyclic, intermittent, or bolus. In most adults, continuous feedings can be started at a rate of 50 to 60 mL/hour (9). The following table describes each type of feeding administration along with advantages, disadvantages, and examples of how to meet a sample patient's/resident's requirements.

Types of Enteral Feeding Administration

Type of Administration	Advantages	Disadvantages	Example
Continuous Feeding (usually by pump at a slow, continuous rate over 18 to 22 hours/day)	Preferred method for initiating enteral feeding or if condition is unstable. Ensures consistent delivery over time.	Does not allow time for daily care (i.e. bathing dressing) or therapies if ordered for 24 hours. Must keep head of bed elevated, increasing risk of skin breakdown.	1500 mL/day is met in a volume of 70 mL enteral formula/hour over 22 hours. Water flush provided at designated times (eg, each shift or every 4 hours).
Cyclic Administration (continuous feeding usually by pump for a specified period of time, such as 8 to 16 hours, in an amount needed to meet the estimated nutritional requirements)	Allows for mobility, participation in activities and therapies. Often used when a person is progressing to oral feedings.	Requires increased infusion rate to meet nutrient requirements compared with continuous	1500 mL/day is met in a volume of 125 mL enteral formula/hour over 12 hours. Note: may

Type of Administration	Advantages	Disadvantages	Example
		feeding.	need to change to a more calorie-dense formula to alleviate intolerance to higher rate.
Intermittent (slow gravity drip, pump or intermittent bags: 250-550 mL formula over 60 to 75 minutes for ≥5 feedings/day as needed to achieve requirements) (26 from NCP article)	Mimics a typical meal and snack pattern. Allows more freedom and mobility.	Not recommended for individuals at risk of aspiration.	1500 mL/day is met in a volume of 300 mL per feeding for 5 feedings.
Bolus Administration (200-500 mL given 3 to 5 times/day by gravity or syringe. Typically initiated full strength at 60 to 120 mL over an 8 to 12 hour period until desired bolus rate is reached). The tube is flushed prior to administering the feeding. The amount of flush is determined by the amount of free water required to meet the estimated fluid goal.	No pump required, which decreases cost. Allows increased mobility. Method of choice in assisted living/residential communities.	Not recommended for individuals at risk of aspiration. Some individuals may not tolerate bolus volumes due to rapid infusion, which can cause GI intolerance.	1500 mL/day is met in a volume of 300 mL per feeding for 5 feedings. Often used when progressing to an oral diet (eg, an individual progressing to an oral diet but not consuming adequate kcal daily may require a bolus feeding at bedtime).

Source: Posthauer ME, Dorner B, Friedrich E. Enteral Nutrition for Older Adults in Healthcare Communities. Nutrition in Clinical Practice. 2014; (Volume Number 29 (4). pp. 445-458. © 2014 by American Society for parenteral and Enteral Nutrition. Reprinted by Permission of SAGE Publications. (Reference 11)

Determining a Tube Feeding Schedule (5)

After selecting the appropriate formula, the clinician must determine the volume of formula to meet the individual's needs. A feeding schedule is based on the total volume of feeding needed, with consideration given to tolerance of feeding and type of feeding (bolus versus continuous, for example). Most patients/residents will benefit from having feedings timed to avoid interference with sleep schedules, activities of daily living (ADLs), therapy, patient/resident care or oral intake (if applicable). Intermittent feedings are best tolerated if delivered over a 60 to 75 minute period per feeding.

Example
The individual's caloric needs are determined to be 1875 kcalories daily. The physician's order is for use of a standard formula that provides 1.5 kcalorie per mL. The total volume of formula required would be 1250 mL per day. The calculation to determine this volume is as follows:

1250 X 1.5 kcal/mL = 1875 kcal; and 1875 kcal ÷ 1.5 mL = 1250 mL

- If the individual is to receive intermittent feedings eight times a day, this equates to approximately 157 mL of enteral formula at each feeding:

  1250 mL ÷ 8 feedings = 157 mL/feeding

- If the individual is to receive intermittent feedings 5 times a day, this would equate to 250 mL at each feeding:

  1250 mL ÷ 5 feedings = 250 mL/feeding

- If the individual is to receive the formula continuously over 24 hours, this equates to approximately 53 mL of formula each hour:

  1250 mL ÷ 24 hours = 53 mL/hr

The following charts provide examples of how to calculate correct total volumes, and administration rates for enteral feedings.

Calculations for Total Volume of Enteral Feeding		
Calories/mL Formula Provides	**Calculations**	**Total Volume of Formula Required to Meet Needs**
1.5	1250 x 1.5 kcal/mL = 1875 kcal 1875 kcal ÷ 1.5 mL = 1250 mL	1250

Calculations for Administration of Feeding		
Administration	**Calculation**	**Formula per Feeding or per Hour**
Intermittent feeding 8 times a day*	1250 mL ÷ 8 feedings = 157 mL/feeding	157 mL of formula per feeding
Intermittent feeding 5 times a day*	1250 mL ÷ 5 feedings = 250 mL/feeding	250 mL of formula per feeding (or one can of ready to feed formula)
Continuous feeding over 24 hours	1250 mL ÷ 24 hours = 53 mL/hr	53 mL of formula each hour

Source: Dorner, B. Diet and Nutrition Care Manual: A Comprehensive Nutrition Care Guide. Naples, FL. Becky Dorner & Associates, Inc. 2016. (Reference 5)

*Note: Intermittent feedings are best tolerated if delivered over a 20 to 30 minute period per feeding.

End of Life Nutrition and Hydration

Determining Volume of Feeding Needed to Meet Estimated Protein/Calorie Needs

After determining nutritional needs and selecting the appropriate formula, the clinician must determine the volume of formula needed to meet the individual's estimated needs.

Calculating Calories Provided by an Enteral Feeding (5)
Total calories provided = Number of kcals/mL feeding x total volume of feeding **Example (continuous feeding):** a 1.5 kcal/mL is infused at 50 mL/hour x 24 hours, delivering a total volume of 1200 mL every 24 hours. Total calories provided = 1.5 kcal/mL x 1200 mL = 1800 calories per 24 hours **Example (bolus feeding)**: 4 bolus feedings of a 1.5 kcal/mL feeding are provided in 24 hours. Each bolus feeding contains 355 kcal. Total calories provided = 355 kcal/feeding x 4 feedings = 1420 kcal in 24 hours

Calculating Protein Provided by an Enteral Feeding (5)
Continuous feeding: Number of grams (g) protein per 1000 mL x Total L* of feeding provided = total protein in feeding *Total L of feeding provided = total mL of feeding delivered x .001 **Example continuous feeding:** a 1.5 kcal feeding is infused at 50 mL per hour x 24 hours, providing a total volume of 1200 mL (1.2 L) This feeding contains 64 g protein/1000 mL. Total protein provided is 64 g x 1.2 = 76.8 g protein Bolus feeding: Grams protein per volume of feeding x number of feedings **Example bolus feeding**: 4 bolus feedings (240 mL each) are provided in 24 hours. Each bolus feeding contains 15.1 g protein. Total protein provided = 15.1 g/feeding x 4 feedings = 60.4 g protein

Calculating Flushes for Enteral Feedings (5)

Check tube-feeding label for free water content per 8-ounce feeding or per 1000 mL continuous feeding. Determine total volume of free water provided per feeding.

Bolus feeding: Amount of free water per feeding x number of feedings provided
Continuous feeding: Total volume of tube feeding in L x mL free water per 1000 mL

Subtract the free fluids provided by the enteral feeding from the total number of mL needed each day to meet requirements. The final number is the amount of fluid needed to flush the tube each day.

Example for a person who weighs 150 pounds and needs 2045 mL fluid/day:

If the enteral formula provides 1400 mL of free water, the individual will need 645 mL fluid flushes per day to meet fluid needs:
2045 mL needed -1400 mL free fluid in tube feeding = 645 mL needed in flushes.

Flushes should be divided among those given before and after medications (usually 30 mL before and after medications) and routine flushes at least every shift.

If the individual is consuming food or fluids orally, oral intake should be monitored and feedings and flushes adjusted accordingly.

Using Feeding Tubes to Deliver Medications (3,5)

Health care practitioners often administer medications via PEG tubes, however, recommendations indicate that the practice of mixing medications with formula should be avoided. The following guidelines are recommended to assure proper absorption and utilization of medications for individuals on tube feeding:

- When possible, administer medications orally.
- Do not mix enteral formulas with medications.
- Do not mix medications together.
- When possible, use liquid medications.
- Hold the enteral formula before medication administration.
- Flush the tube with at least 15 mL water before and after medication delivery and with 5 mL water between medications (6).
- Consult with pharmacist as needed for effects of the feeding formula on medication absorption.

Drug-Nutrient Interactions (16,17)

Both prescription and over the counter (OTC) medications can interact with enteral feeding. Drug-nutrient interactions are complex and can cause malabsorption of either the drug or the nutrient in tube feedings (17). Some medications of concern include:

- Phenytoin (Dilantin) can bind with tube feeding formula, decreasing bioavailability. Feedings should be held 1 to 2 hours before and after medication administration (16,17)
- Antibiotics, H_2-receptor antagonists, and sorbitol can alter gut flora and cause diarrhea.
- Warfarin (Coumadin) may bind to formula protein. Anticoagulant response should be monitored closely.

End of Life Nutrition and Hydration

Complications of Enteral Feeding (2,5,7,16)

Individuals on enteral feedings may experience complications for many reasons. Below is a list of potential complications and some suggestions for resolution.

Diarrhea

1. Assess the administration of the enteral formula.
    - Review safety guidelines for appropriate formula preparation and delivery.
    - Formula should be administered at room temperature.
    - Assess the volume of the bolus feedings, drip rate of the drip feedings and the number of mL per hour for pump administration.
2. Assess handling techniques of the formula, tubing, addition of medications and fluids.
    - Is there a possibility of contamination? Could medications be the cause of the diarrhea (antibiotics, stool softeners, laxatives, mineral or electrolyte supplements, prokinetic agents, colchicines, magnesium based antacid or other medications that may cause diarrhea)?
    - Dilute hypertonic medications before administering. Medications high in osmolality which may cause diarrhea include: multivitamin liquid, potassium chloride liquid, phenytoin sodium suspension, sodium phoshate, and theophylline solution (18). Medications containing sorbitol may also cause diarrhea (aluminum hydrozide, diphenoxylate with atropine, liquid acetaminophen, liquid theophyllin, quaifensin dextromethorpan). Consider changing sorbitol elixirs to tablets.
    - If antibiotics have been used in the past 6 weeks, and patient/resident also has watery and frequent stools/diarrhea, fever and abdominal pain, refer to the physician. Clostridium difficile (C-diff) may be a possible concern. Assess for fever, potential of flu or other illness. In this case, consider a stool sample to assess for C-diff toxin.
3. Review ingredients of enteral feeding.
    - Assess for lactose intolerance.
    - Assess the need for gluten-free formula for individuals with celiac disease.
    - Assess the possibility of fat intolerance.
    - Assess the need for a peptide-based formula (16).
    - Assess osmolality of the feeding.
4. Consider a fiber-containing formula to increase the bulk of the stool, although this is controversial (9). Consider additional soluble fiber (pectin-containing foods such as banana flakes) (9).
5. Consider antimotility agents, including immodium, loperamide, codeine, or paregoric. Enteral nutrition should not be discontinued during the evaluation of diarrhea (9).

Aspiration

1. Assure correct placement of feeding tube prior to initiating feedings.
2. Head of bed should be elevated to 30 to 45 degrees during feeding and for 30 to 60 minutes after feeding to avoid aspiration.
3. Provide aggressive oral hygiene, especially if the patient is also eating and drinking.
4. Use continuous feeding rather than bolus or intermittent feeding.
5. Minimize use of narcotics.

6. Assess individual for indications of aspiration and/or intolerance to enteral feeding. For individuals on G-tube feedings, GRV should be checked every 4 hours for the first 48 hours, then every 6 to 8 hours for critically ill patients (if not every 4 hours).
7. Avoid stopping enteral nutrition because of a single elevated GRV. (Note: Use of at least a 60 mL syringe is recommended to assess GRV).
    - If the GRV is greater than 250 mL after a second gastric residual check, consider a promotility agent (i.e. metoclopramide).
    - If the GRV is greater than 500 mL, hold the enteral feeding. Reassess tolerance by assessing physical status, GI systems and glycemic control. Minimize medications that cause sedation and consider use of promotility agents if not already ordered.
    - If GRVs are consistently greater than 500 mL, consider placing the feeding tube below the ligament of Trietz (2).
8. Enteral tube placement should be checked if aspiration is suspected. Consider placing the tube below the pyloric sphincter if aspiration is a reoccurring problem (16).

Clogged Tube

1. Flush the tube with a minimum of 20 to 30 mL of fluid before and after administration of formula or addition of medications. No irrigant has been shown to be more effective against tube clogging than water (16). When clogging occurs, warm water flushes are often effective. Pancreatic enzymes, mechanical unclogging, or tube replacement may be needed in some cases (7).
2. Use oral, liquid or injectable medications; avoid mixing medications with formula; dilute thick or sticky liquid medications with water; crush tablets to a fine powder and mix with water. Do not crush enteric-coated or sustained-release medications.
3. Avoid the use of juice, carbonated beverages, or sugary fluids to flush the tube.
4. Liquid medications may contain sorbitol, which may clog tubes (7).

Constipation

1. Assure provision of adequate fluids. Provide additional fluids if needed.
2. Assess the need for a fiber-containing formula.
3. Consult the physician about minimizing or replacing medications that cause constipation.
4. Consider the use of stool softeners or laxatives if necessary.
5. Encourage physical activity if possible (16).

Abdominal Distention

1. Assess volume of formula administered within a short period of time.
2. Assess the need for a lactose free formula.
3. Assess for tolerance to fiber containing formula if appropriate.

Nausea/Vomiting

1. Consider holding the feeding if vomiting is not associated with medical/nursing procedures and is large in volume (16).
2. Check residual and tube placement. Decrease the formula delivery rate or use continuous feedings, halt the feeding if gastric residual volume is excessive (greater than or equal to 500 mL), evaluate for obstruction and/or consider medications to improve emptying rate.

3. Ensure that the formula is at room temperature, delivery rate is appropriate, and formula odor is not objectionable; consider a formula that is low in fat, low in fiber, or an elemental formula.
4. Assess the volume of feeding administered within a short period of time. Alter the volume and/or timing of administration if needed.
5. Consider an anti-nauseant, anti-emetic or anti-gas medication.
6. A change in formula may be necessary.
7. Refer to the physician as needed.

Fluid and Electrolyte Imbalance

1. Monitor daily weights, intake and output records, serum electrolyte levels and clinical signs that indicate dehydration or overhydration; ensure that water intake and formula delivery rates are appropriate.
2. Use a formula with the appropriate nutrient content and ensure that nutrient intakes of malnourished individuals are not excessive, resulting in refeeding syndrome.
3. Ensure that medication doses are appropriate.
4. See items under Diarrhea on page 40.

Contamination of Formula

1. Use sanitary techniques for mixing and administering formula.
2. Discard unused formula.
3. Use closed systems whenever possible. These can hang safely for up to 24 to 48 hours (see the manufacturer's information for details).
4. Do not add liquids, medications or new formula to a bag that has been hanging for a period of time.
5. If open systems are used, formula should not hang more than 4 to 8 hours or according to the manufacturer's directions. If enteral bags are filled by the nursing staff, do not allow nursing to add new formula to old formula ("topping off" the bag). Always clean the tops of cans before opening.
6. Clean tube feeding and IV poles and surrounding areas often.

Monitoring for Refeeding Syndrome (5)

Refeeding syndrome consists of metabolic disturbances that occur as a result of introducing nutrition to patients who have been in starvation, or who have been severely malnourished prior to the initiation of aggressive nutrition support. Complications can affect the cardiac, respiratory, hepatic and neuromuscular systems. If not recognized and treated quickly, it can be fatal. It can occur in any individual, especially in individuals that have had stress and depletion, alcoholism, prolonged fasting, chronic malnutrition, substantial unintended weight loss, anorexia, uncontrolled diabetes, or who have had prolonged IV hydration. Symptoms of refeeding syndrome include electrolyte and fluid imbalance and hyperglycemia.

Monitoring metabolic parameters prior to the initiation of enteral feedings and periodically during enteral nutrition therapy should be based on facility protocols, the individual's underlying disease state and anticipated length of therapy. Individuals at high risk for refeeding syndrome should be identified, and electrolyte abnormalities should be corrected prior to the initiation of nutrition support. Nutrition support should be initiated at approximately 25% of the estimated goal and advanced over 3 to 5 days to achieve the goal rate (2).

Consider an initial restriction of fluids and sodium to minimize the risk of fluid overload, pulmonary edema, and cardiac decompensation (16). Serum electrolytes and vital signs should be monitored carefully after nutrition support is started (16).

Refeeding Syndrome

Complications	Patients at Highest Risk	Practical Tips/Treatment
Metabolic and pathophysiological complications can affect the cardiac, respiratory, hepatic, and neuromuscular systems secondary to clinical complications and can result in death.	• Chronic Malnutrition • Substantial Weight Loss • Anorexia Nervosa • Chronic Alcoholism • Cancer • Uncontrollable Diabetes	• Anticipate the patient at risk. • Draw baseline electrolytes and minerals and provide replacement for low levels. • Initiate nutrition support calories and fluids slowly to meet predetermined refeeding level; (approximately 25% of the estimated goal, and advanced over 3 to 5 days to the goal rate). • Initially limit fluids to 1 liter/day unless resident is unstable. • Monitor electrolytes for a minimum of 3 days. • Routinely administer vitamins especially thiamine to malnourished residents. • Outline a plan for nutrition support advancement.

Source: Dorner B, Posthauer ME, Friedrich E, Robinson G. Enteral Nutrition for Older Adults in Nursing Facilities. Nutrition in Clinical Practice. 2011; (Volume Number 26 (3), Issue Number 3). pp. 261-272. © 2011 by American Society for parenteral and Enteral Nutrition. Reprinted by Permission of SAGE Publications. (Reference 19)

Meeting State and Federal Regulations for Tube Feeding

Regulations vary regarding how frequently patients/residents receiving tube feeding must be evaluated. However, it is a good standard of care to review each patient/resident receiving enteral feeding at least monthly and additionally as needed to address changes in condition. At each review the RDN or designee should estimate nutritional needs and compare whether the enteral feeding meets the individual's needs, evaluate lab values and/or weight changes, assess skin condition, and review other information pertinent to the individual's care. In addition, decisions regarding transitions to oral feeding, withdrawal of tube feeding, and changes in advanced directives regarding tube feeding should be acknowledged by the RDN or designee and documented in the medical record.

In nursing facilities, the MDS 3.0 Resident Assessment Instrument (MDS 3.0) serves as a basic assessment tool and generates referrals to specific health care team members, including the RDN or designee. Data on the MDS triggers Care Area Assessments (CAAs) which help facilitate decisions on whether or not to proceed to developing a care plan for a resident. The CAAs guide the RDN or designee in determining the nature of the issue or condition and understanding the causes specific to the individual resident.

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Section K of the MDS includes assessment of the percent of nutrition received via tube feeding for individuals who receive a combination of tube and oral feeding. In addition to routine monitoring of tube feeding, the RDN or designee must provide this information for a seven day look-back period for each required MDS assessment. To make this determination, the RDN or designee evaluates caloric needs, and determines the number of calories received from the tube feeding along with an estimate of calories received from any oral intake. Using this information, the RDN can estimate the percent calorie intake from tube feeding. Refer to the *MDS Section K* information in Chapter 6 of this manual for more information.

Timely and accurate assessment and documentation can help assure that federal regulations regarding feeding tubes as outlined by the Centers for Medicare and Medicaid Services are being met. Interpretive guidelines for surveyors can be found in the State Operations Manual Appendix PP - Guidance to Surveyors for Long Term Care Facilities (Rev. 157, 6-10-16). Section 483.5(g) outlines considerations for use of feeding tubes and investigative protocol for skilled nursing facilities. Refer to Chapter 6 for more details.

CMS form 20093 is used by state and federal nursing home surveyors to evaluate adequacy of care for tube fed individuals in each facility. This form can also be used by facilities to assure they are meeting federal regulations. Refer to Chapter 6 for more details.

Transitioning from Enteral Feeding to Oral Feeding (5)

When an individual has the potential to resume oral intake of food and fluids, the guidelines below should be followed under the supervision of the RDN and/or designee, speech language pathologist, (SLP), nurse and/or physician.

The nursing staff and RDN or designee should work closely with the SLP to determine which individuals are candidates for transition from enteral feeding to oral feeding. The SLP typically screens and then recommends orders for a dysphagia evaluation (which may include a videofluroscopy or other diagnostic tests) to determine rehabilitation potential. Working with other professionals, the SLP should determine the individual's ability to tolerate an oral diet, evaluate chewing and swallowing ability, and suggest what level of dysphagia diet is most appropriate. The SLP should obtain a physician's order for the appropriate consistency of food and fluid based on assessment and diagnosis. The SLP should work closely with the patient and with the staff responsible for assisting the individual at meals to assure proper positioning and eating/feeding techniques for safe swallowing.

During the transition to oral feeding the facility staff should document food and fluid intake at each meal to help the RDN or designee assess the adequacy of the individual's oral intake. Nocturnal continuous feedings or routine or supplemental bolus feedings are usually ordered during the transition process, with enteral formula tapered off gradually as meal intake increases. The RDN or designee should be involved in the process of tapering feeding and flushes to assure fluid and nutrient needs are met during the process. Weekly weights should be obtained for a minimum of one month, and then as determined appropriate by the RDN or designee, to help assess adequacy of intake. Weights may be obtained more often if deemed necessary.

The RDN and/or designee should determine the right time to discontinue the enteral feeding based on adequacy of food and fluid intake, recent weight history, and other indicators as appropriate. With consistent intake of food and fluids over several days, the tube feeding can probably be discontinued, as long as the patient/resident is monitored closely. The RDN or

designee team should intervene as appropriate for poor food/fluid intake, weight loss or other negative reactions.

The SLP should intervene as necessary and appropriate for eating difficulties related to dysphagia, such as tolerance of various consistencies of oral food and fluids. The RDN and/or designee and the SLP work closely together to assure appropriate consistency of the food texture and thickness of fluids. The nursing staff and physician work closely with the RDN and/or designee and the SLP to assure the best quality of care for the individual involved.

The enteral tube should be flushed 4 to 6 times daily with 30 mL or more water to keep it patent, even after tube feeding has been discontinued (20). In some cases a larger flush may be needed if oral intake of fluids is poor. The IDT should request a discontinuation of enteral feeding and/or removal of the tube when they are confident that oral diet is tolerated, food and fluid intake is adequate to meet needs, weight status is stable, and condition is stable.

Discontinuing Enteral Feeding at the End of Life

There are situations when a patient/resident or surrogate decides to discontinue enteral nutrition if the prognosis is poor and/or enteral nutrition is contributing to pain and suffering. It may also be discontinued in the case of a time-limited tube feeding trial. Some older adults, their surrogates, and even some health care providers assume they are morally obligated to continue a tube feeding once it has started. However, artificial nutrition and hydration (ANH) is considered a medical intervention designed to sustain life, similar to dialysis or use of a ventilator. Stopping tube feeding is considered legal and ethically indistinguishable from never starting it (1,21,22). Because withdrawing a feeding tube can carry the emotional burden of withholding food or fluid, making this decision is difficult for the individual and their caregivers. Ideally, discussion held prior to placing a feeding tube should include the possibility of stopping tube feeding if the burdens or risks outweigh the benefits of the feeding. The individual and/or their representative should know that they may need to make a decision to remove the feeding tube at some point in the future, and understand the emotional consequences of making that choice.

The decision to stop ANH could occur days, weeks, or months after it has been initiated and is usually very emotional. With cessation of tube feeding, good oral care should continue and in some cases (depending on swallowing ability and the individual's and/or surrogate's wishes) comfort food and fluids may be provided. If the decision is made to stop ANH, the physician and RDN or designee should document in the medical record accordingly.

Based on the limited evidence that is available, withholding ANH is not painful and dehydration may actually enhance comfort during the dying process. This information is vital to helping patients/residents and their representatives to make informed decisions about ANH and should be part of the dialogue when discussing whether to withdraw a tube if no benefit is observed.

Many professional organizations, including the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) have position statements on the ethics of withholding and/or withdrawing nutrition support. A.S.P.E.N.'s position is that an individual and/or family must understand the medical indications including benefits and burdens of nutrition support. Their position statement provides legal and ethical recommendations for withholding or withdrawing nutrition support therapy (1). The full statement can be accessed at A.S.P.E.N.'s website at http://www.nutritioncare.org/.

The remainder of this publication provides additional resources including sample policies and procedures, regulatory documents, patient education, staff education, and references.

References for Chapter 4: Enteral Nutrition at the End of Life

1. Barrocas A, Geppert C, Durfee SM, et al. A.S.P.E.N. Ethics position paper. Nutr Clin Prac. 2010;25(6): 672-679.
2. Bankhead R, Boullata J, Brantley S et al. Enteral Nutrition Practice Recommendations. American Society for Enteral and Parenteral Nutrition. doi: 10.1177/0148607108330314.
3. Cresci G. Enteral access. In Charney P, Malone A. Pocket Guide to Enteral Nutrition, 2nd ed. Chicago IL: Academy of Nutrition and Dietetics. 2013:52-87.
4. Brantley SL, Russell MK, Mogensen KM. American Society for Parenteral and Enteral Nutrition and Academy of Nutrition and Dietetics: Revised 2014 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Nutrition Support. Nutr Clin Pract. 2014;29(6):792-828. doi: 10.1177/0884533614554264.
5. Dorner, B. Diet and Nutrition Care Manual: *A Comprehensive Nutrition Care Guide*. Naples, FL: Becky Dorner & Associates, Inc.: 2016.
6. Thompson CW, Romano M. Initiation, advancement, and transition of enteral feedings. In Charney P, Malone A. Pocket Guide to Enteral Nutrition. Chicago IL: Academy of Nutrition and Dietetics. 2013:88-119.
7. Academy of Nutrition and Dietetics Nutrition Care Manual. https://www.nutritioncaremanual.org/. Accessed April 18, 2016.
8. Academy of Nutrition and Dietetics Evidence Analysis Library. Critical Illness Guideline. http://www.andeal.org/topic.cfm?menu=5302&pcat=4842&cat=4851. Published 2012. Accessed April 20, 2016.
9. Academy of Nutrition and Dietetics Nutrition Care Manual. https://www.nutritioncaremanual.org/. Accessed April 18, 2016.
10. Malone A. Enteral formula selection. In Charney P, Malone A. Pocket Guide to Enteral Nutrition, 2nd edition. Chicago IL: Academy of Nutrition and Dietetics. 2013:120-152.
11. Posthauer ME, Dorner B, Friedrich EK. Enteral nutrition for older adults in healthcare communities. Nutr Clin Prac. 2014;29(4):445-458.
12. Escuro A.A. Blenderized Tube Feedings: Suggested Guidelines to Clinicians. In parrish CR, series editor. Nutrition Issues in Gastroenterology, Series # 136. Practical Gastroenterology. December 2014: 58-66.
13. Liquid Hope: http://functionalformularies.com/products/liquid-hope.
14. Real Food Blends: http://realfoodblends.com/
15. Compleat. Nestle Health Science Web site. https://www.nestlehealthscience.us/brands/compleat/compleat-hcp. Accessed February 5, 2016.
16. Russell MK. Monitoring complications of enteral feedings. In: Charney P, Malone A, eds. ADA Pocket Guide to Enteral Nutrition. Chicago, IL: American Dietetic Association; 2006:155-192.
17. Escott-Stump S. Nutrition and Diagnosis-Related Care, 8th ed. Wolters Kluwer, 2015; 932-933.
18. Monturo C. The artificial nutrition debate: still an issue after all these years. Nutr Clin Pract. 2009; 24(2):206-213.
19. Dorner B, Posthauer ME, Friedrich E, Robinson G. Enteral Nutrition for Older Adults in Nursing Facilities. Nutrition in Clinical Practice. 2011; (Volume Number 26 (3), Issue Number 3). pp. 261-272.

20. Ruiz GV, Lopez-Briz E, Carbonell SR, et al. Megestrol acetate for treatment of anorexia-cachexia syndrome. *Cochrane Database Syst Rev*. 2013;(3):CD004310.
21. National Hospice and Palliative Care Organization Commentary and Position Statement on Artificial Nutrition and Hydration. National Hospice and Palliative Care Web site. http://www.nhpco.org/sites/default/files/public/ANH_Statement_Commentary.pdf. Accessed April 13, 2016.
22. Plonk WM. To PEG or not to PEG: nutrition issues in gastroenterology. In: Parrish CR, ed. Practical Gastroenterology; 2005;16-31. http://www.practicalgastro.com/pdf/July05/July05Plonk.pdf. Accessed May 9, 2016.

Resources

- American Society of Parenteral and Enteral Nutrition (A.S.P.E.N). http://www.nutritioncare.org/.
- Pioneer Network New Dining Practice Standards: http://www.pioneernetwork.net/Providers/DiningPracticeStandards/. Pages 26-30, Standards of Practice for Tube Feedings.
  - Dying in America: Improving Quality of Life and Honoring Individual Preferences at the End of Life: http://www.nationalacademies.org/hmd/Reports/2014/Dying-In-America-Improving-Quality-and-Honoring-Individual-Preferences-Near-the-End-of-Life.aspx.
- National Hospice and Palliative Care Organization: http://www.nhpco.org/.
- CMS Appendix PP: Guidance to Surveyors for Long-Term Care Facilities. Rev.157, 06-10-16. Available at https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf.
  - Review of a Resident Receiving Hospice Services: pages181-183
  - Right to Refuse Treatment: 483.101: pages 19-27
  - Pressure Ulcers: 483.25(c): pages 231-266
    - Advance Directives: pages 241-242
  - Naso-Gastric Tubes: 483.25 (g): pages 306-328
  - Nutrition: 483.25 (i): pages 358-388
  - Hydration: 483.25 (j): pages 388-390

(Note: The page numbers above are from the Appendix PP: Guidance to Surveyors for Long-Term Care Facilities. Rev.157, 06-10-16. At the time this book was edited, new revisions were expected to be released in late 2016 and 2017. The regulation numbers above for Appendix PP may change when the new revisions are released. Visit the CMS website at https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html for the most current information.)

Chapter 5: Policies and Procedures

Note: The following policies, procedures, resources, and forms are taken from this source (unless otherwise noted): Dorner, Becky. Policies & Procedures: for Nutrition and Food Service in Health Care Facilities. Becky Dorner & Associates, Inc. Dunedin, FL. 2017. (In progress).

Medical Nutrition Therapy Recommendations

Policy:

Medical nutrition therapy (MNT) recommendations from the registered dietitian nutritionist (RDN) or designee will be implemented, or reason for non-implementation will be documented.

Procedure:

1. Any of the RDN's or designee's recommendations related to food will be given to the food service manager, who will follow through and implement them in the facility. (Informing staff, making necessary changes on the meal identification (ID) card/ticket, etc.). The food service manager will follow through on these recommendations in a timely manner.

2. Any recommendations that need nursing's attention or a physician's order will be forwarded in writing to the nursing staff (see *Sample Form: Nutrition Recommendations* on next page). When nursing addresses the recommendations, comments regarding follow through will be added to the form. Completed forms will be returned to the RDN or designee for documentation of actions taken, new orders and follow through. Referrals will be made back to the RDN or designee as needed.

3. Routine recommendations will be implemented in a timely manner. Recommendations that are urgent will be handled and physician's orders written in 72 hours or less.

4. The RDN or designee will follow up on returned routine recommendation sheets in a timely manner (within one to two weeks for nursing facilities). If there is an urgent recommendation, the RDN or designee may follow up in a shorter period of time. Urgent recommendations or concerns may be handled via phone, secure fax or secure email.

5. If the physician is not in agreement with recommendation, documentation will be written in the physician's progress notes, nurse's notes, and/or nutrition progress notes.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Nutrition Recommendations Sample Form

Facility: **Wing:**

Please complete and return to RDN or designee. Thank You!

Name________________________ Room__________ New____ Re-admit____ Update___

Nutrition and Food Service	**Nursing**	**Physician Please Consider**
________________________	________________________	________________________
________________________	________________________	________________________
________________________	________________________	________________________
________________________	________________________	________________________
________________________	________________________	________________________
Comments:	**Comments:**	
Manager's Signature/Date:	Nursing Signature/Date:	

Name__________________________ Room__________ New____ Re-admit____ Update___

Nutrition and Food Service	**Nursing**	**Physician Please Consider**
________________________	________________________	________________________
________________________	________________________	________________________
________________________	________________________	________________________
________________________	________________________	________________________
________________________	________________________	________________________
Comments:	**Comments:**	
Manager's Signature/Date:	Nursing Signature/Date:	

Name__________________________ Room__________ New____ Re-admit____ Update___

Nutrition and Food Service	**Nursing**	**Physician Please Consider**
________________________	________________________	________________________
________________________	________________________	________________________
________________________	________________________	________________________
________________________	________________________	________________________
________________________	________________________	________________________
Comments:	**Comments:**	
Manager's Signature/Date:	Nursing Signature/Date:	

End of Life Nutrition and Hydration

Communication of Nutritional Concerns

Policy:

The registered dietitian nutritionist (RDN) or designee will communicate nutrition concerns to the medical staff.

Procedure:

1. The RDN or designee is an active member of the appropriate interdisciplinary (IDT) committees (i.e. Joint Commission meetings, nutrition at risk team, pressure injury team, weight team, dining team etc.)

2. The RDN or designee routinely attends the care plan conferences.

3. Under the direction of the RDN or designee, the nutrition support staff may communicate issues of concern to key personnel (RDN, physician, nursing staff, therapists, etc.) as appropriate.

4. If authorized, the nutrition support staff will follow through on any duties as appropriate.

5. The nutrition support staff will follow up on communications with the interdisciplinary team to ensure recommendations are considered.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency level of each member of the nutrition team.

End of Life Nutrition and Hydration

Nutrition Screening for Referrals to the Registered Dietitian Nutritionist

Policy:

Facility staff will screen individuals for nutrition risk on admission, at regular intervals, or whenever a change in condition warrants, using a validated nutrition screening tool and approved process.

Procedure:

1. Staff will use a validated screening tool, such as the Mini Nutritional Assessment (MNA®), to determine the presence or risk for malnutrition or undernutrition. The screening process may also include additional criteria associated with other nutritional risk(s).

   Note: In the outpatient setting, the MNA-Self Assessment may be used. This form can be found at http://www.mna-elderly.com/.

2. The facility will designate responsibility for completing the nutrition screening form. The nursing staff may complete the nutrition screening during initial assessment or the nutrition support staff may complete it during the initial visit when they obtain food preferences and determine needs and concerns.

3. Facility staff will follow directions to complete the validated screening form upon admission quarterly, annually, after readmission following a hospital stay, and/or with any significant change in status health.

4. Staff will communicate the results of the nutrition screening process with the RDN or designee. Staff will notify the registered dietitian nutritionist (RDN) or designee and provide information for individuals with:
   - Malnutrition as indicated by the screening tool (MNA® scores of 0-7)
   - Risk for malnutrition or (as indicated by MNA® screening score of 8-11)
   - Other criteria as determined by a facility's screening tools or protocols (see policy on referral to RDN)

   The facility RDN, nutrition support staff and/or nurse manager will initiate appropriate interventions, as necessary, for the individual resident/patient. The RDN or designee will complete a comprehensive nutrition assessment and determine appropriate nutrition interventions.

5. The facility may choose to have the RDN or designee notify the physician in writing, when an individual's nutrition screening indicates malnutrition (MNA® score of 0-7). The physician will review the information during the next scheduled visit.

   As an alternate option, the facility may choose to use the MNA® as an internal document which is reviewed by the RDN during the next scheduled visit. The RDN will document in the medical record interventions or changes to the care plan as appropriate.

Note: The MNA® is a validated tool to identify malnutrition, or undernutrition, in adults age 65 and older and can be accessed at http://www.mna-elderly.com/forms/mini/mna_mini_english.pdf. The MNA® and the 2012 A.S.P.E.N./Academy of Nutrition and Dietetics consensus characteristics of adult malnutrition address many similar issues including inadequate intake and loss of weight, muscle mass, and functionality. The

MNA®-SF also addresses psycho-social issues that increase malnutrition risk for older adults; it does not address inflammation.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Referrals to the Registered Dietitian Nutritionist

Policy:

Facility staff will refer high-risk individuals to the RDN for assessment and interventions as needed.

Procedure:

1. The nutrition support staff or director of nursing or designee will provide the RDN or designee with a list of the individuals no less than monthly including:
   - New or re-admissions to the facility
   - Physician-ordered nutrition consults
   - Malnutrition risk score on MNA® of 11 or less, or as determined by the specific nutrition screening tool
   - Others as determined by the facility may include but are not limited to:
     - Enteral/parenteral feedings
     - Significant weight changes (loss or gain)
     - Insidious weight loss (unplanned gradual weight loss)
     - Pressure injuries and other wounds
     - Dehydration risk
     - Dialysis or renal diets
     - Fluid restriction
     - Terminal condition
     - Need for nutrition education
     - Poor food/fluid intake
     - Poorly controlled diabetes
     - Chewing, swallowing or gastrointestinal problems
     - Diet orders not available on the menu
     - Desire to refuse diet as ordered by physician

2. Facility staff will use the referral form provided to notify the RDN or designee of any problems as they arise. If the problem is urgent, facility staff will notify the RDN or designee of the problem by phone or secure email or fax and provide supporting information as requested by the RDN. (See *Referrals for Registered Dietitian Nutritionist Sample Forms* on the following pages.)

3. Facility staff will leave the referral form at a pre-agreed upon location in the facility, or communicate this information using a secure means. Facility staff should complete the referral form weekly or more often if needed, and provide it to the RDN or designee.

Note: The Mini Nutrition Assessment® (MNA®) is a validated tool to identify malnutrition, or undernutrition, in adults age 65 and older and can be accessed at http://www.mna-elderly.com/forms/mini/mna_mini_english.pdf. The MNA® and the 2012 A.S.P.E.N./Academy of Nutrition and Dietetics consensus characteristics of adult malnutrition address many similar issues including inadequate intake and loss of weight, muscle mass, and functionality. The MNA®-Self-Assessment Form (MNA®-SF) also addresses psycho-social issues that increase malnutrition risk for older adults; it does not address inflammation.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Referrals to the Registered Dietitian Nutritionist Sample Form [1]
Facility:_____ **Date:**_____

Referral Date	Completed	Room Number	Name	New/ Re-admit	Screened for Referral (MNA® Score of 11 or less)	Physician Ordered Consult	Enteral / Parenteral Feeding	Significant Weight Loss or Gain (or insidious loss)	Pressure injury or Wound	Dehydration Risk	Dialysis or Renal Diet	Terminal Condition	Annual Assessments	Needs Nutrition Education	Fluid Restriction	Desire to Refuse Physician-Ordered Diet	Other	Comments

End of Life Nutrition and Hydration

Referrals to the Registered Dietitian Nutritionist Sample Form [2]

Facility:_____ **Date:**_____

Room/Name		New/ Re-admit	MD Consult Order	Significant Weight Loss/Gain	Pressure injury or Wound	Risk of or Resolving Dehydration	Terminal Condition	Enteral/ Parenteral Feeding	Needs Nutrition Education	Fluid Restriction	Desire to Refuse Diet	Other	Comments

End of Life Nutrition and Hydration

Medical Nutrition Therapy Documentation

Policy:

Documentation of medical nutrition therapy (MNT) for each individual is the responsibility of the registered dietitian nutritionist (RDN) with assistance as assigned to the nutrition support staff (i.e. nutrition associate, nutrition and dietetic technician registered or NDTR, and/or certified dietary manager or CDM), as appropriate within each professional's scope of practice and competency level. The facility will:

- Provide nutrition care and services to each individual, consistent with the individual's comprehensive assessment.
- Recognize, evaluate and address the needs of every individual, including but not limited to the individual at risk or already experiencing impaired nutrition.

All documentation will be in accordance with state and federal regulations.

Note: MNT documentation should use the Academy of Nutrition and Dietetics (The Academy) Nutrition Care Process of: 1) Nutrition Assessment, 2) Nutrition Diagnosis, 3) Nutrition Intervention, and 4) Nutrition Monitoring and Evaluation.

Many facilities and RDNs have implemented the Academy's Nutrition Care Process (NCP). The Academy encourages all RDNs and health care communities to use the NCP. For more information on the *Academy Nutrition Care Process*, visit http://www.eatrightpro.org/resources/practice/nutrition-care-process.

Procedure:

1. **Initial Assessment**
   The focus of the comprehensive medical nutrition therapy (MNT) assessment is to identify risk factors that may contribute to undernutrition, protein energy malnutrition, dehydration, unintended weight loss, pressure injuries and other nutrition problems, as well as identifying other nutritional needs.

   For Medicare patients/residents, the initial MNT assessment for a new or re-admitted individual is generally initiated and/or completed within 5 days of admission. Re-assessments and/or progress notes are then completed at 14, 30, 60 and 90 days and a minimum of every quarter thereafter. For non-Medicare individuals, the initial MNT assessment may be completed within 14 days of admission and re-assessments or progress notes are completed a minimum of every quarter or more often as needed. (See *Resource: Comprehensive Medical Nutrition Therapy Assessment* and *Resource: Nutrition Assessment: Components of a Comprehensive Nutrition Assessment* later in this section.)

   Information for the MNT assessment will be gathered through interviews with individuals, family and staff, observations, and review of the medical record and other tools such as meal intake reporting, wound assessment, speech-language pathologist documentation, and bowel and bladder reporting. The form is completed and reviewed by the RDN and/or designee. The assessment form is filed in the medical record. A new or re-assessment is completed each time an individual is re-admitted, has a significant change in condition, and as deemed necessary by federal and state guidelines or the RDN or designee.

MNT re-assessments will be completed according to federal guidelines, at a minimum of quarterly, upon identification of significant change, or at a minimum of yearly intervals.

2. Plan of Care

Each time an MNT assessment or re-assessment is completed, a care plan or care plan revision should be completed as appropriate.

The care plan is based on the MNT assessment, the identified risk factors and nutritional needs. Problems, risk factors, or concerns are described along with nutrition interventions and goals for improvement. Care plans are to be completed within 7 days of completion of the assessment, and updated according to the facility's policy, state and federal guidelines, and as needed due to any significant changes (i.e. weight status, food intake, diet order, etc.). Specific and measurable goals should be stated to maintain or achieve optimal nutritional status. Goals and approaches (interventions) should be individualized and should be coordinated with the interdisciplinary team.

Each time a care plan is updated a re-assessment or progress note should be completed or revised as appropriate.

3. MNT Re-Assessments/Progress Notes

The MNT re-assessment/progress notes reflect progress made on care plan goals, so the RDN and /or designee must review the previous care plan to assess progress. If goals are not met for the problems on the care plan, the approach or goal should be changed. If not changed, then the reasons for little or no progress should be documented. Care plan approaches should be revised based on the individual's outcomes, needs and choices.

Progress notes should include information from mealtime visitation, discussion with the individual and with the care givers, review of the medical record, evaluation of the care plan, weight status, food intake, physician order or condition changes, lab values, medication, etc. Progress notes should reflect progress made to meet care plan goals.

Progress notes are completed according to facility policy and state and federal guidelines. When significant changes occur, notes should be updated. Significant changes can include but are not limited to changes in condition, diet order, food intake and weight. Generally progress notes are written a minimum of every 90 days; and with each significant change in status. Individuals with high-risk conditions will need to be reviewed more frequently.

Each time a re-assessment or progress note is completed, the care plan should be updated.

Summary for Skilled Nursing Facilities:

- The initiation of the nutrition assessment is completed within 5 days of admission for Medicare patients/residents and within 14 days of admission for all residents.
- The initial care plan is completed within 7 days after completion of the assessment.
- Progress notes and care plan updates are completed according to state and federal guidelines (generally a minimum of every 90 days and with any significant change).
- A re-assessment and care plan revision is completed each time an individual is re-admitted, quarterly, upon significant change in condition and as deemed necessary by the facility or the RDN.

End of Life Nutrition and Hydration

Resource: Role Delineation (Division of Responsibility for Documentation)

Role delineation is dictated by the current Standards of Practice and Standards (SOP) of Professional Performance (SOPP) of the Academy of Nutrition and Dietetics (Academy) along with individual State Dietetic Licensing or Certification Boards, and to some extent, by the Academy Dietetic Practice Groups and the Association of Food and Nutrition Professionals (ANFP). This policy covers general guidelines. More detailed guidelines may need to be developed based on individual state laws (dietetic licensing or certification boards).

- **The Certified Dietary Manager (CDM) or trained Food Service Manager** may gather information for the food preferences and gather facts for the MNT assessment and/or progress notes. The initial food preferences and information gathering for the MNT assessment should be completed within 48 hours of admission. This includes food preferences, pertinent data such as food allergies or intolerances, chewing and swallowing abilities and other relevant information. The CDM or food service manager may write progress notes by stating factual information such as diet order, percent of food intake, as noted by nursing, height, weight, usual body weight, lab values, medications, etc. The CDM or food service manager's role is to collect the factual data for documentation, communicate pertinent information to the RDN or designee and the interdisciplinary team, and implement the physician's diet and supplement orders as applicable. The CDM or food service manager also communicates and implements the RDN or designee recommendations as appropriate.

- **The Nutrition and Dietetic Technician Registered (NDTR), Dietetic Technician Registered (DTR), Nutrition Associate, Licensed Dietitian (LD) and/or Registered Dietitian Nutritionist (RDN)** complete the MNT assessment and initial care plan, and revise all care plans when additional problems, approaches and goals are added. These nutrition professionals may also write progress notes as needed. The RDN guides nutritional care of each resident/patient and provides information and guidance for facility wide systems for nutrition care. As support staff, the NDTR and Nutrition Associate work under the supervision of the RDN. The Academy SOP/SOPP for RDNs and DTRs should be reviewed and implemented at the facility level.

Per state licensure laws, the licensed dietitian may delegate certain tasks to the support staff (including CDM). Review state licensure laws and the scope of practice for each professional to assure appropriate delegation. This policy should be adjusted according to specific state regulations. Every state is different so review individual state laws to assure compliance. The RDN is ultimately responsible for the direction of nutrition care and should delegate tasks based on state and federal guidelines and the competency of the NDTR, DTR, Nutrition Associate or CDM.

Summary:

- The CDM or trained food service manager gathers information to initiate assessments and progress notes.
- The RDN or designee assesses the nutritional status and completes the nutrition care process.

For more information on Role Delineation:

1. Individual State Dietetic Licensure or Certification Board.
2. Academy of Nutrition and Dietetics. Scope of Practice: http://www.eatrightpro.org/resources/practice/patient-care/scope-of-practice

3. Association of Food and Nutrition Professionals:
   a. CDM scope of practice: http://www.anfponline.org/news-resources/standards-of-practice
   b. ANFP Practice Standard: Documenting in the Medical Record: http://www.anfponline.org/docs/default-source/default-document-library/practice-standard-documenting-in-the-medical-record.pdf?sfvrsn=0
   c. CDM Nutrition Care Self-Assessment tool: http://www.anfponline.org/Extras/Self_Assessment_Tool.pdf

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Comprehensive Medical Nutrition Therapy Assessment

Policy:

The RDN will complete a comprehensive medical nutrition therapy (MNT) assessment for each individual that is referred or identified for assessment. The purpose of nutrition assessment is to obtain, verify, and interpret data needed to identify nutrition-related problems, their causes, and significance. It is an ongoing, nonlinear and dynamic process that involves data collection and continual analysis of the individual's status compared to specified criteria (1).

Note: Skilled nursing facilities use the Minimum Data Set (MDS) Resident Assessment Instrument (RAI) for basic assessment (section K covers nutrition). The standard of care in skilled nursing facilities is to complete a comprehensive nutrition assessment in addition to the MDS. This policy refers to that comprehensive assessment.

Procedure:

1. An in-depth medical nutrition therapy (MNT) assessment will help identify the nature and causes of impaired nutrition and nutrition-related risks. The in-depth MNT assessment may use existing information from sources such as assessments from other disciplines, laboratory tests, patient/resident observations, and individual and family interviews. (See *Resource: Nutrition Assessment: Components of a Comprehensive Nutrition Assessment* later in this section).

2. The RDN gathers information for the comprehensive MNT assessment from information available in the facility, individual observations, and nutrition-focused physical assessment. A variety of health care professionals contribute information, including:
   - Nursing staff provides details about the individual's nutrition intake, daily routines, and food preferences, and vital signs.
   - Health care practitioners (e.g., physicians and nurse practitioners) determine medical diagnosis, identify causes of nutrition problems (i.e. anorexia and weight loss), and tailor interventions specific to each individual.
   - Therapy staff provides information about swallowing ability, ability to self-feed, and need for adaptive feeding equipment or positioning during meals.
   - Consultant pharmacists can help the staff identify medications that affect nutrition by altering taste or causing dry mouth, lethargy, nausea, or confusion.

3. The registered dietitian nutritionist (RDN) and/or designee identifies nutritional risk factors and nutrition diagnosis and recommends nutrition interventions based on each individual's medical condition, needs, desires, and goals. (See *Referrals to the Registered Dietitian Nutritionist* on pages in this section).

4. Interventions and goals are developed based on individual's preferences (e.g., willingness to participate in weight management interventions or desire for nutritional support at end of life), the anticipated course of an individual's overall condition and progression of a disease (e.g., end-stage, terminal, or other irreversible conditions affecting food intake, nutritional status, and weight goals), and by the individual's willingness and capacity to permit additional diagnostic testing, monitoring and treatment.

5. The facility may use laboratory tests as appropriate to help identify underlying causes of impaired nutrition or when the clinical assessment alone is not enough to define someone's nutritional status. Abnormal laboratory values may, but do not necessarily, imply that treatable clinical problems exist or that interventions are needed. The facility confirms the likelihood of nutrition issues through additional clinical evaluation and evidence such as food intake, underlying medical condition, etc.
    - Example: Serum albumin may help establish prognosis but is only sometimes helpful in identifying impaired nutrition or guiding interventions. Serum albumin may drop significantly during an acute illness for reasons unrelated to nutrition; therefore, albumin may not improve, or may fall further, despite consumption of adequate amounts of calories and protein. The decision to order laboratory tests, and the interpretation of subsequent results, is best done in light of an individual's overall condition and prognosis. Although laboratory tests such as albumin and pre-albumin may help in some cases in deciding to initiate nutritional interventions, there is no evidence that they are useful for the serial follow-up of undernourished individuals (2,3). Serum albumin and pre-albumin appear to better reflect severity of the inflammatory response rather than poor nutritional status (4). They do not specifically indicate malnutrition and do not typically respond to feeding interventions when an acute inflammatory response is present (4).
    - Before ordering laboratory tests it is appropriate for the health care practitioner to determine and indicate whether the tests would potentially change the individual's diagnosis, management, outcome or quality of life or otherwise add to what is already known.

Note: If laboratory tests were done prior to or after admission to the facility and the test results are abnormal, the physician or other licensed health care practitioner, in collaboration with the interdisciplinary team, reviews the information and determines whether to intervene or order additional diagnostic testing.

6. The facility conducts the nutrition analysis using the information from multiple sources. These include, but are not limited to, the RAI and additional nutritional assessments as indicated to determine an individual's nutritional status and develop an individualized care plan.

7. The facility develops the specification of the nutrition concern (Nutrition Diagnosis determined by the RDN) which is a clear statement that provides the basis for individual-specific interventions. For example:
    a. Inadequate oral food and fluid intake
        - Related to oral intake <50%
        - As evidenced by ≥ 5% unintended weight loss the past 30 days
    b. Increased energy needs
        - Related to energy needs greater than calculated needs
        - As evidenced by hyper-metabolic state associated with infection with fever
    c. Swallowing difficulty
        - Related to neuromuscular disorder affecting ability to eat and swallow
        - As evidenced by need for pureed diet

Note: The Academy of Nutrition and Dietetics encourages all RDNs to adopt the Nutrition Care Process of Nutrition Assessment, Nutrition Diagnosis, Nutrition Intervention and Nutrition Monitoring and Evaluation.

End of Life Nutrition and Hydration

References for Comprehensive Medical Nutrition Therapy Assessment:

1. Academy of Nutrition and Dietetics. Nutrition Terminology Reference Manual (eNCPT): Dietetics Language for Nutrition Care. NCP Step 1: Nutrition Assessment. http://ncpt.webauthor.com/pubs/idnt-en/category-1. Accessed February 13, 2015.
2. Covinsky KE, Covinsky MH, Palmer RM, & Sehgal AR. (2002). Serum albumin concentration and clinical assessments of nutritional status in hospitalized older people: Different sides of different coins? Journal of the American Geriatrics Society, 50(4) 631-637).
3. Source: Centers for Medicare & Medicaid Services. State Operations Manual, Guidance to Surveyors for Long Term Care Facilities, Appendix PP https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html. Revision 157, 6/10/16. Accessed November 16, 2016.
4. White JV, Guenter P, Jensen G, Malone A, Schofield M. Academy of Nutrition and Dietetics Malnutrition Work Group, et al. Consensus statement of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition: Characteristics recommended for the identification and documentation of adult malnutrition (undernutrition). *J Acad Nutr Diet*. 2012;112(5):730–738.

Resource: Medical Nutrition Therapy Assessment: Components of a Comprehensive Assessment

The in-depth medical nutrition therapy (MNT) assessment should include the following information (1):

1. **Food and Nutrition-Related History:**
   - Estimate of calorie, nutrient and fluid needs, and whether intake is adequate to meet those needs.
   - The route (oral, enteral or parenteral) of food and/or fluid intake.
   - Meal and snack patterns and preferred portions sizes.
   - Food dislikes and preferences (including ethnic foods and form of foods such as finger foods).
   - Food allergies or intolerances.
   - Food and fluid intake at meals and between meals.
   - Participation in select menus, buffet-style dining, or open dining.
   - Ability to make food choices.
   - Use of fortified foods, oral nutrition supplements, or other supplements that might affect nutritional status such as high calorie medication passes or protein supplements.

2. **Nutrition-Focused Physical Findings:** Refer to *Resource: Nutrition-Focused Physical Assessment* in this section).
Findings that may affect or reflect nutritional status:
   - Robust, thin, obese, or cachectic.
   - Level of consciousness, responsiveness, affect.
   - Oral health and dentition.
   - Ability to use the hands and arms.
   - Condition of hair, nails, and skin.

3. **Anthropometric Measurements Including Height and Weight:**
   - Significant unintended changes in weight (loss or gain) or insidious weight loss. Refer to Chapter 5 and the Appendix for information and tools for tracking significant weight changes (i.e. *Accurate Weights*, *Resource: How to Obtain Accurate Weights, Adjusting Weights for Amputees, Significant Weight Changes, Tracking Weight Changes, Significant Weight Loss, Significant Weight Gain*, *Sample Forms* and *Charts, etc.*)

Biochemical Data, Medical Tests, and Procedures
   - Lab data, such as electrolytes and glucose
   - Medical tests and procedures, such as gastric emptying time, resting metabolic rate, swallowing tests, etc.

Client History
   - Usual body weight, a history of reduced appetite or a history of progressive weight loss or gain prior to admission, medical conditions, and events such as recent surgery, which may have affected an individual's nutritional status and risks.

End of Life Nutrition and Hydration

Additional information that might be useful to assessment of nutritional status includes:

1. **Fluid Intake and Fluid Balance**
   - Clinical manifestations of fluid and electrolyte imbalance, including abrupt weight changes, changes in food and fluid intake, or altered level of consciousness.
   - Laboratory tests (e.g., electrolytes, BUN, creatinine and serum osmolality) that can identify, manage, and monitor fluid and electrolyte status.

2. **Altered Nutrient Intake, Absorption, and Utilization**
   Poor intake, continuing or unabated hunger, or a change in the individual's usual intake that persists for multiple meals, may indicate an underlying problem or illness. Assess for possible causes such as:
   - Inability to consume meals provided (possibly due to the form or consistency of food/fluid, cognitive or functional decline, arthritis-related impaired movement, neuropathic pain, or insufficient assistance).
   - Insufficient availability of food and fluid (e.g., inadequate amount of food or fluid or inadequate tube feedings).
   - Environmental factors affecting food intake or appetite (e.g., comfort and level of disruption in the dining environment).
   - Adverse consequences related to medications.
   - Diseases and conditions such as cancer, diabetes mellitus, advanced or uncontrolled heart or lung disease, infection and fever, liver disease, hyperthyroidism, mood disorders, and repetitive movement disorders (e.g., wandering, pacing, or rocking).

3. **Medications** (2,3)
   - **Medications that affect fluid balance**
     - Diuretics and other medications may cause weight loss that is not associated with nutritional issues, but can also cause fluid and electrolyte imbalance/dehydration that causes a loss of appetite and weight.
   - **Medications that affect nutrient utilization**
     - Examples include liquid phenytoin taken with tube feedings or grapefruit juice taken with some antihyperlipidemics.
   - **Medications that affect nutrition status**
     - Almost every pharmaceutical class has medications that can affect nutritional status, directly or indirectly by causing or exacerbating anorexia, lethargy, confusion, nausea, constipation, impairing taste, or altering gastrointestinal function.
     - Inhaled or ingested medications can affect food intake by causing pharyngitis, dry mouth, esophagitis, or gastritis. To the extent possible, consideration of medication/nutrient interactions and adverse consequences should be individualized.

4. **Gastrointestinal (GI) Disorders**
   - Various GI disorders such as pancreatitis, gastritis, motility disorders, small bowel dysfunction, gall bladder disease, and liver dysfunction may affect digestion or absorption of food.
   - Prolonged diarrhea or vomiting may increase nutritional requirements due to nutrient and fluid losses.
   - Constipation or fecal impaction may affect appetite and excretion.

5. **Hypermetabolic State related to Wounds or Medical Conditions**
   Pressure injuries and some other wounds and other medical conditions can affect nutritional requirements.
   - A hypermetabolic state results from an increased demand for energy and protein and may increase the risk of weight loss or undernutrition. Examples of causes include advanced chronic obstructive pulmonary disease (COPD), pneumonia and other infections, cancer, hyperthyroidism, and fever. Early identification of these factors, regardless of the presence of any associated weight changes, can help a facility choose appropriate interventions to minimize any subsequent complications.
   - Several medical problems that result in hypermetabolism can co-exist.

6. **Chewing Problems**
   Conditions of the mouth, teeth, and gums can affect the individual's ability to chew foods. For example, oral pain, dry mouth, gingivitis, periodontal disease, ill-fitting dentures, and broken, decayed or missing teeth can impair oral intake.

7. **Swallowing Problems**
   - A variety of conditions, including but not limited to stroke, pain, lethargy, confusion, dry mouth, and diseases of the oropharynx and esophagus can affect swallowing.
   - Swallowing ability may fluctuate from day to day or over time. In some individuals, aspiration pneumonia can complicate swallowing abnormalities.

8. **Functional Ability**
   The ability to eat independently may be helped by addressing factors that impair function or by providing appropriate individual assistance, supervision, or assistive devices.
   - Conditions affecting functional ability to eat and drink include impaired upper extremity motor coordination and strength or reduced range of motion (any of which may be hampered by stroke, Parkinson's disease, multiple sclerosis, tardive dyskinesia, or other neuromuscular disorders or by sensory limitations (e.g., blindness).
   - Cognitive impairment may also affect an individual's ability to use a fork, or to eat, chew, and swallow effectively.

References Components of a Comprehensive Medical Nutrition Therapy Assessment:

1. Academy of Nutrition and Dietetics. Nutrition Terminology Reference Manual (eNCPT): Dietetics Language for Nutrition Care. NCP Step 1: Nutrition Assessment. http://ncpt.webauthor.com/pubs/idnt-en/category-1. Accessed February 13, 2015.
2. Source: Centers for Medicare & Medicaid Services. State Operations Manual, Guidance to Surveyors for Long Term Care Facilities, Appendix PP https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html. Revision 157, 6/10/16. Accessed November 16, 2016.
3. Bellows R, Moore L. Nutrient-Drug Interactions and Food. Colorado State University Extension. http://www.ext.colostate.edu/pubs/foodnut/09361.html. Updated August 8, 2014. Accessed February 13, 2015.

End of Life Nutrition and Hydration

Resource: PES Statements Sample

Predictive Suboptimal Energy/Protein/Oral/Nutrient Intake

- Predictive suboptimal energy and protein intake *related to* chemotherapy treatments for breast cancer *as evidenced by* individual's report of decreased appetite and nausea.
- Predictive suboptimal nutrient intake related to end of life care *as evidenced by* diagnosis of end stage renal disease without dialysis treatment.
- Predictive suboptimal (-oral) energy intake *related to* decreased ability to consume foods secondary to conditions associated with diagnosis of Arthritis *as evidenced by* individual 's inability to feed self and refusal of assistance with meals.
- Predictive suboptimal (-oral-) nutrient intake *related to* poor acceptance of pureed diet with nectar thickened liquids *as evidenced by* observation of individual refusal of food served and requests for regular food.
- Predictive suboptimal (intake of) nutrient intake *related to* conditions associated with dx of Alzheimer's disease *as evidenced by* a documented intake that is less than calculated needs without unintentional weight loss.
- Predictive suboptimal intake of nutrients *related to* recent nursing home placement and conditions associated with depression *as evidenced by* reports of decreased appetite and intake.
- Predictive suboptimal intake of nutrients *related to* increased energy needs *as evidenced by* conditions associated with progression of Parkinson's disease.

Inadequate Energy/Protein/Oral Intake

- Inadequate oral intake *related to* dementia as evidenced by consistent poor p.o. intake and weight loss.
- Inadequate oral (energy) intake *related to* difficulty swallowing *as evidenced by* observation of pocketing and spitting out foods during mealtimes and a weight loss of 6.7% in the past 30 days.
- Inadequate oral (energy) intake *related to* individual's lack of interest in food *as evidenced by* documented intake of refusal of 15 meals out of 21.
- Inadequate energy and protein intake *related to* significant amount of meals and supplements left uneaten *as evidenced by* documented intake of 30% of meals and supplements.
- Inadequate oral intake *related to* weakness and shortness of breath caused by conditions associated with COPD *as evidenced by* individual's inability to eat for more than 5 minutes.
- Inadequate energy and protein intake *related to* short attention span *as evidenced by* individual's inability to stay in dining room for a full meal.
- Inadequate oral intake *related to* comatose state and responsible party's decline of enteral feeding *as evidenced by* a continual weight loss of 10% in the past 30 days.

Unintentional Weight Loss

- Unintended weight loss *related to* inadequate oral intake and recent hospitalization as evidenced by significant weight loss 5% x 30 days.
- Unintentional weight loss *related to* increased need for energy caused by constant wandering and pacing *as evidenced by* a weight loss of 5% in the past week.
- Unintentional weight loss *related to* prolonged hospitalization *as evidenced by* a weight loss of 12% in the past 90 days.

End of Life Nutrition and Hydration

Increased Energy Expenditure

- Increased energy expenditure *related to* involuntary physical movements *as evidenced by* conditions associated with diagnosis of Huntington's Chorea and an unintentional weight loss of 6% in the past 30 days.
- Increased energy expenditure *related to* needs to promote weight gain *as evidenced by* underweight status and BMI of 16.

Increased Need for Energy/Protein/Calcium

- Increased need for energy and protein related to increased demands for healing as evidence by the presence of a Stage IV Pressure injury.
- Increased need for calcium and vitamin D *related to* decreased intake of foods high in calcium and inability to sit up *as evidenced by* below normal lab results for calcium and vitamin D.

Increased Nutrient Needs

- Increased nutrient needs *related to* pressure injury *as evidenced by* increased metabolic stress and need for healing.

Disordered Eating Pattern

- Disordered eating pattern *related to* individual's obsessive desire to be thin and refusals to eat *as evidenced by* documented intake of only 1 meal out of 3.

Limited Food Acceptance

- Limited food acceptance *related to* conditions associated with diagnosis of Gluten and Lactose Intolerance *as evidenced by* reports complaints of abdominal pain and diarrhea with intake of foods containing wheat and dairy products.
- Limited food acceptance *related to* paranoid fear that food is poisoned *as evidenced by* individual's acceptance of only prepackaged foods.

Excessive Intake of Energy

- Excessive (intake of energy) energy intake *related to* increased appetite secondary to antipsychotic meds *as evidenced by* a documented intake that exceeds calculated needs and a weight gain of 10% in the past 90 days.
- Excessive (intake of energy) energy intake *related to* decreased ability to taste foods and loss of appetite awareness *as evidenced by* reports of lack of satiety and a weight gain of 5% in the past 7 days.

Self-Feeding Difficulty

- Self-feeding difficulty *related to* functional limitation of range of motion *as evidenced by* observation of individual's inability to reach mouth with utensils.
- Self-feeding difficulty *related to* limited vision *as evidenced by* observation of individual eating from only one side of plate.

Overweight/Obesity

- Overweight *related to* decreased energy needs secondary to conditions associated with quadriplegia *as evidenced by* a weight of >130% of DBW.
- Obesity *related to* lifelong history of excessive intake *as evidenced by* reports from family members.

End of Life Nutrition and Hydration

Comprehensive Care Plan

Policy:

The facility will develop a comprehensive care plan following the most current regulatory requirements available. As applicable, this includes a comprehensive nutrition care plan, which is based on the comprehensive medical nutrition therapy (MNT) assessment. The care plan should build on patient/resident strengths and preferences, be oriented toward avoiding preventable declines in functioning, and reflect current standards of care in professional practice (1).

Procedure:

1. Based on information generated by the comprehensive assessment and any pertinent additional MNT assessment, the interdisciplinary team develops an individualized care plan with input from the resident/patient and/or representative.
    a. Care plan format should reflect facility protocols and should be resident-centered and or/resident directed ("I" care plans). Resident centered care plans involve the resident and multiple disciplines. "I" care plans are totally focused on the wants, needs, and desires of the resident and written from their perspective (2).

2. The care plan addresses, to the extent possible, identified causes of impaired nutrition status. The care plan reflects the individual's goals and choices, and identifies individual-specific interventions. It includes a time frame in which goals might be achieved and parameters for monitoring progress.

3. The care plan is updated as needed, e.g., as conditions change, goals are met, interventions are determined to be ineffective, or as specific treatable causes of nutrition-related problems (anorexia, impaired chewing, etc.) are identified.
    - If nutrition goals are not achieved, new or additional pertinent approaches are identified and implemented as indicated.
    - Pertinent documentation can help identify the basis (e.g., current individual status, comorbid conditions, prognosis, and individual choices) for nutrition-related goals and interventions.

4. Each individual or their representative should make informed choices about accepting or declining care and treatment.
    - The facility can help the individual exercise the right of choice effectively by discussing condition, treatment options (including related risks and benefits, and expected outcomes), personal preferences, and potential consequences of accepting or refusing treatment. If the individual declines specific interventions, the facility must address the individual's concerns and offer relevant alternatives.
    - The care plan reflects an individual's choices, either as offered by the individual directly or via a valid advance directive or based on a decision made by the individual's representative in accordance with state law.
        - The presence of care instructions such as an advance directive, or declining some interventions does not necessarily imply that other support and care was declined or is not pertinent.
        - When preferences are not specified beforehand, decisions related to the possible provision of supplemental or artificial nutrition should be made in conjunction with the individual or individual's representative in accordance with state law. This decision should take into account relevant considerations such as the individual's

condition, prognosis, and known values and choices. See Policy and Procedure on *End of Life Decisions* later in this chapter).

5. Use a variety of interventions to meet the individuals' nutritional needs based on many factors including, but not limited to current food intake, the degree of nutritional impairment or risk, individual choices, the response to initial interventions, and the feasibility of addressing underlying conditions and causes.
    - Basic energy needs can generally be met by providing a diet that includes sufficient calories to stabilize current body weight. Adjustments may be necessary when factors exist such as food allergies/intolerances, the need for a therapeutic diet, or hypermetabolic states (e.g., fever, hyperthyroidism, acute wounds, or heart or lung disease). Energy needs should be met to avoid having the body use lean body mass for energy and wound repair.

6. Monitor outcomes and evaluate interventions after care plan implementation. Review the individual-specific factors identified as part of the latest comprehensive individual assessment and any supplemental MNT assessment.
    - Identify and report information about the individual's nutritional status and related issues such as level of consciousness and function. (Nursing assistants may be most familiar with the individual's habits and preferences, symptoms such as pain or discomfort, fluctuating appetite, and nausea or other gastrointestinal symptoms).
    - More intensive and frequent monitoring may be indicated for individuals with impaired or at-risk nutritional status than for those who are currently nutritionally stable. Monitoring includes, but is not limited to:
        - Observe for and recognize emergence of new risk factors (e.g., acute medical illness, pressure injuries, or fever).
        - Evaluate consumption of between-meal snacks and oral nutritional supplements.
        - Review the continued relevance of any current nutritional interventions (e.g., therapeutic diets, tube feeding orders or oral nutritional supplements).

7. Evaluate the care plan to determine if current interventions are being followed and if they are effective in attaining identified nutrition and weight goals and modify the care plan as needed.
    - Subsequent adjustment of interventions will depend on progress, underlying causes and overall condition.
    - Modify nutrition-related goals, as needed based on new information and responses to current interventions.
        - Modify the current care plan and add new or additional interventions as needed.
        - Explain any decision to continue current interventions when the individual's nutrition status continues to decline (e.g., the goal of care for someone with a terminal, advanced, or irreversible condition has changed to palliation).

References for Comprehensive Care Plan:

1. Source: Centers for Medicare & Medicaid Services. State Operations Manual, Guidance to Surveyors for Long Term Care Facilities, Appendix PP. https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html. Revision 157, 6/10/16. Accessed November 16, 2016.
2. Litchford M. *MDS 3.0 & Nutrition Care Plans*. St. Charles IL: Dietary Managers Association; 2011.

End of Life Nutrition and Hydration

Resource: Weight-Related Nutrition Interventions

Usual Body Weight

For many individuals (including overweight individuals), usual body weight prior to decline or admission rather than ideal body weight (IBW) is the most relevant basis for weight-related interventions.

- Basing interventions on IBW can be misleading, because IBW has not been definitively established for the frail elderly and those with chronic illnesses and disabilities.

Care Plan and Care Area Assessment (CAA)

The care plan includes nutrition interventions that address underlying risks and causes of unplanned weight loss (e.g., the need for eating assistance, reduction of medication side effects, and additional food that the individual will eat) or unplanned weight gain.

- It is important that the care plan address insidious, abrupt, or sudden decline in intake or insidious weight loss that does not trigger review of Care Area Assessment (CAA); for example, by intensifying observation of intake and eating patterns, monitoring for complications related to poor intake, and seeking underlying cause(s).
- Many risk factors and some causes of weight loss can be addressed, at least partially, while others may not be modifiable. In some cases, certain interventions may not be indicated or appropriate, based on individual goals and prognosis.
- Weight stability, rather than weight gain, may sometimes be the most pertinent short-term or long-term objective for the nutritionally at-risk or compromised individual. After an acute illness or as part of an advanced or end-stage medical condition, the individual's weight and other nutrition parameters may not return to previous levels and may stabilize at a lower level, sometimes indefinitely.

Note: There should be a documented clinical basis for any conclusion that nutrition status or significant weight change are unlikely to stabilize or improve (e.g., physician's documentation as to why weight loss is medically unavoidable).

Environmental Factors

Appetite is often enhanced by the appealing aroma, flavor, form, and appearance of food. Practices that may help improve intake include providing a pleasant dining experience (e.g., flexible dining environments, styles and schedules), providing meals that are palatable, attractive and nutritious (e.g., prepare food with seasonings, serve food at proper temperatures, etc.), and making sure that the environment where individuals eat (e.g., dining room and/or individual's room) is conducive to dining.

Anorexia

The facility, in consultation with the interdisciplinary (IDT) team, RDN or designee, identifies and addresses treatable causes of anorexia. For example, the practitioner may consider adjusting or stopping medications that may have caused the individual to have dyspepsia or become lethargic, constipated, or confused, and reevaluate the individual to determine whether the effects of the medications are the reasons for the anorexia and subsequent weight loss.

- Where psychosis or a mood disorder such as depression has been identified as a cause of anorexia or weight change, treatment of the underlying disorder (based on an appropriate diagnostic evaluation) may improve appetite. However, other coexisting conditions or factors instead of, or in addition to, depression, may cause or contribute to anorexia. In addition, the use of antidepressants is not generally considered to be an adequate substitute for appropriately investigating and addressing modifiable risk factors or other underlying causes of anorexia and weight loss.

End of Life Nutrition and Hydration

Functional Factors

Based on the comprehensive interdisciplinary assessment, the facility provides the necessary assistance to allow the individual to eat and drink adequately. An individual with functional impairment may need help with eating.

- Examples of such interventions may include, but are not limited to: providing proper positioning for eating; participation in a restorative dining program; use of assistive devices/utensils; and prompt assistance (e.g., supervision, cueing, hand-over-hand) during every meal/snack where assistance is needed, ensuring that sensory devices such as eyeglasses, dentures, and hearing aids are in place; providing personal hygiene before and after meals, properly positioning the individual, providing eating assistance where needed, and providing the assistive devices/utensils identified in the assessment (1).

Chewing and Swallowing

1. In deciding whether and how to intervene for chewing and swallowing abnormalities, it is essential to take a holistic approach and look beyond the symptoms to the underlying causes. Pertinent interventions may help address the individual's eating, chewing, and swallowing problems and optimize comfort and enjoyment of meals.
   - Examples of such interventions may include providing proper positioning for eating; assuring dentures are clean and in place at mealtime; cutting, chopping, or pureeing food to the proper consistency; assuring proper oral care between meals; participation in a restorative eating program; use of assistive devices/utensils as ordered; and prompt assistance (e.g., supervision, cueing, hand-over-hand) during every meal/snack where assistance is needed.

2. Treating medical conditions (e.g., gastroesophageal reflux disease and oral and dental problems) that can impair swallowing or cause coughing may improve a chewing or swallowing problem.
   - Examples of other relevant interventions include adjusting medications that cause dry mouth or coughing, and providing liquids to moisten the mouth of someone with impaired saliva production.

3. Excessive modification of food and fluid consistency may unnecessarily decrease quality of life and impair nutritional status by affecting appetite and reducing intake. Many factors influence whether a swallowing abnormality eventually results in clinically significant complications such as aspiration pneumonia (2).

4. Identification of a swallowing abnormality alone does not necessarily warrant dietary restrictions or food texture modifications. No interventions consistently prevent aspiration and no tests consistently predict who will develop aspiration pneumonia (3).
   - For example, tube feeding may be associated with aspiration, and is not necessarily a desirable alternative to allowing oral intake, even if some swallowing abnormalities are present (4,5).

5. Decisions to downgrade or alter the consistency of diets must include the individual (or the individual's representative), consider ethical issues (such as the right to decline treatment), and be based on a careful review of the individual's overall condition, correctable underlying causes of the risk or problem, the benefits and risks of a more liberalized/individualized diet, and the individual's preferences to accept risks in favor of a more liberalized food intake (6,7).

End of Life Nutrition and Hydration

Medications

- When an individual is eating poorly or losing weight, the immediate need to stabilize weight and improve appetite may supercede long-term medical goals for which medications were previously ordered. It may be appropriate to change, stop, or reduce the doses of medications (e.g., antiepileptics, cholinesterase inhibitors, or iron supplements) that are associated either with anorexia or with symptoms such as lethargy or confusion that can cause or exacerbate weight loss (8).
- The medical practitioner in collaboration with the staff and the pharmacist should review and adjust medications as appropriate.

Conclusions

- Resultant conclusions may include, but are not limited to:
    - A target range for weight based on the individual's overall condition, goals, prognosis, usual body weight, etc.
    - Approximate calorie, protein, and other nutrient needs.
    - Whether and to what extent weight stabilization or improvement can be anticipated.
    - Whether altered weight or nutritional status could be related to an underlying medical condition (e.g., fluid and electrolyte imbalance, medication-related anorexia, or an infection).
- Based on analysis of relevant information, the facility should identify a clinically pertinent basis for any conclusions that an individual cannot attain or maintain acceptable parameters of nutrition status.

References for Weight-Related Nutrition Interventions:

1. Alzheimer's Association. (2012). Eating, Retrieved April 24, 2012 from http://www.alz.org/living_with_Alzheimers_eating.asp).
2. Kikawada, M., Iwamoto, T., & Takasaki, M. (2005). Aspiration and infection in the elderly. Drugs Aging, 22 (2), 115-130.
3. Loeb, M.B., Becker, M., Eady, A., & Walker-Dilks, C. (2003). Interventions to prevent aspiration pneumonia in older adults: A systematic review. Journal of the American Geriatrics Society, 51(7), 1018-1022.
4. Feinberg, M.J., Knebl, J., & Tully, J. (1996). Prandial aspiration and pneumonia in an elderly population followed over 3 years. Dysphagia, 11(2), 104-109.
5. Mamun, K., & Lim, J. (2005). Role of nasogastric tube in preventing aspiration pneumonia in patients with dysphagia. Singapore Medical Journal, 46(11), 627-631.
6. Campbell-Taylor, I. (2008). Oropharyngeal dysphagia in long-term care: Misperceptions of treatment efficacy. Journal of the American Medical Directors Association, 9, 523–531.
7. Thomas, D. R. (2008). Hard to swallow: Management of dysphagia in nursing home residents. Journal of the American Medical Directors Association, 9, 455–457.
8. Pronsky ZM, Crowe JP, Young VSL, Elbe D, Epstein S, Roberts W, Ayoob KT. Food-medication interactions, 16th Edition. Food Medications Interactions 2010.

Source: Centers for Medicare & Medicaid Services. State Operations Manual, Guidance to Surveyors for Long Term Care Facilities, Appendix PP https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html. Revision 157, 6/10/16. Accessed November 16, 2016.

End of Life Nutrition and Hydration

Tracking Weight Changes

Policy:

Weights will be documented for all individuals, for the purpose of assessing significant and insidious (slow) weight changes.

Procedure:

1. The facility is responsible for obtaining correct weights on a regular basis, and for keeping accurate records. This includes having adequate weight scales, bed scales, lift scales, and/or wheel chair scales as needed.

2. A copy of weight records will be forwarded to the appropriate professional each month: weight team leader, registered dietitian nutritionist (RDN) or designee, nursing supervisor, etc. The RDN or designee will review monthly weights and calculate significant change over one, three, and six months. Many electronic weight tracking programs will calculate weight changes over time and flag those that are significant, however they should be confirmed by a review by the RDN. A copy of all significant weight losses and gains will be given to the interdisciplinary care team for appropriate review and documentation.

3. Weight records should also be reviewed for insidious (slow) weight loss over a period of a few months. Weight loss that does not trigger as significant should be addressed by the care plan team because it may be an indicator of other changes in the individual's condition.

4. All individuals with significant weight changes will be reweighed to assure accuracy of the weight prior to reporting this to the staff, physician, or family.

5. The care team will review and document on all insidious and significant weight changes, with appropriate referrals to the physician and RDN or designee. The RDN or designee will review all significant weight losses, and assess for insidious weight loss. The RDN or designee will make referrals and take action as necessary (including follow up documentation).

6. The individual, family (or representative), physician and RDN or designee will be notified of any individual with an unplanned significant weight change of 5% in one month, 7.5% in three months, or 10% in six months.

7. Individuals with significant weight loss will be added to weekly weights for a minimum of 4 weeks or until weight stabilizes.

8. Individuals with insidious weight loss may be added to weekly weights at the discretion of the MD, RDN, or interdisciplinary team, particularly if medical condition has changed or meal intake has declined.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency level of each member of the nutrition team.

End of Life Nutrition and Hydration

Monthly Weight Record Sample Form

Monthly Weight Record for _____ Year **Facility/Wing _____**

Room	Name	Ht	UBW	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Ht = Height UBW = Usual body weight

End of Life Nutrition and Hydration

Individual Weight Chart Sample Form

Name _____ Ht _____ UBW _____ Year _____

Time Interval	Significant Change	Severe Change
1 month	5%	Greater than 5%
3 months	7.5%	Greater than 7.5%
6 months	10%	Greater than 10%

Month/ Date	Wt	% Wt Change Past Month	% Wt Change Past 3 Months	% Wt Change Past 6 Months	Date Resident, Family, RD & Physician Notified	Comments
Jan						
Feb						
Mar						
April						
May						
June						
July						
Aug						
Sept						
Oct						
Nov						
Dec						

UBW = Usual body weight

Formula to determine weight loss:
Percentage Weight Change:
Previous Weight - Current Weight ÷ Previous Weight x 100

Circle % weight change if significant or severe.

Comments should reflect identified causes and/or interventions implemented for significant weight loss.

End of Life Nutrition and Hydration

Weekly Weight Record Sample Form

Room	Name	Previous Weight/Date	Date																

End of Life Nutrition and Hydration

Significant Weight Changes Sample Form

Facility_____ **Wing**_____ **Monthly / Quarterly / Six Month (*Circle)*** **Month/Year**_____

Room No.	Name	Previous Month Weight	Present Month Weight	↑ ↓ % Gain or Loss	Re-weigh Required	Re-weigh Weight/ Date	Notified			Comments
							MD	Family	RDN	

+ for significant weight gain of ≥ 5% - for significant weight loss of ≤ 5%

End of Life Nutrition and Hydration

Significant Weight Loss Sample Form

Name: _____

Weight loss _____% loss in _____ months Clinically Unavoidable Yes No

Interventions attempted to address weight loss _____

_____

_____

Identified Concerns

_____ Poor food/fluid intake
_____ Advanced disease state: _____
_____ Increased nutritional / caloric needs associated with: _____
_____ Prolonged nausea, vomiting or diarrhea not relieved by treatment provided
_____ Radiation or Chemotherapy
_____ Other: _____

_____

Dietary Notes	Nursing Notes	SS Notes	Physician Notes

_____ _____
RDN Signature Date

_____ _____
RN Signature Date

_____ _____
SS Signature Date

_____ _____
Physician Signature Date

End of Life Nutrition and Hydration

Weight Change Notifications and Recommendations Sample Form

Resident/Patient Name _____ Date _____

Physician _____ Room ID_____

Significant Weight Change	Recommendations

Thank you,

(Signature/credentials) _____

Physician's Response Yes No

New Order _____

Physician Signature _____ Date _____

Signature of Nurse Accepting Order _____ Date _____

□ IDT Notified Yes No Date _____
Notes _____

□ Family Notified Yes No Date _____
Notes _____

□ RDN Notified Yes No Date _____
Notes _____

Additional Comments

_____

_____

_____

_____

_____

_____

End of Life Nutrition and Hydration

Significant Weight Loss Communications Sample Form

Name_____

Weight loss _____% loss in _____ months Clinically Unavoidable Yes No

Interventions attempted to address weight loss:

_____

_____

_____

Identified Concerns

_____ Refusal to eat and/or inadequate intake
_____ End-stage disease state: _____
_____ Increased nutritional needs associated with pressure injuries, burns, fractures or surgery:
_____
_____ Prolonged nausea, vomiting or diarrhea not relieved by treatment provided
_____ Radiation or Chemotherapy
_____ Medications with weight loss implications
_____ Other: _____

Dietary Notes	Nursing Notes	Social Service Notes	Physician Notes

_____ _____
RDN Signature Date

_____ _____
RN Signature Date

_____ _____
SS Signature Date

_____ _____
Physician Signature Date

End of Life Nutrition and Hydration

Significant Weight Loss

Policy:

The goal of medical nutrition therapy (MNT) for significant unintended weight loss is to identify underlying causes or factors contributing to the significant unintended weight loss, and intervene as appropriate to resolve the problem and stabilize the weight.

Procedure:

Appropriate members of the interdisciplinary team will:
1. Identify individuals with significant/severe weight losses.

Significant Weight Loss	Severe Weight Loss
5% weight loss in 1 month	>5% weight loss in 1 month
7.5% weight loss in 3 months	>7.5% weight loss in 3 months
10% weight loss in 6 months	>10% weight loss in 6 months

- Re-weigh the individual to assure accurate weight.
- Interview direct care givers for information on recent changes.
- Review the individual's food intake records to estimate the average percentage of food/fluid intake in the past two to four weeks.
- Assess whether or not the weight loss was desirable or expected (such as in resolution of severe edema), and document accordingly.
- Assess for stress factors (flu, fever, edema, infections, etc.) or cognitive changes (dementia, depression, etc.) that may have contributed to the weight loss.
- Assess ability to eat independently, chewing/swallowing ability, tolerance/acceptance of diet, etc.
- Assess the individual's laboratory values when available and if appropriate.
- Assess for potential food-medication interactions.
- Review the care plan for pertinent information.
- Document estimated nutritional needs (calories, protein, and fluid) versus estimated food/fluid intake (utilizing food intake records).
- Assess for risk of undernutrition or protein-energy malnutrition. Identify potential causes. Document findings in the medical record.
- Interview the individual to identify possible causes and to determine appropriate nutrition interventions.
- Individualize nutrition approach to accommodate the least restrictive diet appropriate to maximize meal intake.
- Request/implement nutrition interventions based on the individual case. Document the additional nutritional value (calories, protein, fluids) these interventions will provide.
- Place the individual on weekly weights for one month and review these weights weekly.
- Monitor and evaluate to assess effectiveness of the intervention.
- Complete follow up documentation as needed.

2. Continued Weight Loss
    - Re-weigh to assure accurate weight.
    - Assess whether or not the weight loss was desirable (such as resolution of severe edema), and document accordingly.
    - Review meal and fluid intake documentation over the past 7 to14 days. Observe intake directly if possible. A three day calorie count or plate waste study may also be considered.
    - Assess the individual's laboratory values when available and if appropriate.
    - Re-calculate estimated nutritional needs.
    - Compare nutritional needs to actual intake (calories, protein and fluids at minimum).
    - Note potential reasons why the initial nutrition intervention was not successful.
    - Interview the individual again for possible causes and appropriate interventions.
    - Provide individualized aggressive nutrition interventions, including but not limited to:
        - Assistance with eating as needed
        - Update and honor individual food preferences
        - Liberalize /individualize diet
        - Offer six small meals
        - Offer nutritional snacks between meals
        - Calorie boosters (i.e. extra margarine, mayonnaise or gravy on foods)
        - Protein boosters (i.e. whole milk, half and half or cream, pudding, ice cream, milk shakes)
        - Enhanced/fortified foods (high calorie/high protein)
        - Brightly colored napkins on tray to signify that this individual needs extra attention
        - Consider appetite stimulants, if appropriate
        - High calorie/high protein supplements

- Review Advance Directive regarding nutrition and hydration. Review prognosis, physician's notes, policy of facility for advanced directive for nutrition and hydration, and confer with social services and care plan team.
- Speak with the individual (or family representative) about their wishes. Share pertinent information with appropriate care staff.
- Document findings (in the care plan, assessment, or re-assessment) including the individual's/family's wishes if known, facility policy, and best practice guidelines.
- If intake is not life sustaining, document nutritional needs versus current intake. Document that the physician may wish to consider an alternate route of feeding such as tube feeding or parenteral nutrition. Continue to encourage oral feeding.
- If the individual is to be provided comfort care only, cater to food preferences as much as possible to keep the individual as comfortable as possible. Document attempts to provide new interventions on a frequent basis.

Note: Avoidable weight loss means that the individual did not maintain acceptable parameters of nutritional status and that the facility did not do one or more of the following:

- Evaluate the individual's clinical condition and nutritional risk factors.
- Define and implement interventions that are consistent with the individual's needs, goals and recognized standards of practice.
- Monitor and evaluate the impact of the interventions.
- Revise the intervention as appropriate.

End of Life Nutrition and Hydration

Unavoidable weight loss means that the individual did not maintain acceptable parameters of nutritional status even though the facility had evaluated the individual's clinical condition and nutritional risk factors:

- Defined and implemented interventions that are consistent with resident needs, goals and recognized standards of practice.
- Monitored and evaluated the impact of the interventions.
- Revised the approaches as appropriate.

Insidious weight loss refers to a gradual, unintended, progressive weight loss over time.

Usual body weight is the individual's usual weight through adult life or a stable weight over time.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Interventions for Unintended Weight Loss

Policy:

Individuals with unintended weight loss or insidious weight loss will be identified and monitored so that appropriate intervention can be implemented.

Procedure:

1. Individuals will be weighed upon admission or readmission, weekly for the first 4 weeks after admission, and at least monthly thereafter to help identify and document weight trends. Individuals may also be weighed weekly due to a significant change in condition, if food intake has declined and persisted (e.g., for more than a week), or there is other evidence of altered nutritional status or fluid and electrolyte imbalance. Factors that may impact weight and the significance of apparent weight changes include:
    - The individual's usual weight through adult life
    - Current medical condition
    - Therapeutic diet
    - Calorie restricted diet or calorie-enhanced diet
    - Recent changes in food or fluid intake
    - Edema
    - Dehydration

    In some cases, weight monitoring is not indicated (e.g., the individual is terminally ill and requests only comfort care).

2. Staff will follow a consistent approach to weighing and use an appropriately calibrated and functioning scale (e.g., wheelchair scale or bed scale). Since weight varies throughout the day, a consistent process and technique (e.g., weighing the individual wearing a similar type of clothing, at approximately the same time of the day, using the same scale, either consistently wearing or not wearing orthotics or prostheses, and verifying scale accuracy) can help make weight comparisons more reliable. (See *Policy and Resource on Obtaining Accurate Weights* on pages 74 and 75).

Note: The last weight obtained in the hospital may differ markedly from the initial weight upon admission to the facility, and is not to be used in lieu of actually weighing the individual.

Reference: Centers for Medicare & Medicaid Services. State Operations Manual, Guidance to Surveyors for Long Term Care Facilities, Appendix PP https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html. Revision 157, 6/10/16. Accessed November 1, 2016.

End of Life Nutrition and Hydration

Immediate Temporary Interventions for Unplanned Significant Weight Loss

Policy:

Individuals with unplanned significant/severe weight loss will receive immediate nutrition interventions to prevent further weight loss, stabilize weight, and/or assist to regain weight as appropriate.

Procedure:

1. Facility staff will request temporary nutrition interventions as appropriate for significant/severe weight loss. The individual should be interviewed for preference of intervention.

2. These temporary interventions may include:
   - Oral nutritional supplement one to three times a day, between meals or with medication passes.
   - Other interventions such as extra milk, pudding, yogurt, milkshakes, or extra portions as appropriate.

3. A dietary communication slip will be sent to the food service department to request this temporary intervention.

4. The food service manager, under the guidance of the registered dietitian nutritionist (RDN), will change the temporary intervention if it is not appropriate for the individual (based on food allergies, intolerances, and food and beverage dislikes). For example, if the individual is lactose intolerant and a milk-based supplement has been ordered, the supplement should be changed to a low lactose nutrition supplement.

5. The RDN or designee will review all significant/severe weight losses monthly or more often as needed and assess nutritional status. At that time, the temporary intervention may be changed as needed. The RDN or designee will document the interventions and their nutritive value (portion, number of times per day ordered, and calories and protein they provide).

6. The RDN or designee will determine a monitoring system to evaluate the success of the interventions initiated (i.e. weekly weights, food/fluid intake studies, etc.).

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency level of each member of the nutrition team.

End of Life Nutrition and Hydration

Nutrient Intake Study

Policy:

Staff will conduct individual nutrient intake studies as deemed necessary by the registered dietitian nutritionist (RDN) or designee, the interdisciplinary team, or as ordered by the physician. Individuals with poor food/fluid intake, at risk for unintended weight loss, undernutrition, dehydration, or pressure injuries may be candidates for a nutrient intake study.

Procedure:

1. The RDN or designee provides the appropriate number of forms for the number of days the nutrient study is to be conducted (typically 3 to 7 days). The RDN or designee writes in the food items and amounts served in the appropriate column and provides the forms to the staff who will record the individual's intake.

2. Staff observes the individual's food/fluid intake at each meal, and checks the percentage of each food/fluid item consumed at each meal and snack, and records on the form provided. (See *Food Intake Study Sample Forms* on the next page.)

3. If a small amount (1/4) of the food was eaten, record 25%.
   If half of the food item (1/2) was eaten, record 50%.
   If almost all (3/4) of the food item was eaten, record 75%.
   If the entire (all) food item was eaten, record 100%.
   If very little (none) of the food was consumed or if the food was refused, record 0.

   Example: Lunch

Food Item and Amount Served	Amount Eaten	Initials
3/4 c Macaroni and Cheese	50%	JM
2 oz. Sausage Patty	75%	
1/2 c Stewed Tomatoes	100%	
1/1 Bread and Butter	25%	
1/2 c Milk	0	
2:00 Snack or Supplement		
1/2 c Pudding	100%	JM
1/2 c Milk	50%	

4. Staff submits the completed form to the RDN or designee for evaluation.

5. The RDN or designee estimates the number of calories and amount of protein (and fluids if appropriate) consumed, and documents in the medical record accordingly. Specific interventions will be determined based on the MNT assessment or re-assessment and the nutrient intake study.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Food Intake Study Sample Form

Name: _____ Date: _____

	Amount Eaten							For Dietitian		
Food Item and Amount Served	**0**	**25%**	**50%**	**75%**	**100%**	**Fluids mLs**	**Initials**	**Calories**	**Protein**	**Fluids**
Breakfast:										
10:00 AM Snack or Supplement:										
Lunch:										
2:00 PM Snack or Supplement:										
Dinner:										
HS Snack or Supplement:										
Totals										

Instructions:

1. Food Service: Write in the menu items served and give the form to the appropriate nursing staff.
2. Nursing: Check the appropriate column for percentage eaten. Return the completed form to food service.
3. Food Service: Provide the completed form to registered dietitian nutritionist (RDN) or designee for estimation of calorie and protein intake.

End of Life Nutrition and Hydration

Resource: Potential Interventions for Unintended Weight Loss

Individualized Diets

Research suggests that an individualized nutrition approach can enhance the quality of life and nutritional status of older adults in healthcare communities (1). It is often beneficial to minimize restrictions (liberalize the diet), consistent with an individual's condition, prognosis, and choices and assure food preferences are met before using oral nutrition supplements.

Dietary restrictions, therapeutic diets (e.g., low fat or sodium restricted), and mechanically altered diets may help in select situations. At other times, they may impair adequate nutrition and lead to further decline in nutritional status, especially in already undernourished or at-risk individuals. When an individual is not eating well or is losing weight, the interdisciplinary team may temporarily remove dietary restrictions and individualize the diet to improve food intake to try to stabilize their weight.

Sometimes, an individual or their representative decides to decline medically relevant dietary restrictions. In such circumstances, the individual, facility and practitioner collaborate to identify pertinent alternatives.

Food Fortification and Supplementation

Examples of interventions to improve nutrient intake include:

- Fortification of foods (e.g., adding protein, fat, and/or carbohydrate to foods such as hot cereal, mashed potatoes, casseroles, and desserts).
- Offering smaller, more frequent meals.
- Providing between-meal snacks or nourishments.
- Increasing the portion sizes of favorite foods and meals.
- Providing oral nutritional supplements.

Some research suggests that caloric intake may increase if nutritional supplements are consumed between meals, and may be less effective when given with meals; therefore, the use of nutritional supplements is generally recommended between meals instead of with meals (2).

Taking a nutritional supplement during medication administration may also increase caloric intake without reducing appetite at mealtime.

Use of Appetite Stimulants

To date, the evidence is limited about the benefits of appetite stimulants. While their use may be appropriate in specific circumstances, they are not a substitute for appropriate investigation and management of potentially modifiable risk factors and underlying causes of anorexia and weight loss (3).

Feeding Tubes

Tube feeding as an intervention for unintended weight loss present both risks and benefits, depending on an individual's underlying medical conditions and prognosis, and causes of weight loss. The decision to place a tube should be made carefully and should include a review of a patient's advance directives regarding tube feeding. The health care practitioner should be involved in reviewing whether all other interventions to address anorexia, weight loss, and eating or swallowing abnormalities have been attempted. Studies have shown that tube feeding does not extend life, prevent aspiration pneumonia, improve function or limit suffering in individuals with dementia (4).

References for Potential Interventions for Unintended Weight Loss

1. American Dietetic Association. Position Paper of the American Dietetic Association: Individualized Nutrition Approaches for Older Adults in Health Care Communities. *J Am Diet Assoc*. 2010. 1549-1553.
2. Wilson M-M G, Purushothaman R, & Morley J E. Effect of liquid dietary supplements on energy intake in the elderly. *The American Journal of Clinical Nutrition*. 2002: 75(5): 944-947.
3. Thomas D.R. Guidelines for the use of orexigenic drugs in long-term care. *Nutrition in Clinical Practice*. 2006: 21(1) 82-87.
4. Sampson EL, Jones CB. Enteral tube feeding for older people with advanced dementia. *Cochrane Database Syst Rev*. 2009: CD007209. doi:10.1002/14651858.CD007209.pub2.

End of Life Nutrition and Hydration

Dehydration

Policy:

Individuals at risk for dehydration will be identified, assessed, and provided with sufficient fluid intake to maintain proper hydration and health.

Procedure:

Assure that each individual receives sufficient amounts of fluids based on individual need to prevent dehydration and maintain health.

6. Risk factors for dehydration will be identified through routine nursing assessment.

   Risk factors include:
   - Coma/decreased sensorium
   - Fluid loss and increased fluid needs (e.g. vomiting, diarrhea, fever, uncontrolled diabetes, medications, etc.)
   - Fluid restriction (physician's order required)
   - Functional impairments that make it difficult to drink, reach fluids, or communicate fluid needs (e.g. aphagia, dysphagia)
   - Dementia that causes an individual to forget to drink
   - Refusal of fluids

7. Clinical signs of possible insufficient fluid intake include:
   - Dry skin and mucous membranes
   - Cracked lips, dry/coated tongue
   - Decreased skin turgor
   - Thirst and dry mouth
   - Concentrated urine
   - Dizziness upon sitting or standing
   - Confusion or change in mental status
   - Lethargy
   - Newly present constipation or fecal impaction
   - Abnormal laboratory values (hemoglobin and hematocrit, potassium, chloride, sodium, albumin, transferrin, BUN, or urine specific gravity)
   - Significant or severe weight loss
   - Elevated temperature (fever)
   - Headache
   - Flushed appearance
   - Functional decline (including increased risk for falls)

8. Assure that adequate fluids are provided.
   Fluid needs calculations are generally based on the following estimates:
   - Without renal or cardiac distress:
     30 mL/kg body weight (2.2 pounds = 1 kg) or 1 mL per calorie consumed.
   - Diagnosed with renal or cardiac distress:
     25 mL/kg body weight or as determined by physician (such as a fluid restriction).
   - Diagnosed with dehydration:
     35 mL/kg body weight
     When rehydrated, return to 30-mL/kg-body weight.

9. Fluids include milk, juice, coffee, tea, water, milkshakes, popsicles, ice cream, sherbet, gelatin, and soups.
   - All individuals will have a water pitcher or container at bedside (excluding those on fluid restrictions).
   - For individuals with a physician's order for thickened liquids, fluids will be provided that are thickened to the consistency ordered.
   - Foods contain fluids which may also be included as part of the total daily fluid intake.

10. If fluids by mouth are not tolerated, an IV or enteral feeding tube may be recommended, and if placed, appropriate fluids will be provided through the IV or feeding tube. The registered dietitian nutritionist (RDN) or designee should assess IV or enteral feeding /flush orders, and reevaluate per facility policy and as needed.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Resource: Additional Recommendations for Promoting Adequate Hydration

Solutions to Prevent/Treat Dehydration
1. Monitor for risk factors and symptoms. 2. If risk of dehydration is identified, monitor intake/output (I&Os) as per facility protocol. 3. Educate individual residents/patients, families and staff on the need to encourage fluids: • Provide access to fluids at all times (excluding those on fluid restrictions). This can include a water pitcher and cup at the bedside, a water bottle on the wheelchair, a travel mug, or offering beverages every few hours. • Encourage nursing assistants to offer and encourage fluids each time they turn individuals on turning schedules. **TAPS** stands for: **T**urn, **A**lign, **P**osition, **S**ips (offer sips of fluid). • Offer additional fluids during medication pass (4-8 ounces). 4. Provide assistance to drink as needed: • Offer fluid with every contact. • Provide assistance to drink fluids with and in between meals. 5. Set up a hydration station: Self-serve juice/beverage machine in common area. 6. Be sure those on thickened liquids receive adequate fluids as they may be at greater risk for dehydration. 7. Offer a variety of fluids: Any food that is fluid at room temperature is considered a fluid; carbonated beverages, coffees, teas, gelatin, ice cream, fruit ices, juice, milk, milkshakes, sherbet, soup or broth, water.

End of Life Nutrition and Hydration

Dysphagia

Policy:

Individuals experiencing swallowing difficulties will be evaluated to determine the cause and possible interventions for dysphagia.

Procedure:

1. Individuals showing warning signs of dysphagia will be screened using a validated tool such as the EAT 10: A Swallowing Screening Tool, available at https://www.nestlenutrition-institute.org/Documents/test1.pdf.

2. Individuals with swallowing difficulties will be referred to the speech language pathologist (SLP) as appropriate to further screen for possible causes and solutions. The SLP will make recommendations for further testing, diet consistency changes, fluid consistency changes, adaptive feeding equipment, or referral to physician after the evaluation.

3. The food service manager (FSM) will:
   - Follow written orders for diet and fluid consistency.
   - Provide adaptive feeding devices as ordered.
   - Educate staff and supervise preparation of altered consistency diets.
   - Communicate concerns with tolerance or acceptance of food and/or fluid consistencies.

4. The nursing staff will:
   - Assure appropriate communication of referrals and recommendations to the physician.
   - Assure appropriate diet order is obtained from the physician and communicated to the nutrition and foodservice department.
   - Follow written physician orders.
   - Supervise individuals at meal time to assure orders are followed and suggested feeding techniques are being practiced.
   - Communicate concerns to the registered dietitian nutritionist (RDN) or designee, SLP and/or FSM as appropriate.

5. The SLP and/or RDN or designee will train staff to observe signs of dysphagia and will make appropriate referrals to other professionals as needed upon observation of the warning signs. (See Resource: *Dysphagia Warning Signs* on the next page.)

6. The RDN or designee will:
   - Follow physicians and SLP orders for diet modification.
   - Monitor tolerance and acceptance of ordered diet. Notify the appropriate discipline (nursing, social service, SLP) of swallowing problems they identify.
   - Evaluate the need for diet changes or alternate feeding methods and make appropriate recommendations and referrals.
   - Work closely with SLP and food service manager to ensure appropriate diet/alternate feeding are provided as ordered.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Warning signs of dysphagia include:

- Coughing frequently or a weak cough (before, during or after a swallow)
- Difficulty controlling liquids or solids in the mouth
- Extremely slow eater (more than 45 minutes per meal) which is not due to self-feeding difficulties
- Frequent throat clearing
- Complaining of fullness/tightness in the throat or chest
- Giving up or tiring out before the meal is eaten
- Needing to swallow 3 to 4 times with each bite of food
- Persistent low grade fever
- Pocketing food in the mouth
- Poor dentition, poor gum health, sores in the mouth or poor mouth care
- Prolonged oral preparatory phase (taking a long time to begin a swallow)
- Recurring or persistent pneumonia or repeated upper respiratory infections
- Refusing to eat and/or spitting food out
- Rocking the tongue back and forth (front to back)
- Sensation of food sticking in the throat or sternal area
- Unexplained loss of appetite, unintended weight loss or malnutrition
- Wet/gurgly voice

Source: Dorner B. *Diet and Nutrition Care Manual: A Comprehensive Nutrition Care Guide*. Naples, FL: Becky Dorner & Associates, Inc., 2016.

End of Life Nutrition and Hydration

Resource: Positioning Tips to Increase Independence and Reduce Risk of Aspiration or Choking

Positioning for Eating

Proper positioning is extremely important for a safe swallow. When positioning a person with dysphagia to eat or drink, it is best to seat them in a dining room chair with arms if possible and to seat them at "90 X 4" angles. (See explanation below.) Be sure the table height is at an appropriate level so the person can easily reach the food, and range of motion is comfortable for self-feeding.

Positioning for a Safe Swallow:
Remember *"90 X 4"*
Seat in a dining room chair with arms if possible
90° Angles:

1. **Feet and lower legs**
2. **Lower legs and thighs**
3. Lap and torso
4. Torso and base of the chin (most important)

- **Feet on the floor**
- Small of back against the back of the chair
- Head upright
- Chin slightly tucked
- **Support as needed to maintain positioning**
- **Appropriate table height**

Picture used with permission from Hunter New England Health Speech Pathology Adult Interest Group Fact Sheet, July, 2007.

For a person who is confined to bed, achieve as close to ***"90 X 4"*** position as possible. Prop the individual up with pillows if needed. Use pillows under the knees to achieve 90° hip flexion. It is most important to try to achieve a 90° angle with the head to torso. Avoid the incidence of the head tipping back at any time unless recommended by an SLP who has evaluated the patient. A nosey cup (cup with the side cut out for the nose, to keep the head from tipping back) may be helpful for drinking liquids. Straws may be unsafe as patients with poor mouth control may suck too hard on the straw and propel the liquid to the back of the throat too quickly, causing the possibility of choking and/or aspiration. The services of the SLP, PT and OT may be helpful to achieve the best positioning and for strategies for compensation.

Note: Please work very closely with the SLP on positioning that is appropriate for the individual patient. Be aware that the techniques noted in this manual are not appropriate for everyone, and should be individualized by the SLP to best meet the individual's needs.

After eating, provide good oral hygiene to remove any food debris from the mouth. It is best for the individual to remain upright for at least 30 minutes to reduce the incidence of aspiration of any food or fluid that is pocketed or pooled in the mouth. Keep the head of the bed elevated at least 6 inches or 30 degrees at all times to reduce the incidence of aspiration.

Source: Dorner B. *Diet and Nutrition Care Manual: A Comprehensive Nutrition Care Guide*. Naples, FL: Becky Dorner & Associates, Inc., 2016.

End of Life Nutrition and Hydration

Thickened Liquids

Policy:

All individuals requiring thickened liquids as recommended by the speech and language pathologist (SLP) and ordered by the physician will be served according to the physician's order.

Procedure:

1. The nutrition and food service department will receive a written order for individuals requiring thickened liquids.

2. The food service manager will record the ordered consistency on the individual's meal identification (ID) card.

3. The nutrition and food service department should receive a written order for any individuals requiring liquids in a thickened form. The following consistencies may be ordered based on individual needs*:
   - **Thin** – thin liquids such as those listed below or anything that will liquefy in the mouth within a few seconds (1-50 centipoise or cp, a measurement of the thickness of a liquid).
   - **Nectar-like** – nectar thick liquids such as those listed below or beverages thickened to nectar consistency (51-350 cp).
   - **Honey-like** – liquids that have been thickened to honey consistency (351-1750 cp).
   - **Spoon Thick** – liquids that have been thickened to a pudding consistency (>1750 cp).

*As defined by the National Dysphagia Diet Task Force (NDDTF).

Thin	Nectar-like	Honey-like	Spoon Thick
Broth, Bouillon Carbonated beverages Coffee or Tea Gelatin Ice or ice chips Ice cream, frozen yogurt, Fruit ices, sherbet Frozen fruit bars Juice Malts Milk Milkshakes Nutritional supplements - Unless specified by manufacturer Popsicles™ Soda Soups, thin broth Tomato juice, thin Water Watermelon	Apricot nectar Eggnog, thick Peach nectar Pear nectar Tomato or vegetable juice, thick Commercially prepared nectar-like thickened products Commercial thickeners may be used to achieve nectar-like consistency	Commercially prepared honey-like thick products Commercial product needed to achieve desired consistency	Commercial product needed to achieve desired consistency

4. The SLP may request a variety of fluid consistencies based on the individual's condition and/or need. The SLP will notify and instruct the food service department of exceptions for thickened liquids. For example, individual receiving thickened liquids may be allowed thin liquids under specific conditions or under the care of the SLP.

5. The facility will determine whether nursing or food service will thicken the liquids or if pre-thickened products will be used.

6. Manufacturer's instructions will be followed when thickening fluids using commercial thickeners that require mixing in the facility.

7. The registered dietitian nutritionist (RDN) and/or nursing supervisor will monitor staff competency regarding thickening liquids as part of quality assurance.

References for Thickened Liquids:

1. National Dysphagia: Standardization for Optimal Care National Dysphagia Diet Task Force. American Dietetic Association, 2002.
2. Dorner B. *Diet and Nutrition Care Manual: A Comprehensive Nutrition Care Guide*. Naples, FL: Becky Dorner & Associates, Inc., 2016.

Note: At the time of publication, the new International Dysphagia Diet Standardized Initiative (IDDSI) information had been released, but most health care facilities had not yet implemented. Implementation will likely occur over a period of years.

End of Life Nutrition and Hydration

End of Life Decisions

Policy:

The interdisciplinary team will work with each individual at the end of life to determine interventions that meet the goals of each person. End of life decisions made by individuals will be respected and carried out by facility and staff.

Procedure:

1. End of life nutrition care planning will be initiated only after the interdisciplinary team is confident that all other approaches, interventions, and considerations have been examined, implemented and exhausted.

2. The individual's medical record should contain the living will, the durable power of attorney (DPOA) for healthcare, and other advance directive documents that apply to an individual's end of life decisions. If those documents are not on file, the facility will take steps to obtain the information needed to implement end of life care. Information can be obtained through a conference with the individual and/or family or health care power of attorney.

3. If no advance directives regarding artificial nutrition and hydration are on file, and if it appears necessary to initiate such interventions to sustain life, the IDT should consult with the resident/patient and/or surrogate or proxy to determine the individual's wishes and desires. The individual's choices for end of life care should be documented in the medical record.

4. If the individual and/or surrogate are in agreement, the physician should write an order for "comfort measures" or "palliative care" (depending on facility protocols) and facility staff will honor the written order and provide care accordingly.

5. The care plan will be updated to reflect end of life decisions made by the individual or individual's surrogate. Palliative interventions as described in the care plan will be implemented and revised as necessary to reflect the individual's needs and goals. The care plan will direct daily care to maintain the comfort and highest quality of life possible for the individual.

For additional information, refer to Dorner B. *Diet and Nutrition Care Manual: A Comprehensive Nutrition Care Guide*. Becky Dorner & Associates, Inc. Naples, FL. 2016. Available at http://www.beckydorner.com/dietmanuals.

End of Life Nutrition and Hydration

Guidelines for Enteral Feeding Eligibility

Policy:

The interdisciplinary team will evaluate each individual prior to recommending an enteral feeding tube. A variety of interventions should have been attempted before tube feeding is considered. Advance directive documents will be thoroughly reviewed as appropriate, and a conference with the individual, the family, or durable power of attorney (DPOA) for healthcare will take place before a decision regarding tube feeding is made.

Procedure:

1. The interdisciplinary team (IDT) will contact the physician and the registered dietitian nutritionist (RDN) or designee when an individual's food and fluid intake is severely impaired and/or nutritional status is declining.

2. The physician will complete an evaluation of the individual's condition.

3. The RDN or designee will complete a thorough medical nutrition therapy (MNT) assessment. If oral food/fluid intake cannot sustain healthy life, the RDN should recommend enteral feeding if it is consistent with the individual's goals.

4. The IDT team and/or ethics team will discuss options with the individual, family and/or DPOA as appropriate and provide information on the risks and benefits of enteral feeding and surgical tube placement. The care plan team will provide a thorough discussion on the process of tube insertion, feeding methods, risks versus benefits of tube feeding, effects on quality of life, etc.

5. If the individual/family/DPOA are in favor of enteral feeding, a meeting with the individual's physician will be suggested or the physician will be contacted regarding a request for enteral feeding orders.

6. Assessment criteria for enteral feeding include:
   - Inadequate oral intake.
   - Physical signs/symptoms of malnutrition, or at risk of malnutrition with inability to consume adequate nutrients by mouth.
   - Swallowing difficulty with evaluation, testing and a diagnosis of dysphagia.
   - Individual is determined to be at risk of aspiration or choking and considered unsafe to consume food/fluid by mouth.
   - Significant unplanned weight loss that is not improved with other interventions.

Note: The decision regarding the type of feeding tube depends on the individual's medical status and the anticipated time that the enteral feeding will be required. Feeding tubes are classified as nasogastric (NG) (access to the gastrointestinal tract via the nose), gastro-enterostomy (G-tube or PEG tube) or Jejunoscopy (J-tube). In general, if the feeding tube is to be in place longer than 4 weeks, a G-tube is recommended.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Enteral Nutrition Care

Policy:

Enteral nutrition will be available for individuals who are unable to meet their nutrition and hydration needs via oral intake.

Procedure:

1. The registered dietitian nutritionist (RDN) or designee will perform an initial assessment that will include a calculation of the individual's energy, protein, and fluid requirements upon initiation of enteral feeding. A comparison will be made between the individual's requirements and the physician ordered enteral formula. Ideally, the RDN or designee will assess and/or review the nutrition status of those receiving enteral nutrition support every month. If there are circumstances that make this impossible, no more than three months should elapse without a thorough assessment or review, and systems must be in place to assure referral to the RDN or designee as needed.

2. The RDN or designee will be informed by nursing of any changes that occur with the formula or route of administration.

3. The RDN or designee will review how the formula is being administered, monitor weight, skin condition, labs, physical symptoms, tolerance to feeding, and oral food/fluid intakes when applicable. The RDN or designee will visit the individual to check the enteral feeding flow rate, assess down times, check input and output records, and medicine administration records (MAR) for amount of feeding administered.

4. The nursing staff will communicate any concerns to the RDN or designee regarding changes in condition such as weight loss, diarrhea, nausea, vomiting, bloating, gas, and high residual levels.

5. The enteral formula should be administered at room temperature. Hang times for formulas are manufacturer specific. Be sure to discard formula according to the manufacturer's recommended times.

Note: The decision regarding the type of feeding tube depends on the individual's medical status and the anticipated time that the enteral feeding will be required. Feeding tubes are classified as nasogastric (NG) (access to the gastrointestinal tract via the nose), gastro-enterostomy (G-tube or PEG tube) or Jejunoscopy (J-tube). In general, if the feeding tube is to be in place longer than 4 weeks, a G-tube is recommended.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Basic Guidelines for Enteral Feeding

Policy:

All staff delivering care to enterally fed individuals will follow basic guidelines for enteral feeding. Nursing staff is responsible for the routine daily care of individuals receiving enteral feeding.

Procedure:

1. Position the individual so that the head is elevated to 30 to 45 degrees at all times to reduce the risk of aspiration.

2. Check the tube placement regularly (every shift or more frequently as indicated).

3. Check for gastric residual (every shift or more frequently as indicated), and follow specific facility protocols and/or physician orders related to residuals. The following provides guidance:
    a. Residuals greater than 250 mL after a second GRV test, may indicate the need to consider a promotility agent.
    b. If the GRV is greater than 500 mL, the patient should be assessed for tolerance of the tube feeding. Assessment should include: physical assessment, assessment of glycemic control, assurance that there is minimal sedation, assessment of glycemic control, and consideration of a promotility agent if not already prescribed.
    c. If GRV is >500 mL, hold the enteral feeding and reassess tolerance by using an established protocol that includes physical assessment, GI assessment, evaluation of glycemic control, use of medications that cause sedation, and consideration of promotility agent use.

4. Monitor the individual's response to enteral feeding. Any signs of excessive nausea, vomiting, diarrhea, abdominal distention, or gas warrant a referral to the registered dietitian nutritionist (RDN) or designee.

5. Tube feeding should be delivered by nursing as ordered by the physician. If necessary, bolus feeding or an increase in mL per hour may be required to accommodate down times for bathing, therapies, or activities as needed to assure that the total ordered daily volume of enteral feeding is delivered. All changes in tube feeding should be accompanied by a physician's order.

6. The enteral formula should be administered at room temperature. Hang times for formulas are manufacturer specific. Be sure to discard formula according to the manufacturer's recommended times.

References for Basic Guidelines for Enteral Feeding:

1. Dorner, B, Posthauer ME, Friedrich EK, Robinson GE. Enteral Nutrition for Older Adults in Nursing Facilities. Nutr Clin Pract 2011 26: 261.
2. Posthauer ME, Friedrich EK, Dorner B. Enteral Nutrition for Older Adults in Healthcare Communities. Nutr Clin Prac 2014. 29(4):445-458.
3. Boullata J, Carney LN, Guenter P. A.S.P.E.N. Enteral Nutrition Handbook. American Society for Parenteral and Enteral Nutrition. Silver Spring, MD. 2010. p256.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Documentation for Enteral Feeding

Policy:

Nutrition documentation of enteral feedings should include specific information on the nutritional assessment and progress notes.

Procedure:

The registered dietitian nutritionist (RDN) or designee will document:

1. The reason for enteral feeding.

2. Problems/limitations as a result of enteral feeding.

3. Changes in condition (i.e., weight loss, abdominal distension, diarrhea).

4. Adequacy of feeding (calories, protein, total fluids, free fluids, type of feeding, frequency).

5. If applicable, attempts made to discontinue the enteral feedings and/or increase oral intake.

6. Estimated nutritional needs (calories, protein, fluids).

7. Enteral feeding order from physician including:
   - Feeding status (diet order if applicable, or NPO order)
   - Formula type (generic name such as isotonic, or standard or commercial name)
   - Administration (pump, bolus, intermittent)
   - Rate of delivery (mL per hour or per feeding if bolus)
   - Number of mL for flush, including amount of flush with medications

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Enteral Feeding Assessment

Policy:

The initial medical nutrition therapy (MNT) assessment will include a calculation of the individual's energy, protein, and fluid requirements. A comparison will be made between the individual's requirements and the enteral formula provided. This procedure is also part of the monthly review of progress.

Procedure:

The registered dietitian nutritionist (RDN) or designee will perform an MNT assessment and/or reassessment that will include:

1. A review of the nurse's notes on administration of the formula.

2. A review of the medication/treatment record to note that the formula is being given as ordered. If not, the RDN should inform the nursing supervisor and/or DON.

3. A review of how nursing staff is administering the formula. The RDN or designee should visit the individual to check the enteral feeding flow rate, assess down times, assess to ensure the pump is functioning properly (if applicable), check input and output records, and medicine administration records (MAR) for amount of feeding administered. If there are discrepancies between what is ordered, what is documented, and what is actually being done, the RDN should inform the nursing supervisor and/or DON.

4. A review of the medical record for changes in enteral feeding orders, changes in tolerance (as evidenced by nausea, vomiting, diarrhea, constipation, abdominal distention, flatulence, or other discomfort), weight status, skin condition, laboratory values, edema, food-medication interactions, oral food/fluid intake if applicable, etc.

5. Calculation of the individual's energy, protein, and fluid requirements upon initiation of enteral feeding. Comparison of the individual's nutrient requirements and the physician-ordered enteral formula and flushes.

6. Ideally, the RDN or designee will assess and/or review the nutrition status of those receiving enteral nutrition support every month. If there are circumstances that make this impossible, no more than three months should elapse without a thorough assessment or review, and systems must be in place to assure referral to the RDN or designee as needed.

7. Nursing Communications:
   a. The RDN or designee will be informed by nursing of any changes that occur in the formula or route of administration.
   b. The nursing staff will communicate any concerns to the RDN or designee regarding changes in condition such as weight loss, diarrhea, nausea, vomiting, bloating, gas, and high residual levels.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Transitioning from Enteral Feedings to Oral Feedings

Policy:

When an individual has the potential to be transitioned off of an enteral feeding, the following guidelines will be followed as indicated by the registered dietitian nutritionist (RDN), speech language pathologist (SLP), nursing supervisor and physician.

Procedure:

1. The RDN will work closely with the SLP to determine which individuals might be candidates for transition from an enteral feeding to a diet by mouth. The SLP will obtain orders for dysphagia/swallowing evaluation to determine rehabilitation potential for food/fluid by mouth.
2. The SLP will determine the individual's ability to tolerate a diet by mouth.
3. A physician's order will be obtained for the appropriate consistency of food and fluid as determined by the SLP. The SLP will work closely with the individual, and with the staff who is responsible for assisting the individual at meal time to assure proper positioning and eating/feeding techniques for safe swallowing.
4. A 3 to 5 day nutrient intake assessment of food/fluid intake records can be conducted to assess the adequacy of the individual's oral intake, or food intake records over several days should be reviewed to determine oral intake.
5. The RDN will continually reassess the individual's food and fluid intake by mouth, and make recommendations to balance the enteral feeding with the diet to assure adequacy of calories and nutrients. A nocturnal enteral feeding will be considered if it will be of benefit to the individual.
6. The individual will be weighed weekly for a minimum of one month, and then as determined appropriate by the RDN. Weights may be done more often if deemed necessary.
7. The RDN and SLP will determine when the individual no longer requires enteral feeding based on adequacy of oral diet, weight stabilization, and laboratory values, and request an order to discontinue enteral feeding.
8. The facility staff will intervene as appropriate for poor food/fluid intake, weight loss, or other negative reactions to the discontinuation of the enteral feeding, and refer to the RDN, SLP and physician as needed.
9. The SLP will intervene as appropriate for negative reactions or intolerance to the diet and fluids by mouth. The RDN and the SLP will work closely together to assure adequate consistency of diet texture and fluid thickness.
10. The nursing staff and physician will work closely with the RDN and the SLP to assure the best quality of care for the individual involved.

Note: Support staff work under the supervision of the registered dietitian nutritionist (RDN). Support staff include nutrition and dietetic technicians, registered (NDTR), nutrition associates (four year degree in nutrition/dietetics), certified dietary managers (CDM), food service managers, etc. The RDN may delegate certain tasks based on the scope of practice and competency levels of each member of the nutrition team.

End of Life Nutrition and Hydration

Documenting in the Medical Record

Policy:

Documentation of medical nutrition therapy (MNT) for each individual is the responsibility of the registered dietitian nutritionist (RDN) with assistance as assigned to the nutrition support staff (i.e. nutrition associate, nutrition and dietetics technician, registered or NDTR, and/or certified dietary manager or CDM), as appropriate within each professional's scope of practice and competency level. The facility will:

- Provide nutrition care and services to each individual, consistent with the individual's comprehensive assessment.
- Recognize, evaluate and address the needs of every individual, including but not limited to the individual at risk or already experiencing impaired nutrition.

All documentation will be in accordance with state and federal regulations.

Note: MNT documentation should use the Academy of Nutrition and Dietetics (The Academy) Nutrition Care Process of: 1) Nutrition Assessment, 2) Nutrition Diagnosis, 3) Nutrition Intervention, and 4) Nutrition Monitoring and Evaluation.

Many facilities and RDNs have implemented the Academy's Nutrition Care Process (NCP). The Academy encourages all RDNs and health care communities to use the NCP. For more information on the *Academy Nutrition Care Process*, visit http://www.eatrightpro.org/resources/practice/nutrition-care-process.

Procedure:

1. **Initial Assessment**
   The focus of the comprehensive medical nutrition therapy (MNT) assessment is to identify risk factors that may contribute to undernutrition, protein energy malnutrition, dehydration, unintended weight loss, pressure injuries and other nutrition problems, as well as identifying other nutritional needs.

   For Medicare patients/residents, the initial MNT assessment for a new or re-admitted individual is generally initiated and/or completed within 5 days of admission. Re-assessments and/or progress notes are then completed at 14, 30, 60 and 90 days and a minimum of every quarter thereafter. For non-Medicare individuals, the initial MNT assessment may be completed within 14 days of admission and re-assessments or progress notes are completed a minimum of every quarter or more often as needed. (Refer to Chapter 5, Policies and Procedures for *Resource: Comprehensive Medical Nutrition Therapy Assessment* and *Resource: Nutrition Assessment: Components of a Comprehensive Nutrition Assessment*.)

   Information for the MNT assessment will be gathered through interviews with individuals, family and staff, observations, and review of the medical record and other tools such as meal intake reporting, wound assessment, speech-language pathologist documentation, and bowel and bladder reporting. The completed form is reviewed and completed by the RDN and/or designee. The assessment form is filed in the medical record. A new or re-assessment is completed each time an individual is re-admitted, has a significant change in condition, and as deemed necessary by federal and state guidelines or the RDN or designee.

MNT re-assessments will be completed according to federal guidelines, at a minimum of quarterly, upon identification of significant change, or at a minimum of yearly intervals.

2. Plan of Care

Each time an MNT assessment or re-assessment is completed, a care plan or care plan revision should be completed as appropriate.

The care plan is based on the MNT assessment, the identified risk factors and nutritional needs. Problems, risk factors, or concerns are described along with nutrition interventions and goals for improvement. Care plans are to be completed within 7 days of completion of the assessment, and updated according to the facility's policy, state and federal guidelines, and as needed due to any significant changes (i.e. weight status, food intake, diet order, etc.). Specific and measurable goals should be stated to maintain or achieve optimal nutritional status. Goals and approaches (interventions) should be individualized and should be coordinated with the interdisciplinary team.

Each time a care plan is updated a re-assessment or progress note should be completed or revised as appropriate.

3. MNT Re-Assessments/Progress Notes

The MNT re-assessment/progress notes reflect progress made on care plan goals, so the RDN and /or designee must review the previous care plan to assess progress. If goals are not met for the problems on the care plan, the approach or goal should be changed. If not changed, then the reasons for little or no progress should be documented. Care plan approaches should be revised based on the individual's outcomes, needs and choices.

Progress notes should include information from mealtime visitation, discussion with the individual and with the care givers, review of the medical record, evaluation of the care plan, weight status, food intake, physician order or condition changes, lab values, medication, etc. Progress notes should reflect progress made to meet care plan goals.

Progress notes are completed according to facility policy and state and federal guidelines. When significant changes occur, notes should be updated. Significant changes can include but are not limited to changes in condition, diet order, food intake and weight. Generally progress notes are written a minimum of every 90 days; and with each significant change in status. Individuals with high-risk conditions will need to be reviewed more frequently.

Each time a re-assessment or progress note is completed, the care plan should be updated.

Summary for Nursing Facilities:

- The initiation of the nutrition assessment is completed within 5 days of admission for Medicare patients/residents and within 14 days of admission for all residents.
- The Initial care plan is completed within 7 days after completion of the assessment.
- Progress notes and care plan updates are completed according to state and federal guidelines (generally a minimum of every 90 days and with any significant change).

A re-assessment and care plan revision is completed each time an individual is re-admitted, quarterly, upon significant change in condition and as deemed necessary by the facility or the RDN.

Chapter 6: Regulatory Information

The agency that oversees most skilled nursing facilities is the Centers for Medicare and Medicare Services (CMS). CMS regulates virtually every aspect of daily life in skilled nursing facilities via a host of federal regulations. Once a year (every 9 to 13 months) a state survey team visits each facility to assure they are in compliance with federal regulations.

As of publication of this manual, current CMS regulations and Appendix PP surveyor guidance can be accessed at https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html.

In November 2017, Guidance to Surveyors will be updated and it will contain significant changes (including changes to F Tag numbers). At that time, regulatory information included in this chapter may be obsolete. Updates to Appendix PP: Guidance to Surveyors in Long Term Care, should continue to be available at the website address above.

Note: At the time this book was edited, CMS was expected to release new State Operations Manual Appendix PP – Guidance to Surveyors for long Term Care in late 2017. For the most current information, please visit https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html.

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State Operations Manual Appendix PP – Guidance to Surveyors for Long Term Care

§483.25(g) Naso-Gastric Tubes

Based on the comprehensive assessment of a resident, the facility must ensure that --

(See Tag F322 for intent, guidelines, and probes for §483.25(g))

F322
(Rev. 127, Issued: 11-26-14, Effective: 11-26-14, Implementation: 11-26-14)

§483.25(g) Naso-Gastric Tubes

Based on the comprehensive assessment of a resident, the facility must ensure that --

(1) A resident who has been able to eat enough alone or with assistance is not fed by naso-gastric tube unless the resident's clinical condition demonstrates that use of a naso-gastric tube was unavoidable; and

(2) A resident who is fed by a naso-gastric or gastrostomy tube receives the appropriate treatment and services to prevent aspiration pneumonia, diarrhea, vomiting, dehydration, metabolic abnormalities, and nasal-pharyngeal ulcers and to restore, if possible, normal eating skills.

Intent: (F322) §483.25(g)(1) and (2)

The intent of this regulation is that:

- The feeding tube is utilized only after adequate assessment determines that the resident's clinical condition makes this intervention medically necessary;

- A feeding tube is utilized in accordance with current clinical standards of practice and services are provided to prevent complications to the extent possible; and

- Services are provided to restore normal eating skills to the extent possible.

  NOTE: For the purpose of the interpretative guidelines at F tag 322 the regulatory title "§483.25(g) Naso-gastric tubes" is considered to include any feeding tube used to provide enteral nutrition to a resident by bypassing oral intake. Since the regulation was promulgated, use of naso-gastric tubes has become extremely rare, and use of other types of enteral feeding tubes (such as those listed in the definitions section) has become prominent.

DEFINITIONS

"Avoidable/Unavoidable use of a feeding tube"

- **"Avoidable"** means there is not a clear indication for using a feeding tube or there is insufficient evidence that it provides a benefit that outweighs associated risks.

- **"Unavoidable"** means there is a clear indication for using a feeding tube or there is sufficient evidence that it provides a benefit that outweighs associated risks.

"Bolus feeding" is the administration of a limited volume of enteral formula over brief periods of time.

"Continuous feeding" is the uninterrupted administration of enteral formula over extended periods of time.

"Enteral nutrition" (a.k.a. "tube feeding") is the delivery of nutrients through a feeding tube directly into the stomach, duodenum, or jejunum.

"Feeding tube" refers to a medical device used to provide enteral nutrition to a resident by bypassing oral intake.

"Gastrostomy tube" ("G-tube") is a tube that is placed directly into the stomach through an abdominal wall incision for administration of food, fluids, and medications. The most common type is a percutaneous endoscopic gastrostomy (PEG) tube.

"Jejunostomy tube" (a.k.a. "percutaneous endoscopic jejunostomy" (PEJ) or "J-tube") is a feeding tube placed directly into the small intestine.

"Nasogastric feeding tube" ("NG tube") is a tube that is passed through the nose and down through the nasopharynx and esophagus into the stomach.

"Transgastric jejunal feeding tube" ("G-J tube") is a feeding tube that is placed through the stomach into the jejunum and that has dual ports to access both the stomach and the small intestine.

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"Tube feeding" (a.k.a. "enteral feeding") is the delivery of nutrients through a feeding tube directly into the stomach, duodenum, or jejunum.

OVERVIEW

A decision to use a feeding tube has a major impact on a resident and his or her quality of life. It is important that any decision regarding the use of a feeding tube be based on the resident's clinical condition and wishes as well as applicable federal and state laws and regulations for decision making about life-sustaining treatments.[12345]

The use of feeding tubes varies widely within and among states. Reasons for this variability are unclear, but they may include diverse opinions about the benefits and risks of non-oral nutrition, and variable facility policies and usual practices.

NOTE: Refer to §483.0(b)(4) and (b)(8), Notice of Rights and Services, Right to Refuse Treatment and Experimental Research and to Formulate Advance Directives; and §483.5(b), Self-Determination and Participation, in order to determine if the use of a feeding tube is consistent with the wishes and instructions of the resident, if known (e.g., verbal or handwritten instructions, advance directive or living will) or the instructions of the resident's legal representative, if the resident is unable to make his or her wishes known.

RESOURCES

- **The American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.)** is dedicated to improving patient care by advancing the science and practice of nutrition support therapy. A.S.P.E.N. maintains a Guidelines and Standards Library. The Guidelines and Standards make specific practice recommendations. http://www.nutritioncare.org/Library.aspx

- **The Alzheimer's Association** offers a fact sheet regarding care and patient rights: Ethical Issues in Alzheimer's Disease, Assisted Oral Feeding and Tube Feeding. http://www.alz.org/alzwa/documents/alzwa_Resource_EOL_FS_Oral_Feeding.pdf

  NOTE: References to non-CMS sources or sites on the Internet are provided as a service and do not constitute or imply endorsement of these organizations or their programs by CMS or the U.S. Department of Health and Human Services. CMS is not responsible for the content of pages found at these sites. URL addresses were current as of the date of this publication.

CONSIDERATIONS REGARDING THE USE OF FEEDING TUBES

The regulations at §483.25(g) require that the resident's clinical condition demonstrates the use of a feeding tube to be unavoidable. A feeding tube may be considered unavoidable only if no other viable alternative to maintain adequate nutrition and/or hydration is possible and the use of the feeding tube is consistent with the clinical objective of trying to maintain or improve nutritional and

hydration parameters.[6]

Several factors may be involved in the decision to use a feeding tube including medical conditions that impair the resident's ability to maintain appropriate nutritional parameters (e.g., cerebrovascular accident, esophageal cancer, delirium, reconstructive facial or oral surgery), the need to improve the resident's nutritional status or level of comfort, or the desire to prolong the resident's life. The duration of use of a feeding tube may vary, depending on the clinical situation.

The interdisciplinary team, with support and guidance from the physician, is responsible for assuring the ongoing review, evaluation and decision-making regarding the continuation or discontinuation of all treatments, devices or approaches implemented to care for the resident. Involving the resident, family, and/or the resident's legal representative in discussions about the indications, use, potential benefits and risks of tube feeding, types of approaches, and alternatives helps support the resident's right to make an informed decision to use or not use artificial nutrition and hydration.

A clinically pertinent rationale for using a feeding tube includes, but is not limited to:

- An assessment of the resident's nutritional status, which may include usual food and fluid intake, pertinent laboratory values, appetite, and usual weight and weight changes;

- An assessment of the resident's clinical status, which may include the ability to chew, swallow, and digest food and fluid; underlying conditions affecting those abilities (e.g., coma, stroke, esophageal stricture, potentially correctable malnutrition that cannot be improved sufficiently by oral intake alone); factors affecting appetite and intake (e.g., medications known to affect appetite, taste, or nutrition utilization); and prognosis;

- Relevant functional and psychosocial factors (e.g., inability to sufficiently feed self, stroke or neurological injury that results in loss of appetite, psychosis that prevents eating); and

- Interventions prior to the decision to use a feeding tube and the resident's response to them. (Refer to F325 for discussion and examples of interventions to improve and restore normal nutritional parameters.)

  NOTE: Refer to §483.20 Resident Assessment and the Assessment Section of the General Investigative Protocol at Quality of Care (F309) for discussion of the comprehensive evaluation that comprises an assessment.

The use of a feeding tube may potentially benefit or may adversely affect a resident's clinical condition and/or psychosocial well-being. Examples of some possible benefits of using a feeding tube may include:

- Addressing malnutrition and dehydration;

- Promoting wound healing; and

- Allowing the resident to gain strength, receive appropriate interventions that may help restore the resident's ability to eat and, perhaps, return to oral feeding.

Examples of some possible adverse effects of using a feeding tube may include:

- Diminishing socialization, including, but not limited to, the close human contact associated with being assisted to eat or being with others at mealtimes;
- Not having the opportunity to experience the taste, texture, and chewing of foods;
- Causing tube-associated complications; and
- Reducing the freedom of movement related to efforts to prevent the resident from pulling on the tube or other requirements related to the tube or the tube feeding.

In order to assure that the resident being fed by a feeding tube maintains the highest degree of quality of life possible, it is important to minimize possible social isolation or negative psychosocial impact to the degree possible (e.g., continuing to engage in appropriate activities, socializing in the dining room). Because of the possible side-effects and discomfort associated with the use of nasogastric tubes, there should be clinically pertinent documentation for extended use of nasogastric tubes (e.g., greater than 30 days).

Nutrition and feeding issues and their underlying causes in the resident with advanced dementia or other chronic neurological disorders such as Parkinson's disease present a particular set of issues and considerations that are discussed in F325. The extended use of enteral feeding tubes in individuals with advanced dementia remains controversial. The literature regarding enteral feeding of these individuals suggests that there is little evidence that enteral feeding improves clinical outcomes (e.g., prevents aspiration or reduces mortality). [7] [8] [9] [10] [11] [12]

Resident Rights

The regulations at 483.0(d)(2) state that the resident has the right to be fully informed in advance about care and treatment and of any changes in the care or treatment that may affect the resident's well-being. In addition, the regulations at 483.0(b)(4) state that the resident has the right to refuse treatment and to formulate an advance directive.

If a resident has had a feeding tube placed prior to admission or in another setting while residing in the facility, the physician and interdisciplinary care team review the basis (e.g., precipitating illness or condition change) for the initial placement of the feeding tube and the resident's current condition to determine if there is a continued rationale for its use and to ensure that its continued use is consistent with the resident's treatment goals and wishes. Decisions to continue or discontinue the use of a feeding tube are made through collaboration between the resident (or a legal representative for a resident who lacks capacity to make and communicate such decisions), the physician, and the

interdisciplinary care team. This includes a discussion of the relevance of a feeding tube to attaining a resident's goals (e.g., whether the nutritional intervention is likely to have a significant impact on the individual's underlying condition or overall status).

TECHNICAL AND NUTRITIONAL ASPECTS OF FEEDING TUBES

It is important that staff providing care and services to the resident who has a feeding tube are aware of, competent in, and utilize facility protocols regarding feeding tube nutrition and care. These protocols are required to be developed with the medical director in order to assure staff implement and provide care and services according to resident needs and clinical standards of practice.

Technical Aspects of Feeding Tubes

Facility procedures regarding the technical aspects of feeding tubes include, but are not limited to, the following:

Location of the feeding tube. Direction to staff regarding how to monitor and check that the feeding tube is in the right location (e.g., stomach or small intestine, depending on the tube) or verify that placement was checked, such as:

- Techniques to verify that tube placement is appropriate before beginning a feeding and before administering medications; and
- The frequency with which staff should monitor for proper location of the feeding tube to assure that the enteral retention device is properly approximated to the abdominal wall and the surrounding skin is intact.

Care of the feeding tube. Direction to staff on how to provide care such as:

- Securing a feeding tube externally;
- Providing needed personal, skin, oral, and nasal care to the resident;[13]
- Examining and cleaning the insertion site in order to identify, lessen or resolve possible skin irritation and local infection;
- Using infection control precautions and related techniques to minimize the risk of contamination; for example, in connecting the tube and the tube feeding; and
- Defining the frequency of and volume used for flushing, including flushing for medication administration, and when a prescriber's order does not specify.

Feeding tube replacement. Direction for staff regarding the conditions and circumstances under which a tube is to be changed, such as:

- When to replace and/or change a feeding tube (generally replaced either as planned/scheduled or as needed such as when a long-term feeding tube comes out unexpectedly or a tube is worn or clogged);
- How and when to examine a feeding tube and the infusion plug to identify splits or cracks that could produce leakage;
- Instances when a tube can be replaced within the facility and by whom;
- Instances when a tube must be replaced in another setting (e.g., hospital, ambulatory surgery center); and
- Notification of the practitioner when the need for a tube change arises unexpectedly.

Nutritional Aspects of Feeding Tubes

When a resident is receiving nutrition via a feeding tube, the practitioner and the interdisciplinary team identify the resident's nutritional needs and facility procedures that direct staff in providing care and services to the resident. The practitioner's orders related to tube feeding typically include the following components: kind of feeding and its caloric value; volume, duration, and mechanism of administration (e.g., gravity or pump); and frequency of flush.

Facility procedures regarding the nutritional aspects of feeding tubes include, but are not limited to:

Enteral nutrition. Direction to staff regarding the nutritional product and meeting the resident's nutritional needs such as:

- Types of enteral nutrition formulas available for use;
- How to determine whether the tube feedings meet the resident's nutritional needs and when to adjust them accordingly;
- How to balance essential nutritional support with efforts to minimize complications related to the feeding tube;
- Ensuring that the selection and use of enteral nutrition is consistent with manufacturer's recommendations;
- Ensuring that the administration of enteral nutrition is consistent with and follows the practitioner's orders; and

- Ensuring that the product has not exceeded the expiration date.[14] [15]

Flow of feeding. Direction for staff regarding how to manage and monitor the rate of flow, such as:

- Use of gravity flow;
- Use of a pump;
- Periodic evaluation of the amount of feeding being administered for consistency with practitioner's orders;
- Calibration of enteral feeding pumps to ensure that pump settings accurately provide the rate and volume consistent with the resident's care plan; and
- Periodic maintenance of feeding pumps consistent with manufacturer's instructions to ensure proper mechanical functioning.

Complications Related to the Feeding Tube

An enteral feeding tube may be associated with significant complications, including aspiration, leaking around the insertion site, abdominal wall abscess, or erosion at the insertion site including the nasal areas. Feeding tubes can perforate the stomach or small intestine, with resultant peritonitis. Esophageal complications of feeding tubes may also occur including esophagitis, ulcerations, strictures, and tracheoesophageal fistulas. The use of tubes not designed or intended for enteral feeding may increase the risk of complications.[16] [17]

Tubes may clog for various reasons, including plugging by formula, pill fragments, or the precipitation of medications incompatible with the formula.[18] Flushing feeding tubes regularly and in association with medication administration, as indicated by current clinical standards of practice and provided in the resident care policies, can help reduce the risk of clogging.

Complications Related to the Administration of the Enteral Nutrition Product

The administration of an enteral nutrition product may be associated with other complications including, but not limited to, nausea, vomiting, diarrhea, abdominal cramping, inadequate nutrition and aspiration. Additionally, interactions between the formula and various medications can affect the absorption and/or effectiveness of the medication. For example, the effectiveness of phenytoin sodium may be reduced by the drug binding with the enteral feeding's protein component, leading to less free drug availability and possibly inadequate therapeutic levels.

Metabolic complications related to tube feeding may include inadequate calorie or protein intake, altered hydration, hypo- or hyperglycemia, and altered electrolyte and nutrient levels. These risks may be reduced by calculating the nutritional needs of the resident, taking into account comorbid

conditions and medications that affect these balances, monitoring for adequate nutritional status and complications, and adjusting the tube feeding accordingly.

While a feeding tube may be initiated with the intent to address certain medical conditions, the use of a feeding tube does not necessarily decrease the risk of aspiration for individuals with other risk factors, such as moderate or less severe swallowing abnormalities. Aspiration risk may potentially be affected by factors such as diminished level of consciousness, improper positioning of the resident during administration of the feeding, and failure to assure the feeding tube is correctly positioned within the stomach or intestine. The evidence is inconsistent and conflicting regarding any connection between gastric residual volume and the risk or occurrence of aspiration.[19]

Risk of aspiration should be assessed individually and appropriate interventions (e.g., proper positioning, rate of flow) implemented accordingly. There may be situations where other coexisting factors influence decisions about elevating the head of the bed; for example, a resident being fed by a tube who may be at risk for shearing by sliding down the sheets when the head of the bed is elevated to a recommended angle.

Complications Management

The facility is expected to identify and address actual or potential complications related to the feeding tube or tube feeding and to notify and involve the practitioner in evaluating and managing care to address these complications and risk factors.[20]

INVESTIGATIVE PROTOCOL FOR FEEDING TUBES
Objectives

- To determine if a feeding tube is utilized only after adequate assessment determines that the resident's clinical condition makes this intervention medically necessary;
- To determine if a feeding tube is utilized in accordance with current clinical standards of practice and if services are provided to prevent complications to the extent possible; and
- To determine if services are provided to restore normal eating skills to the extent possible.

Use

Use this protocol for a resident who has a feeding tube.

Procedures

The surveyor(s) should conduct the following observations, interviews and record reviews. If there are concerns regarding the facility's use and care of feeding tubes, review facility policies and practices with regard to the use and care of feeding tubes.

End of Life Nutrition and Hydration

Observations

During various shifts, observe staff interactions with the resident and provision of care including: initiation, continuation, and termination of feedings; care of the tube site and equipment; and medication administration via the feeding tube, if possible. Use the observations to determine whether staff follow clinical standards of practice, facility policy, the resident care plan, and prescriber's orders and if they try to minimize the risk for complications including but not limited to:

- Implementing interventions to minimize the negative psychosocial impact that may occur as a result of tube feeding;
- Providing mouth care, including teeth, gums, and tongue;
- Checking that the tubing remains in the correct location;
- Properly positioning the resident consistent with the resident's individual needs;
- Using universal precautions and clean technique and following the manufacturer's recommendations when stopping, starting, flushing, and giving medications through the feeding tube;
- Ensuring the cleanliness of the feeding tube, insertion site, dressing (if present) and nutritional product; and
- Providing the type, rate, volume and duration of the feeding as ordered by the practitioner and consistent with the manufacturer's recommendations.

Note staff response if there is evidence of possible complications, such as diarrhea, nausea, vomiting, abdominal discomfort, nasal discomfort (if a nasogastric tube is being used); evidence of leakage and/or skin irritation at the tube insertion site; or risk of inadvertent removal of the tube.

Interviews

Resident/Representative

Interview the resident and/or resident's legal representative (as appropriate) regarding involvement in development of the care plan including goals and approaches; whether the interventions reflect the resident's choices and preferences; and the resident's response to the tube feeding, including the following:

- Whether staff provided assistance to the resident to increase the food intake, prior to inserting a feeding tube (e.g., identifying underlying causes of anorexia; hand feeding; changing food consistency, texture, form; offering alternate food choices; and/or providing assistive devices);

- Whether the resident and/or the resident's legal representative (as appropriate) was informed about the relevant benefits and risks of tube feeding, and involved in discussing alternatives and making the decision about using a feeding tube;

- Whether the resident has had any significant new or worsening physical, functional or psychosocial changes; whether the resident informed the staff; and how the problems were addressed;

- Whether there has been a reassessment and discussion with the resident or the resident's legal representative regarding the continued appropriateness/necessity of the feeding tube.

  NOTE: Prior to inserting a feeding tube, the prescriber reviews the resident's choices/instructions and goals, including all relevant information that may be identified in advance directives (See F155, F156 and F242).

Facility staff

Interview staff that provide direct care on various shifts to determine:

- How staff and practitioner determined the cause(s) of decreased oral intake/weight loss or impaired nutrition and attempted to maintain oral intake prior to the insertion of a feeding tube, such as did staff collaborate with the physician to identify medical causes of decreased appetite or try to help the resident eat enough food (e.g., cueing or hand feeding; changing food consistency, texture, form; seeking and addressing causes of anorexia; providing assistive devices);

- What the specific care needs for the resident are (e.g., special positioning, personal care, insertion site care, amount of feeding taken in);

- How the staff determined the resident's nutritional status was being met such as periodically weighing the resident and how they decide whether the tube feeding is adequate to maintain acceptable nutrition parameters;

- Whether the resident has voiced any complaints or exhibited any physical or psychosocial complications that may be associated with the tube feeding (e.g., nausea or vomiting, diarrhea, pain associated with the tube, abdominal discomfort, depression, withdrawal); and how these problems have been addressed;

- To whom a staff member has reported the resident's signs or symptoms; and

- Whether there has been a periodic reassessment and discussion with the resident or his/her legal representative regarding the continued appropriateness/necessity of the feeding tube; and whether the care plan has been revised and implemented as necessary.

Health care practitioners and professionals

The assigned surveyor should review, as indicated, the facility's policies, procedures, records of incidents and corrective actions related to feeding tubes; documentation of staff knowledge and skills related to the aspects of administering tube feeding; and should, as necessary, interview facility staff with responsibility for overseeing or training in this aspect of care to determine:

- How the facility identified the resident at risk for impaired nutrition, identified and addressed causes of impaired nutrition, and determined that use of a feeding tube was unavoidable;
- How staff calculated nutritional needs for the resident and how they ensure that the resident receives close to the calculated amount of nutrition daily;
- How staff monitor the resident for the benefits and risks related to a feeding tube, and address adverse consequences of the feeding tube use (e.g., altered mood, nausea and vomiting, pain, or restraint use to try to prevent the resident from removing the feeding tube);
- How staff are trained and directed regarding management of feeding tubes and tube feedings in general, and in addressing any specific issues related to this individual resident;
- Whether the physician and staff attempted to identify the circumstances that led to the placement of the feeding tube (e.g., when the tube was placed in another facility); and
- Whether the resident was periodically reassessed for the continued appropriateness/necessity of the feeding tube; and whether the care plan was revised and implemented, as necessary, with input from the resident or his/her legal representative, to the extent possible.

NOTE: During the course of the review, if the surveyor needs to contact the attending physician regarding questions related to the treatment regimen, it is recommended that the facility's staff have the opportunity to provide the necessary information about the resident and the concerns to the physician for his/her review prior to responding to the surveyor's inquiries. If the attending physician is unavailable, interview the medical director, as appropriate.

Record Review

Review information such as physician orders, tube feeding records, multidisciplinary progress notes, RAI/MDS and any available assessment regarding the rationale for feeding tube insertion and the potential to restore normal eating skills, including the interventions tried (to avoid using the feeding tube before its insertion, restore oral intake after tube insertion, and prevent potential complications).

(Source: Reference 1)

End of Life Nutrition and Hydration

Hospice/End of Life and/or Palliative Care Critical Element Pathway (CMS 20073)

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR MEDICARE & MEDICAID SERVICES

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Facility Name: _____ Facility ID: _____ Date: _____

Surveyor Name: _____

Resident Name: _____ Resident ID: _____

Initial Admission Date: _____ Interviewable: ☐ Yes ☐ No Resident Room: _____

Care Area(s): _____

Use

Use this protocol for a sampled resident:

☐ Identified by the facility as receiving end of life care, hospice, palliative care, comfort care, or terminal care; or

☐ Diagnoses, assessment, and/or care plan indicate that he/she may be approaching the end of life.

- *Palliative care means patient and family-centered care that optimizes quality of life by anticipating, preventing, and treating suffering. Palliative care throughout the continuum of illness involves addressing physical, intellectual, emotional, social, and spiritual needs and to facilitate patient autonomy, access to information, and choice.*
- ***"Hospice"** refers to a public agency or private organization or subdivision of either of these that is primarily engaged in providing an array of care and services necessary for the palliation and management of the terminal illness and related conditions.*

NOTE: Hospice is a service that:

- Provides support and care for a resident who is terminally ill so that he/she may live as fully and as comfortable as possible;
- Views death as a natural part of life;
- Neither hastens death nor prolongs life; and
- Provides palliative care.

Procedure

☐ Briefly review the assessment, care plan, orders, and related documentation to identify facility interventions and to guide observations to be made.

☐ Verify observations by gathering additional information from record review, interviews with the resident or his or her legal representative, relevant staff and practitioners, and/or additional observations.

***NOTE:** Determine whether the resident is also receiving care from another entity such as a Medicare-certified hospice.*

FORM CMS-20073 (7/2015)

End of Life Nutrition and Hydration

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Observations	
Observe the resident during various activities, shifts, and interactions with staff. Use the observations to determine: ☐ Whether staff accommodated the resident's needs and goals (such as comfort, independence and level of functioning during end of life), including, but not limited to: ▪ Interventions used if the resident exhibited or verbalized pain or other symptoms of distress such as apprehension, restlessness, withdrawal, or lashing out at others. (If pain is identified, complete the Pain pathway); ▪ Interventions used if the resident exhibits other symptoms, such as constipation, nausea, vomiting, that are not controlled; ▪ Supportive and assistive devices/equipment used such as commodes and/or positioning devices; ▪ Privacy, dignity, calming reassurance used; and ▪ Preferences and choices acknowledged and respected, such as a resident's preferences for bathing, toileting, sleep schedules, activities, food and drink, environment, etc. (If a concern with choices is identified, complete the Choices pathway.) ☐ Whether staff consistently implemented the care plan according to the resident's goals.	**Notes:**

End of Life Nutrition and Hydration

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Resident/Representative Interview	
Interview the resident, family, or responsible party, to the degree possible, to identify: ☐ Whether the facility discussed advance directives, the right to make treatment choices (including refusing treatment), available resources and state-required documents related to end of life care or substitute decision making. ☐ Whether the resident is currently having or has been having symptoms (e.g., pain, anxiety, depression, breathing difficulties), and whether the symptoms and extent of relief have been addressed to his/her satisfaction and consistent with his/her preferences and choices. ☐ Whether the resident or his/ her legal representative was involved in the development of the care plan. ☐ Whether the care plan accommodates the resident's needs and goals. ☐ If interventions were declined, whether information about alternatives and consequences of such refusal were offered and documented.	**Notes:**

End of Life Nutrition and Hydration

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Staff Interviews	
Direct care staff. Interview direct care staff on various shifts to determine: ☐ Whether staff are aware of the resident's goals for care and treatment at the end of life. ☐ How staff determine when and how to offer each intervention as necessary. ☐ How staff monitor and document for effectiveness of the intervention. ***If a resident is receiving hospice care:*** Determine how and when facility staff communicates with staff from the hospice service, how services are coordinated with the hospice in caring for the resident, who is responsible for coordinating care between the facility and hospice, and how contact with hospice staff occurs.	**Notes:**

DEPARTMENT OF HEALTH AND HUMAN SERVICES
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Hospice, End of Life and/or Palliative Care Critical Element Pathway

Health Care Practitioners and Professionals Interviews	
If the defined interventions or care provided appear to be inconsistent with the resident's preferences or applicable recognized standards of practice; the interventions were not implemented as defined; or the resident's symptoms were not adequately controlled, interview one or more health care practitioners and professionals as necessary (e.g., physician, hospice nurse, facility charge nurse, certified nursing assistant, social worker, or director of nursing). These individuals, by virtue of training and knowledge of the resident, should be able to provide information about the evaluation and management of a resident's physical/psychosocial symptoms and needs related to end of life and palliative care. Depending on the issue, ask about: ☐ The basis for a determination that a resident is approaching the end of life. ☐ Whether there has been a discussion with the resident and/or the legal representative regarding a determination that the resident is approaching the end of life and about the resident's options for developing instructions regarding his or her choices for care and treatment (please refer to advance directives guidance at F155). ☐ When and how the resident's preferences regarding care at the end of life (including advance directives, if applicable) are communicated to the facility care team as well as emergency department, hospital or home care teams if the resident is transferred for any reason. ☐ How interventions are monitored for continued appropriateness and adjusted as necessary. ☐ Whether and how the staff communicates with the physician/practitioner regarding the resident's condition and response to interventions.	**Notes:**

End of Life Nutrition and Hydration

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Record Review	
Review of Facility Practices *Any concerns identified by the survey team related to End of Life care should trigger a review of the facility's policies and procedures on End of Life care and/or related policies (e.g., advance directives). Additional activities may include a review of policies, staffing, staff training and/or functional responsibilities related to care and services to be provided to a resident approaching the end of life.*	**Notes:**

Assessment	
Review the resident's records for assessments related to end of life care including RAI/MDS, physician orders, hospice orders as appropriate, other available consultant and other progress notes to determine whether they: ☐ Provided the basis for the determination that the resident is approaching the end of life; ☐ Identified the resident's overall physical, mental and psychosocial needs including but not limited to: ▪ Bowel and bladder functioning (constipation, impactions, diarrhea, involuntary bowel movements, incontinence of urine); ▪ Nutritional changes (alteration in taste and smell) and fluids (food and beverage choices, nausea, vomiting, refusal to eat/drink); ▪ Oral health status, such as dentures, ulcers in mouth, dryness of oral cavity/tongue, and other oral health issues, such as broken, painful teeth, or diseases, such as candida or thrush; ▪ Symptom control which may produce sedation or excessive sleep and choices in when to sleep and awaken, lethargy; ▪ Loss of function, mobility or positioning, ADL status; ▪ Skin integrity;	**Notes:**

End of Life Nutrition and Hydration

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Assessment	
▪ Spiritual needs; and ▪ Lifestyles, ethnicity, cultural orientation. ☐ Identified the underlying factors affecting the resident's comfort, cognition, pain, and functional status; ☐ Identified the resident's values, wishes, choices, and goals (e.g., advance directives or other directions for interventions regarding hospitalization, acute care in the event of an illness or injury, artificial nutrition or hydration approaches, and respiratory and cardiac status); ☐ Indicated that staff implemented interventions, in conjunction with the practitioner, to try to prevent, minimize or manage symptoms; and whether the interventions addressed the pain and/or potential pain, distress, and/or other symptoms (such as constipation, nausea, and vomiting) consistent with the resident's goals and the facility and practitioner's identification and assessment of factors causing or influencing those symptoms; and ☐ Indicated that the facility monitored the resident's subsequent condition including any changes in status. A change from a more aggressive treatment plan to a palliative care plan represents a significant change as defined by the MDS. If the facility did not conduct a significant change comprehensive assessment within 14 days, initiate F274, Resident Assessment When Required. **1. At the time of the required comprehensive assessment, did the facility comprehensively assess the resident's physical, mental, and psychosocial needs to determine the resident's specific palliative and end-of-life needs and the impact upon the resident's function, mood, and cognition?** ☐ Yes ☐ **No** **F272** ☐ **NA, condition/risks were identified after completion of the required comprehensive assessment and did not meet the criteria for a significant change MDS or the resident was just admitted and the comprehensive assessment is not required yet**	

End of Life Nutrition and Hydration

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Assessment	
NOTE: *Although Federal requirements dictate the completion of RAI assessments according to certain time frames, standards of good clinical practice dictate that the assessment process is more fluid and should be ongoing.* *The comprehensive assessment is not required to be completed until 14 days after admission. For newly admitted residents, before the 14–day assessment is complete, the lack of sufficient assessment and care planning to meet the resident's needs should be addressed under F281, Professional Standards of Quality.*	

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Care Planning	
If the comprehensive assessment was not completed (CE#1 = No), mark CE#2 "NA, the comprehensive assessment was not completed" Review the care plan to determine: ☐ If it is consistent with the resident's specific needs, condition, values, wishes and goals and progress as identified by periodic assessments including but not limited to: ▪ ADLs – Interventions that emphasize support for activities of daily living to enhance the resident's comfort and dignity (e.g., assistance with bowel and urinary function for the individual who can no longer toilet him or herself; appropriate adjustments in the frequency of turning, getting out of bed, and dressing). ▪ Hygiene/Skin Integrity – o Ongoing, consistent oral care helps to maintain comfort and prevent complications associated with dry mucous membranes and compromised dentition. o Interventions related to skin integrity and personal hygiene to minimize pain and anxiety, and consider the resident's underlying illnesses and progressive decline. o The resident receiving palliative care at the end of life may require adjustments in the frequency and intensity of measures such as turning and positioning, as well as the use of additional or alternative interventions to enhance comfort (e.g., pressure reducing mattress). o The facility addresses the risk of skin breakdown and manages existing wounds unless these prevention and treatment measures are not feasible or cause the resident a degree of discomfort that is greater than the benefit from the care. ▪ Medical Treatment – o When the resident is approaching the end of life, it is appropriate to reevaluate the benefits and burdens of any	**Notes:**

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Care Planning	
medical treatment, and to consider discontinuing those treatments where the burdens outweigh the benefits. o Diagnostic tests and monitoring. Although tests may help confirm an individual's prognosis or guide treatment decisions, decisions about diagnostic tests and medical procedures should be related to the resident's prognosis, values and goals, as well as comfort and dignity. It is often appropriate to discontinue or greatly reduce the frequency of routine tests and monitoring and to use the least intrusive tests possible. o Treatments. Palliative care treatment at the end of life focuses on symptom management (e.g., controlling nausea, vomiting, uncomfortable breathing, agitation, and pain). Simple cause-specific interventions may sometimes provide effective palliation (e.g., resolving abdominal pain by reducing doses of medications with high anticholinergic properties that may lead to constipation or intestinal ileus). o Medications/Drugs. It is important that use of medications be consistent with the goals for comfort and control of symptoms and for the individual's desired level of alertness. Review the continued need for any routine administration of medication and adjust or discontinue as may be appropriate. Routes of administration of medications may also need to be modified. Medication doses may need adjustment to attain desired symptom relief, while still considering whether side effects such as sedation and nausea are tolerable and consistent with the resident's wishes or that of his/her legal representative. ▪ Nutrition/Hydration – o A resident receiving palliative care at the end of life may experience a decline in appetite or have difficulty eating or swallowing. It is important to provide desired food and fluids in the form and frequency that best enable the resident to	

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Care Planning	
consume them. Previous dietary restrictions may be unnecessary for the resident and may negatively impact quality of life or comfort. o The determination of whether to use artificial nutrition and hydration, when a terminally ill resident's condition has progressed to the point where he or she may no longer chew or swallow his or her food, is made by the resident, or the resident's legal representative, consistent with applicable state law and regulation. ▪ Activities – o Consistent with the resident's interest, level of energy, and ethnic and cultural traditions associated with death and dying (e.g., visits from spiritual leaders and other individuals of the same religious/ethnic background; special spiritual ceremonies; reading or sharing information about the resident's culture). o As death approaches, activities that help provide comfort and symptom relief and those that require less conscious participation, rather than group or interactive activities, may be most appropriate. It is often helpful to involve the family or those with significant relationships with the resident in such activities, if possible. ▪ Psychosocial – o Identify psychosocial interventions that are pertinent to the needs of the dying resident (e.g., treatment for depression, , anxiety, loneliness, restlessness or bereavement) and approaches to providing support to the resident (e.g., visits by family and others expanding visiting hours and providing desired privacy). ▪ Environmental – o Promote resident comfort based on resident preferences (such as low level lighting and minimal background noise, etc.).	

End of Life Nutrition and Hydration

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Care Planning	
☐ If the resident refuses or resists staff interventions to manage symptoms and the needs identified in the assessment, determine if the record reflects efforts to seek alternatives. ***If a resident is receiving hospice care:*** ☐ When hospice services are involved, the facility and hospice are jointly responsible for developing a coordinated plan of care for the resident that guides both providers and is based upon their assessments and the resident's needs and goals. ☐ The coordinated plan of care must identify which provider (hospice or facility) is responsible for various aspects of care. ☐ The hospice and the facility must have a process by which they can exchange information from their respective plan of care reviews, assessment updates, and patient and family (to the extent possible) conferences, when updating the plan of care and evaluating outcomes of care to assure that the resident receives the necessary care and services. ☐ The facility's services must be consistent with the plan of care developed in coordination with the hospice (i.e., the hospice patient residing in a facility should not experience any lack of services or personal care because of his/her status as a hospice patient). ☐ The facility must offer the same services to its residents who have elected the hospice benefit as it furnishes to its residents who have not elected the hospice benefit. As such, the facility continues to have responsibility for providing the resident's overall care and comfort, including, for example, providing general medical and nursing care, assisting with ADLs, administering medications, giving personal care, providing activities, if desired, and maintaining the cleanliness of the resident's room. ☐ The hospice program is also responsible for assessing the resident and identifying the physical, psychosocial, emotional, cultural, and spiritual needs related to the terminal illness that must be addressed in order to promote the resident's well-being, comfort, and dignity	

End of Life Nutrition and Hydration

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Care Planning	
throughout the dying process. ☐ The facility is responsible for notifying the hospice when the resident experiences a significant change in physical, mental, social, or emotional status, or needs to be transferred from the facility. ☐ In order to ensure that each provider meets its responsibilities, it is essential the facility and hospice have a means to communicate how all needed services, professionals, medical supplies, DME, drugs and biologicals will be made available to the resident 24 hours a day, 7 days a week, including who may receive and/or write orders for care, in accordance with State/Federal requirements. ***NOTE:*** *If the resident has elected the Medicare and/or Medicaid hospice benefit and concerns were identified with coordinated plan of care or management of the resident's care, verify that the hospice was advised of the concerns. After verifying that the hospice was advised of concerns by the facility and the hospice failed to resolve issues related to the management of a resident's care, coordination of care or implementation of appropriate services, file a complaint with the State Agency responsible for oversight of hospice programs, identifying the specific resident(s) involved and the concerns identified.* **2. Did the facility develop a plan of care with measurable goals and interventions to address the care and treatment related to the resident's palliative and end-of-life needs, in accordance with the assessment, resident's wishes, and current standards of practice?** ☐ Yes ☐ **No** **F279** ☐ **NA, the comprehensive assessment was not completed or the resident was just admitted and the comprehensive care plan is not required yet** *The comprehensive care plan does not need to be completed until 7 days after the comprehensive assessment (the assessment completed with the CAAS). Lack of sufficient care planning to meet the needs of a newly admitted resident should be addressed under* ***F281, Professional Standards of Quality****.*	

End of Life Nutrition and Hydration

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Care Plan Implementation by Qualified Persons	
Observe care and interview staff over several shifts and determine whether: ☐ Care is being provided by qualified staff, and/or ☐ The care plan is adequately and/or correctly implemented. **3. Did the facility provide or arrange services to be provided by qualified persons in accordance with the resident's written plan of care and did the facility implement the care plan adequately and/or correctly?** ☐ Yes ☐ **No F282** ☐ **NA, no provision in the written plan of care for the concern being evaluated** ***NOTE**: If there is a failure to provide necessary care and services, the related care issue should also be cited when there is an actual or potential outcome.*	**Notes:**

Care Plan Revision	
If the comprehensive assessment was not completed (CE#1 = No), OR, if the care plan was not developed (CE#2 = No), mark CE#4 "NA, the comprehensive assessment was not completed OR the care plan was not developed". ☐ When the resident is nearing the end of life, it is important that the physician/practitioner and interdisciplinary team review or update the prognosis with the resident and/or the resident's legal representative and review and revise the care plan as necessary to address the resident's situation, including expectations and management of specific symptoms and concerns. ☐ Determine whether the staff have been monitoring the resident's response to interventions for the management of physical and psychosocial needs and have evaluated and revised the care plan based on the resident's preferences/choices, response and outcome.	**Notes:**

End of Life Nutrition and Hydration

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Care Plan Revision	
☐ Determine whether the care plan was reviewed and revised as necessary to promote comfort and prevent the development or worsening of physical and/or psychosocial symptoms. ***If a resident is receiving hospice care:*** ☐ Evaluation and revision of the care plan is coordinated between hospice and the facility; ▪ Staff evaluate outcomes of the plan (the effect of care plan goals and interventions) on a timely basis; ▪ Staff identify changes in the resident's condition that require revised goals and care approaches; and ▪ The resident and/or the responsible person is involved in the review and revision of the plan. **4. Did the facility reassess the effectiveness of the interventions, and review and revise the plan of care (with input from the resident or representative, to the extent possible) if necessary, to meet the needs of the resident?** ☐ Yes ☐ **No F280** ☐ **NA, the comprehensive assessment was not completed OR the care plan was not developed.**	

Provision of Care and Services	
Determine whether staff have: ☐ Assessed the resident's clinical condition, risk factors, and preferences and identified the resident's prognosis and the basis for it. ☐ Initiated discussions regarding advance care planning and resident choices to clarify resident goals and preferences regarding treatment at the end of life. ☐ Recognized and advised the resident and/or the resident's legal representative that the resident was approaching the end of life and, if the resident was not already receiving palliative care, advised that	**Notes:** Written agreement describing the responsibilities between hospice and the NH. (does not need to be resident-specific).

End of Life Nutrition and Hydration

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Provision of Care and Services	
care appropriately be shifted to a palliative focus. ☐ Defined and implemented resident-directed care, treatment interventions, services, and support, consistent with the resident's choices, rights, goals, and the recognized standards of practice, in the attempt to manage pain and other physical and psychosocial symptoms and meet the resident's psychosocial and spiritual needs. ☐ Communicated the resident's goals and preferences to the facility interdisciplinary team, as well as the hospice, emergency department, hospital or home health team in the event of a transfer. ☐ Monitored and evaluated the impact of the interventions provided to address the resident's end of life condition and revised the approaches as appropriate. ***NOTE:*** *Most deficiencies related to end of life care and services can be cited at other regulations (e.g., assessment, care planning, accommodation of needs, and physician supervision). Surveyors should evaluate compliance with these regulations and cite deficiencies at F309 only when other regulations do not address the noncompliance.* **5. Based on observation, interviews, and record review, did the facility provide care and services necessary to promote comfort, pain relief, and provide support to meet the needs of the resident at the end of life in order to attain or maintain the highest practicable physical, mental, and psychosocial well-being in accordance with the comprehensive assessment and plan of care?** ☐ Yes ☐ **No F309**	

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Concerns with Independent but Associated Structure, Process, and/or Outcome Requirements	
During the investigation of care and services provided to meet the needs of the resident receiving hospice or palliative care, the surveyor may have identified concerns with related structure, process and/or outcome requirements, such as the examples listed below. If an additional concern has been identified, the surveyor should initiate the appropriate care area or F tag and investigate the identified concern. Do not cite any related or associated requirements before first conducting an investigation to determine compliance. ☐ **F154, Notice of Rights and Services** – Determine if the resident was fully informed in language he/she understands of his/her total health status. ☐ **F155, Rights Regarding Treatment, Experimental Research and Advance Directives** – For concerns regarding the resident's right to refuse treatment, to participate in experimental research, and to formulate an advanced directive. ☐ **Notification of Change** – Determine if the facility immediately informed the resident/legal representative, physician, and agency contracted to provide end of life care (if applicable) regarding a resident's change of condition. ☐ **F172, Access and Visitation Rights** – Determine if the facility limited visitation rights, which did not infringe upon the rights of other residents, of the end of life resident. ☐ **Admission, Transfer and Discharge Requirements** – Determine if the end of life resident was allowed to remain in the facility unless his/her needs could not be met. ☐ **Choices** – Determine if the facility honors the resident's specific values, wishes and goals regarding end of life treatment and services. ☐ **F246, Accommodation of Needs** – Determine if the resident received appropriate treatment and services, including assistive devices, to enhance the resident's comfort and dignity. ☐ **Activities** – Determine if activities are consistent with the resident's interest, level of energy, and ethnic and cultural traditions associated	**Notes:**

End of Life Nutrition and Hydration

Hospice, End of Life and/or Palliative Care Critical Element Pathway

Provision of Care and Services	
with death and dying. ☐ **Social Services** – Determine if the facility provided the needed social services, for example, to identify a substitute decision making method in accordance with state law; to give the resident or the resident's legal representative information on available services such as support groups and bereavement services or to assist in settling the resident's affairs (e.g., disposition of the resident's belongings, organ donations, or funeral arrangements). ☐ **Activities of Daily Living** – Determine where the facility is providing support for activities of daily living to enhance the resident's comfort and dignity. ☐ **Respiratory Care** – Determine if the resident received proper care and services for respiratory care. ☐ **Unnecessary Medications** – Determine if the medication regimen consistent with the goals for comfort and control of symptoms and for the individual's desired level of alertness. ☐ **Sufficient Staff** – Determine whether the facility has employed qualified nursing staff in sufficient numbers to fulfill their assistive role in transportation, ADL assistance, etc., to facilitate the resident's choices (staff are not giving baths at a specific time/day because of short staffing). ☐ **F385, Physician Supervision** – Determine if the resident's care is supervised by a physician and another physician supervises medical care when the attending physician is unavailable. ☐ **F501, Medical Director** – Determine if the medical director , develops, implements, and modifies (as needed) policies and procedures to identify, assess and manage potential palliative care conditions, including pertinent interventions that are consistent with current standards of practice.	

(Source: Reference 2)

End of Life Nutrition and Hydration

CMS Tube Feeding Status Critical Element Pathway (CMS 20093)

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Tube Feeding Status Critical Element Pathway

Facility Name: _____ Facility ID: _____ Date: _____

Surveyor Name: _____

Resident Name: _____ Resident ID: _____

Initial Admission Date: _____ Interviewable: ☐ Yes ☐ No Resident Room: _____

Care Area(s): _____

Use
☐ Use this protocol for a sampled resident who has a feeding tube.
☐ Use this pathway during every initial, standard survey and may be used on revisits or abbreviated survey (complaint investigation), as necessary.

Procedure
☐ Review QCLI results and relevant findings as needed.
☐ Briefly review the comprehensive assessment, care plan, and orders to identify facility interventions and to guide observations to be made.
☐ Corroborate observations by interview and record review.

Observations	
☐ Observe the resident during various shifts including interactions with staff; initiation, continuation, and termination of feedings; medication administration, and provision of care and services. ☐ During observations of the interventions, note and/or follow up on deviations from the care plan and deviations from current clinical standards of practice and services as well as potential negative outcomes. ☐ Note whether the resident's level of alertness and functioning permits oral intake, whether assistive devices and call bells are available for the resident who is able to use them, and whether staff provide assistance for the resident who is dependent upon staff for care. Note, for example, whether:	**Notes:**

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Tube Feeding Status Critical Element Pathway

Observations	
▪ The resident is resistant to assistance or refuses food or liquids and how staff respond; and ▪ The resident is receiving therapy or restorative care to improve swallowing or feeding skills, if the comprehensive assessment indicates the resident has deficits and restorative potential. ***NOTE:*** *If you observe the resident being assisted by a staff member to eat or drink and the resident is having problems with eating or drinking, determine whether the staff member who is assisting the resident is a paid feeding assistant. If so, follow the procedures at F373.* ☐ Observe whether staff try to minimize the risk for complications including, but not limited to: ▪ Physical complications (aspiration, leaking around the insertion site, intestinal perforation, abdominal wall abscess or erosion at the insertion site); ▪ Implementing interventions to minimize the negative psychosocial impact that may occur as a result of tube feeding; ▪ Providing mouth care, including teeth, gums, and tongue; ▪ Checking that the tubing remains in the correct location consistent with facility protocols; ▪ Properly positioning the resident consistent with the resident's individual needs; ▪ Using universal precautions and clean technique and following the manufacturer's recommendations when stopping, starting, flushing, and giving medications through the feeding tube; ▪ Ensuring the cleanliness of the feeding tube, insertion site, dressing (if present) and nutritional product; ▪ Providing the type, rate, volume and duration of the feeding as ordered by the practitioner and consistent with the manufacturer's recommendations; and	

Tube Feeding Status Critical Element Pathway

Observations	
▪ Staff examining and cleaning the skin site around the feeding tube and equipment. ☐ Note staff response if there is evidence of possible complications, such as diarrhea, nausea, vomiting, abdominal discomfort, nasal discomfort (if a nasogastric tube is being used); evidence of leakage and/or skin irritation at the tube insertion site; or risk of inadvertent removal of the tube. ☐ Observe the provision of care and services to determine whether: ▪ Staff practices for handling, hang-time, and changing tube feeding bags are consistent with accepted standards of practice for infection control and manufacturer instructions; ▪ Staff check placement of tube; and ▪ Medications are administered via the tube and follow physician's orders and standards of practice. Staff verify the amount of fluid and feeding administered independent of the flow rate established on a feeding pump, if used (e.g., labeling the formula with the date and time the formula was hung and flow rate).	

End of Life Nutrition and Hydration

Tube Feeding Status Critical Element Pathway

Resident/Representative Interview	
Interview the resident, family and/or resident's legal representative (as appropriate) to determine: ☐ The level of involvement in the development of the care plan including goals and approaches, whether the interventions reflect resident's choices and preferences; and the resident's response to the tube feeding, including the following: ▪ Whether staff provided assistance to the resident to increase the food intake prior to inserting a feeding tube (e.g., identifying underlying causes of anorexia; hand feeding; changing food consistency, texture, form; offering alternate food choices; and/or providing assistive devices); ▪ Whether the resident and/or the resident's legal representative (as appropriate) was informed about the relevant benefits and risks of tube feeding, and involved in discussing alternatives and making the decision about using a feeding tube; ▪ Whether the resident has had any significant new or worsening physical, functional or psychosocial changes; whether the resident informed the staff; and how the problems were addressed; ▪ Whether there has been a reassessment and discussion with the resident or the resident's legal representative regarding the continued appropriateness/necessity of the feeding tube. ☐ How the resident felt since the feeding tube was placed and has the resident had any problems (e.g., physical, functional or psychosocial) that the staff has or has not addressed. ☐ Whether the resident has demonstrated or complained of recent nausea, vomiting, diarrhea, abdominal cramping, inadequate nutrition, aspiration. ☐ What the facility did to maintain oral feeding prior to inserting a	**Notes:**

Tube Feeding Status Critical Element Pathway

Resident/Representative Interview	
feeding tube (e.g., provided the appropriate level of assistance to eat and consume fluids, used assistive devices, honored preferences); ☐ What the facility is doing to assist the resident to regain normal eating skills, if possible, after admission with or insertion of a naso-gastric or gastrostomy tube; ☐ Whether the tube has been accidentally dislodged; and ☐ Whether the possibility of a gastrostomy tube has been discussed, if the resident has a naso-gastric tube.	

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Tube Feeding Status Critical Element Pathway

Staff Interviews	
☐ Interview staff that provide direct care on various shifts to determine: ▪ Whether staff and/or the practitioner determined the cause(s) of the decreased oral intake/weight loss or impaired nutrition and whether attempts have been made to maintain oral intake prior to the insertion of a feeding tube. For example, did staff collaborate with the physician to identify medical causes of decreased appetite or try to help the resident eat enough food (e.g., cueing or hand feeding; changing food consistency, texture, form; seeking and addressing causes of anorexia; or providing assistive devices); ▪ What the specific care needs for the resident are (e.g., special positioning, personal care, insertion site care, amount of feeding taken in); ▪ How the staff determined the resident's nutritional status was being met such as periodically weighing the resident and how they decide whether the tube feeding is adequate to maintain acceptable nutrition parameters and when to adjust them accordingly; ▪ Whether the resident has voiced any complaints or exhibited any physical or psychosocial complications that may be associated with the tube feeding (e.g., nausea or vomiting, diarrhea, pain associated with the tube, abdominal discomfort, depression, withdrawal); and how these problems have been addressed; ▪ To whom a staff member has reported the resident's signs or symptoms; and ▪ Whether there has been a periodic reassessment and discussion with the resident or his/her legal representative regarding the continued appropriateness/necessity of the feeding tube; and whether the care plan has been revised and implemented as necessary. ☐ Whether staff can explain how to monitor and check that the feeding	**Notes:**

Tube Feeding Status Critical Element Pathway

Staff Interviews	
tube is in the right location. ☐ Whether staff can explain how to provide care of the feeding tube (e.g., how to secure a feeding tube externally; provision of needed personal, skin, oral, and nasal care to the resident; how to examine and clean the insertion site; and whether staff can define the frequency and volume used for flushing). ☐ Whether staff can explain the conditions and circumstances under which a tube is to be changed. ☐ Whether staff can explain how to manage and monitor the rate of flow (e.g., use of gravity flow, use of a pump or period evaluation of the amount of feeding being administered for consistency with practitioner's orders). ☐ Are staff who are providing care and services to the resident who has a feeding tube aware of, competent in, and utilize facility protocols regarding feeding tube nutrition and care.	

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Tube Feeding Status Critical Element Pathway

Certified Nursing Assistant Interviews	
Interview staff that provide direct care on various shifts to determine if the CNA is aware of: ☐ What, when, and to whom to report concerns with tube feedings or potential complications from tube feeding. ☐ Factors related to the care of a resident with a feeding tube, including any special positioning required by the resident.	**Notes:**

Tube Feeding Status Critical Element Pathway

Health Care Practitioners and Professionals Interviews	
The assigned surveyor should review, as indicated, the facility's policies, procedures, records of incidents and corrective actions related to feeding tubes; documentation of staff knowledge and skills related to the aspects of administering tube feeding; and should, as necessary, interview facility staff with responsibility for overseeing or training in this aspect of care to determine: ▪ How the facility identified the resident at risk for impaired nutrition, identified and addressed causes of impaired nutrition, and determined that use of a feeding tube was unavoidable; ▪ How staff calculated nutritional needs for the resident and how they ensured that the resident received close to the calculated amount of nutrition daily; ▪ How staff monitored the resident for the benefits and risks related to a feeding tube, and addressed adverse consequences of the feeding tube (e.g., altered mood, nausea and vomiting, pain, or restraint use to try to prevent the resident from removing the feeding tube); ▪ How staff are trained and directed regarding management of feeding tubes and tube feedings in general, and in addressing any specific issues related to this individual resident; ▪ Whether the physician and staff attempted to identify the circumstances that led to the placement of the feeding tube (e.g., when the tube was placed in another facility); and ▪ Whether the resident was periodically reassessed for the continued appropriateness/necessity of the feeding tube; and whether the care plan was revised and implemented, as necessary, with input from the resident or his/her legal representative, to the extent possible. ***NOTE**: During the course of the review, if the surveyor needs to contact the attending physician regarding questions related to the treatment regimen, it is recommended that the facility's staff have the opportunity*	**Notes:**

Tube Feeding Status Critical Element Pathway

Health Care Practitioners and Professionals Interviews	
to provide the necessary information about the resident and the concerns to the physician for his/her review prior to responding to the surveyor's inquiries. If the attending physician is unavailable, interview the medical director, as appropriate.	

Tube Feeding Status Critical Element Pathway

Record Review	
☐ Ensure the physician's orders include the following components: kind of feeding and its caloric value; volume, duration, and mechanism of administration (e.g., gravity or pump); and frequency of flush. **Review of Facility Practices** Related concerns may have been identified that would suggest the need for a review of facility practices. Examples of such activities may include a review of policies, staffing, and staff training, functional responsibilities, and interviews with staff (including facility management). If there is a pattern of residents who have issues related to the indications, utilization, complications, process or performance issues with feeding tubes, determine whether the facility has incorporated into its quality assurance activities a review of appropriateness and management of tube feedings. ***NOTE:*** *Prior to inserting a feeding tube, the prescriber reviews the resident's choices/instructions and goals, including all relevant information that may be identified in advance directives (see F155, F156, and F242).*	**Notes:**

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Tube Feeding Status Critical Element Pathway

Assessment	
☐ Review the RAI/MDS and other documents such as physician's orders, tube feeding records, multidisciplinary progress notes, and any other available assessments regarding the rationale for feeding tube insertion and the potential to restore normal eating skills, including the interventions tried (to avoid using the feeding tube before its insertion, restore oral intake after tube insertion, and prevent potential complications). ☐ Determine whether a clinically pertinent rationale for using a feeding tube includes, but is not limited to: ▪ An assessment of the resident's nutritional status, which may include usual food and fluid intake, pertinent laboratory values, appetite, and usual weight and weight changes; ▪ An assessment of the resident's clinical status, which may include the ability to chew, swallow, and digest food and fluid; underlying conditions affecting those abilities (e.g., coma, stroke, esophageal stricture, potentially correctable malnutrition that cannot be improved sufficiently by oral intake alone); factors affecting appetite and intake (e.g., medications known to affect appetite, taste, or nutrition utilization); and prognosis; ▪ Relevant functional and psychosocial factors (e.g., inability to sufficiently feed self, stroke or neurological injury that results in loss of appetite, psychosis that prevents eating); ▪ Interventions prior to the decision to use a feeding tube and the resident's response to them. *(Refer to F325 for discussion and examples of interventions to improve and restore normal nutritional parameters.)* ▪ A calculation of free water for residents being fed by a naso-gastric or gastrostomy tube; ▪ Plans for removal of a tube, including the functional status of the resident and anticipated level of participation with rehabilitation	**Notes:**

Tube Feeding Status Critical Element Pathway

Assessment	
to improve nutrition, hydration, and restore eating skills; ▪ A review of medications known to cause a drug/nutrient interaction or having side effects potentially affecting food intake or enjoyment by affecting taste or causing anorexia, increasing weight, causing diuresis, or associated with GI bleeding such as Coumadin or NSAIDs. ☐ How staff verifies that the feeding tube is properly placed. ☐ How does staff monitor for actual or potential complications related to the tube feeding and how they address the complications. ☐ Determine whether there was a "significant change" in the resident's condition and whether the facility conducted a significant change comprehensive assessment within 14 days. A "significant change" is a decline or improvement in a resident's status that: 1. Will not normally resolve itself without intervention by staff or by implementing standard disease-related clinical interventions, is not "self-limiting;" 2. Impacts more than one area of the resident's health status; and 3. Requires interdisciplinary review and/or revision of the care plan. If there was a "significant change" in the resident's condition and the facility did not conduct a significant change comprehensive assessment within 14 days, initiate **F274, Resident Assessment When Required**. If a comprehensive assessment was not conducted, also cite F272. **1. If the condition or risks were present at the time of the required comprehensive assessment, did the facility comprehensively assess the resident's nutritional status, including factors that may have contributed to inadequate oral intake, and evaluate the resident's response to the implementation of tube feeding, including nutritional and psychosocial aspects?** ☐ Yes ☐ **No** **F272**	

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Tube Feeding Status Critical Element Pathway

Assessment	
☐ **NA, condition/risks were identified after completion of the required comprehensive assessment and did not meet the criteria for a significant change MDS or the resident was just admitted and the comprehensive assessment is not required yet** *NOTE: Although Federal requirements dictate the completion of RAI assessments according to certain time frames, standards of good clinical practice dictate that the assessment process is more fluid and should be ongoing.* *The comprehensive assessment is not required to be completed until 14 days after admission. For newly admitted residents, before the 14–day assessment is complete, the lack of sufficient assessment and care planning to meet the resident's needs should be addressed under* ***F281, Professional Standards of Quality*** *if the concern has resulted in a potential negative outcome and a professional standard related to the assessment of the concern can be referenced. In addition, the negative or potential negative outcome should be cited under the appropriate outcome tag or relevant requirement.*	

Tube Feeding Status Critical Element Pathway

Care Planning	
If the comprehensive assessment was not completed (CE#1 = No), mark CE#2 "NA, the comprehensive assessment was not completed." ☐ Determine whether the facility developed a care plan that was consistent with the resident's specific conditions, risks, needs, behaviors, preferences, and current standards of practice and included measurable objectives and timetables with specific interventions/services to: ▪ Prevent the unnecessary use of a naso-gastric or gastrostomy tube; or ▪ Restore eating skills to allow removal of the tube, if possible. ☐ If the care plan refers to a specific facility treatment protocol that contains details of the treatment regimen, the care plan should refer to that protocol and should clarify any major deviations from or revisions to the protocol for this resident. The treatment protocol must be available to the caregivers and staff should be familiar with the protocol requirements. ☐ Determine whether the care plan addresses, as appropriate: ▪ Efforts to seek alternatives to address the needs identified in the assessment if the resident refuses or resists staff interventions to consume foods and/or fluids and enteral feedings; ▪ Methods to monitor the intake of foods and fluids daily and when to report deviations; ▪ How often weights are to be monitored if weight falls out of usual body weight parameters; ▪ Rehabilitative/restorative interventions and specific measures, such as assistive devices, to promote involvement in improving functional skills; and ▪ The necessary interventions to prevent complications from the tube feeding such as aspiration, dislodgment, infection,	**Notes:**

Tube Feeding Status Critical Element Pathway

Care Planning	
pneumonia, fluid overload, fecal impaction, diarrhea, nausea, vomiting. ☐ If care plan concerns are noted, interview staff responsible for care planning as to the rationale for the current plan of care. **2. Did the facility develop a plan of care with measurable objectives, time frames, and specific interventions consistent with the resident's specific nutritional status, risks, needs, and current clinical standard of practice and include interventions prior to the insertion of the feeding tube to attempt to avoid tube feeding and after the insertions of the tube to prevent tube-related and tube-feeding related complications and restore, if possible, adequate oral intake?** ☐ Yes ☐ **No** **F279** ☐ **NA, the comprehensive assessment was not completed or the resident was just admitted and the comprehensive care plan is not required yet**	

Tube Feeding Status Critical Element Pathway

Care Plan Implementation by Qualified Persons	
Observe care and interview staff over several shifts and determine whether: ☐ Care is being provided by qualified staff, and/or ☐ The care plan is adequately and/or correctly implemented. **3. Did the facility provide or arrange services to be provided by qualified persons in accordance with the resident's written plan of care and did the facility implement the care plan adequately and/or correctly?** ☐ Yes ☐ **No F282** ☐ **NA, no provision in the written plan of care for the concern being evaluated** *NOTE: If there is a failure to provide necessary care and services, the related care issue should also be cited when there is actual or potential outcome.*	**Notes:**

End of Life Nutrition and Hydration

Tube Feeding Status Critical Element Pathway

Care Plan Revision	
If the comprehensive assessment was not completed (CE#1 = No), OR, if the care plan was not developed (CE#2 = No), mark CE#4 "NA, the comprehensive assessment was not completed OR the care plan was not developed." ☐ Determine whether the staff have been monitoring the resident's response to interventions for prevention and/or treatment, have evaluated, and revised the care plan based on the resident's response, outcomes, and needs. ☐ Review the record and interview staff for information and/or evidence that: ▪ Continuing the current approaches meets the resident's needs, if the resident has experienced recurring nutritional or hydration deficits; and ▪ The care plan was revised to modify the prevention strategies and to address the presence and treatment of newly identified problems. ☐ That the resident was periodically reassessed and the care plan was revised and implemented, as necessary with input from the resident or his/her legal representative, to the extent possible. **4. Did the facility reassess the effectiveness of the interventions and review and revise the plan of care (with input from the resident or representative, to the extent possible), if necessary, to meet the nutritional and hydration needs; reduce, prevent, or address potential complications; and attempt to restore normal eating skills, if possible for the resident?** ☐ Yes ☐ **No F280** ☐ **NA, the comprehensive assessment was not completed OR the care plan was not developed**	**Notes:**

Tube Feeding Status Critical Element Pathway

Provision of Care and Services	
☐ The facility is in compliance with this requirement, if staff: ▪ Used a feeding tube to provide nutrition and hydration only when the resident's clinical condition makes this intervention necessary based on adequate assessment and after other efforts to maintain or improve the resident's nutritional status have failed; ▪ Assessed the type, amount, rate, and volume of the formula to be provided; ▪ Managed all aspects of a feeding tube and enteral feeding consistent with current clinical standards of practice in order to meet the resident's nutritional and hydration needs and to prevent complications; ▪ Identified and addressed the potential risks and/or complications associated with feeding tubes, and provide treatment and services to restore, if possible, adequate oral intake; ▪ Monitored and evaluated the resident's response to the efforts; and ▪ Revised the approaches as appropriate.	**Notes:**
5. Based on observation, interviews, and record review, did the facility provide appropriate treatment and services to ensure that a resident who has been able to eat enough alone or with assistance is not fed by naso-gastric tube unless the resident's clinical condition demonstrates that use of a naso-gastric tube was unavoidable; and provided treatment and services for a resident who is fed by a naso-gastric or gastrostomy tube to prevent aspiration pneumonia, diarrhea, vomiting, dehydration, metabolic abnormalities, and nasal-pharyngeal ulcers, and to restore, if possible, normal eating skills? ☐ Yes ☐ **No** **F322**	

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Tube Feeding Status Critical Element Pathway

Provision of Care and Services	
For a resident who is being fed by a feeding tube and is receiving enteral fluids:	
☐ Determine whether the resident has received the amount of fluid during the past 24 hours that he/she should have received according to the physician's orders (allow flexibility up to 100cc unless an exact fluid intake is critical for the resident). **6. Based on observation, interview, and record review, does the facility ensure that a resident who is fed by a naso-gastric or gastrostomy tube receives the ordered amount of fluids?** ☐ Yes ☐ **No** **F328**	**Notes:**

Tube Feeding Status Critical Element Pathway

Concerns with Independent but Associated Structure, Process, and/or Outcome Requirements	
During the investigation of care and services provided to meet the needs of the resident, the surveyor may have identified concerns with related structure, process and/or outcome requirements, such as the examples listed below. If an additional concern has been identified, the surveyor should initiate the appropriate care area or F tag and investigate the identified concern. Do not cite any related or associated requirements before first conducting an investigation to determine compliance. ☐ **F154, Informed of Health Status, Care & Treatments** – Determine if the facility has fully informed the resident of his or her total health status and has provided the resident with information about the use of a feeding tube (including risks, benefits and alternatives) so that an informed decision can be made. ☐ **F155, Rights Regarding Treatment, Experimental Research and Advance Directives** – For concerns regarding the resident's right to refuse treatment, to participate in experimental research, and to formulate an advanced directive. ☐ **F156, Notice of Rights, Rules, Services, Charges** – Ensure the resident had the right to refuse treatment and experimental research and to formulate advance directives. ☐ **Choices** – ▪ Determine if the facility has given the resident or legal representative the opportunity to participate in the decision about tube feeding and informed the resident of the right to make advance directives and to decline life-sustaining treatments including artificial nutrition and hydration; ▪ Determine if the facility maintains written policies and procedures regarding advance directives; ▪ Determine if the facility informs and provides written information to all adult residents concerning the right to accept or refuse medical treatment and formulate advance directives; and	**Notes:**

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Tube Feeding Status Critical Element Pathway

Concerns with Independent but Associated Structure, Process, and/or Outcome Requirements	
▪ Determine whether staff provided the resident with relevant information and choices regarding feeding tubes. ☐ **Notification of Change** – Determine whether staff notified: ▪ The physician when they suspected or identified inability to maintain adequate oral intake or complications related to use of the feeding tube; and ▪ Notified the resident and the resident's legal representative (if known) of significant changes in the resident's condition in relation to the feeding tube or inability to take nutrition orally. ☐ **Dignity** – Determine whether the staff provided respectful care for the resident being tube fed to maintain and enhance the resident's dignity ☐ **F278, Accuracy of Assessments** – Determine whether the assessment accurately reflects the resident's status. ☐ **F281, Professional Standards of Quality** – Determine whether staff provided care in accordance with accepted professional standards of quality to maintain or restore adequate oral intake, if possible, and to manage the feeding tube to maintain or improve nutrition and prevent complications, to the extent possible. ☐ **Nutrition –** Determine whether the facility has managed the resident's nutritional interventions to meet the resident's nutritional needs, while using a feeding tube. ☐ **Hydration** – Determine whether the facility has managed the resident's hydration interventions to meet the resident's hydration needs, while using a feeding tube. ☐ **Unnecessary Medication Use** – Determine whether the facility has reviewed the resident's medication regimen for medications that may have caused or contributed to a decline in oral intake, or ability to chew and/or swallow, that may have contributed to decision to place a feeding tube or affected the efforts to restore normal eating.	

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Tube Feeding Status Critical Element Pathway

Concerns with Independent but Associated Structure, Process, and/or Outcome Requirements	
☐ **Sufficient Nursing Staff** – Determine whether the facility has sufficient staff that is qualified to provide necessary care and services to the resident being fed by a feeding tube. ☐ **F385, Physician Supervision** – Determine whether the physician is supervising the medical aspects of the tube feedings including assessment of cause of impaired nutritional status, development of a treatment regimen consistent with current clinical standards of practice, monitoring and response to notification of change in the resident's medical status. ☐ **F425, Pharmaceutical Svc – Accurate Procedures, RPH -** Determine whether the policies were developed and implemented for the safe administration of medications for a resident with feeding tube. ☐ **Infection Control** – Determine if the facility established and maintained an infection control policies for safe and sanitary care and services for a resident being fed by a feeding tube. ☐ **F501, Medical Director** – Determine whether the medical director helped the facility develop and implement policies addressing the assessment and management of individuals with impaired or at-risk nutrition and hydration status and recognizing, addressing, and preventing complications related to tube feedings. ☐ **F514, Clinical Records** – Determine whether the clinical record: ▪ Accurately, completely and, in accordance with the current clinical standards, documents: the resident's status (including changes in condition), care and services provided to the resident with a feeding tube, response to treatment and the resident's goals; and ▪ Provides the basis for determining the continued need for tube feeding and whether changes in treatment are necessary.	

End of Life Nutrition and Hydration

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Tube Feeding Status Critical Element Pathway

Concerns with Independent but Associated Structure, Process, and/or Outcome Requirements	
☐ **Quality Assessment and Assurance** – Determine whether there is a pattern of residents who have issues related to the indications, utilization, complications, process or performance issues with feeding tubes, determine whether the facility has incorporated into its quality assurance activities a review of appropriateness and management of tube feedings.	

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(Source: Reference 3)

End of Life Nutrition and Hydration

CMS RAI Manual MDS Section K

SECTION K: SWALLOWING/NUTRITIONAL STATUS

Intent: The items in this section are intended to assess the many conditions that could affect the resident's ability to maintain adequate nutrition and hydration. This section covers swallowing disorders, height and weight, weight loss, and nutritional approaches. The assessor should collaborate with the dietitian and dietary staff to ensure that items in this section have been assessed and calculated accurately.

K0100: Swallowing Disorder

K0100. Swallowing Disorder Signs and symptoms of possible swallowing disorder	
↓ Check all that apply	
☐	A. Loss of liquids/solids from mouth when eating or drinking
☐	B. Holding food in mouth/cheeks or residual food in mouth after meals
☐	C. Coughing or choking during meals or when swallowing medications
☐	D. Complaints of difficulty or pain with swallowing
☐	Z. None of the above

Item Rationale

Health-related Quality of Life

- The ability to swallow safely can be affected by many disease processes and functional decline.
- Alterations in the ability to swallow can result in choking and aspiration, which can increase the resident's risk for malnutrition, dehydration, and aspiration pneumonia.

Planning for Care

- Care planning should include provisions for monitoring the resident during mealtimes and during functions/activities that include the consumption of food and liquids.
- When necessary, the resident should be evaluated by the physician, speech language pathologist and/or occupational therapist to assess for any need for swallowing therapy and/or to provide recommendations regarding the consistency of food and liquids.
- Assess for signs and symptoms that suggest a swallowing disorder that has not been successfully treated or managed with diet modifications or other interventions (e.g., tube feeding, double swallow, turning head to swallow, etc.) and therefore represents a functional problem for the resident.
- Care plan should be developed to assist resident to maintain safe and effective swallow using compensatory techniques, alteration in diet consistency, and positioning during and following meals.

Steps for Assessment

1. Ask the resident if he or she has had any difficulty swallowing during the 7-day look-back period. Ask about each of the symptoms in K0100A through K0100D.

   Observe the resident during meals or at other times when he or she is eating, drinking, or swallowing to determine whether any of the listed symptoms of possible swallowing disorder are exhibited.
2. Interview staff members on all shifts who work with the resident and ask if any of the four listed symptoms were evident during the 7-day look-back period.

K0100: Swallowing/Nutritional Status (cont.)

3. Review the medical record, including nursing, physician, dietician, and speech language pathologist notes, and any available information on dental history or problems. Dental problems may include poor fitting dentures, dental caries, edentulous, mouth sores, tumors and/or pain with food consumption.

Coding Instructions

Check all that apply.

- **K0100A, loss of liquids/solids from mouth when eating or drinking.** When the resident has food or liquid in his or her mouth, the food or liquid dribbles down chin or falls out of the mouth.
- **K0100B, holding food in mouth/cheeks or residual food in mouth after meals.** Holding food in mouth or cheeks for prolonged periods of time (sometimes labeled pocketing) or food left in mouth because resident failed to empty mouth completely.
- **K0100C, coughing or choking during meals or when swallowing medications.** The resident may cough or gag, turn red, have more labored breathing, or have difficulty speaking when eating, drinking, or taking medications. The resident may frequently complain of food or medications "going down the wrong way."
- **K0100D, complaints of difficulty or pain with swallowing.** Resident may refuse food because it is painful or difficult to swallow.
- **K0100Z, none of the above:** if none of the K0100A through K0100D signs or symptoms were present during the look-back.

Coding Tips

- Do not code a swallowing problem when interventions have been successful in treating the problem and therefore the signs/symptoms of the problem (K0100A through K0100D) did not occur during the 7-day look-back period.
- Code even if the symptom occurred only once in the 7-day look-back period.

K0200: Height and Weight

K0200. Height and Weight - While measuring, if the number is X.1 - X.4 round down; X.5 or greater round up	
☐☐ inches	**A. Height** (in inches). Record most recent height measure since the most recent admission/entry or reentry
☐☐☐ pounds	**B. Weight** (in pounds). Base weight on most recent measure in last 30 days; measure weight consistently, according to standard facility practice (e.g., in a.m. after voiding, before meal, with shoes off, etc.)

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End of Life Nutrition and Hydration

K0200: Height and Weight (cont.)

Item Rationale

Health-related Quality of Life

- Diminished nutritional and hydration status can lead to debility that can adversely affect health and safety as well as quality of life.

Planning for Care

- Height and weight measurements assist staff with assessing the resident's nutrition and hydration status by providing a mechanism for monitoring stability of weight over a period of time. The measurement of weight is one guide for determining nutritional status.

Steps for Assessment for K0200A, Height

1. Base height on the most recent height since the most recent admission/entry or reentry. Measure and record height in inches.
2. Measure height consistently over time in accordance with the facility policy and procedure, which should reflect current standards of practice (shoes off, etc.).
3. For subsequent assessments, check the medical record. If the last height recorded was more than one year ago, measure and record the resident's height again.

Coding Instructions for K0200A, Height

- Record height to the nearest whole inch.
- Use mathematical rounding (i.e., if height measurement is X.5 inches or greater, round height upward to the nearest whole inch. If height measurement number is X.1 to X.4 inches, round down to the nearest whole inch). For example, a height of 62.5 inches would be rounded to 63 inches and a height of 62.4 inches would be rounded to 62 inches.

Steps for Assessment for K0200B, Weight

1. Base weight on the most recent measure in the last 30 days.
2. Measure weight consistently over time in accordance with facility policy and procedure, which should reflect current standards of practice (shoes off, etc.).
3. For subsequent assessments, check the medical record and enter the weight taken within 30 days of the ARD of this assessment.
4. If the last recorded weight was taken more than 30 days prior to the ARD of this assessment or previous weight is not available, weigh the resident again.
5. If the resident's weight was taken more than once during the preceding month, record the most recent weight.

Coding Instructions for K0200B, Weight

- Use mathematical rounding (i.e., If weight is X.5 pounds [lbs] or more, round weight upward to the nearest whole pound. If weight is X.1 to X.4 lbs, round down to the nearest whole pound). For example, a weight of 152.5 lbs would be rounded to 153 lbs and a weight of 152.4 lbs would be rounded to 152 lbs.

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End of Life Nutrition and Hydration

K0200: Height and Weight (cont.)

- If a resident cannot be weighed, for example because of extreme pain, immobility, or risk of pathological fractures, use the standard no-information code (-) and document rationale on the resident's medical record.

K0300: Weight Loss

K0300. Weight Loss	
Enter Code ☐	**Loss of 5% or more in the last month or loss of 10% or more in last 6 months** 0. **No** or unknown 1. **Yes, on** physician-prescribed weight-loss regimen 2. **Yes, not on** physician-prescribed weight-loss regimen

Item Rationale

Health-related Quality of Life

- Weight loss can result in debility and adversely affect health, safety, and quality of life.
- For persons with morbid obesity, controlled and careful weight loss can improve mobility and health status.
- For persons with a large volume (fluid) overload, controlled and careful diuresis can improve health status.

Planning for Care

- Weight loss may be an important indicator of a change in the resident's health status or environment.
- If significant weight loss is noted, the interdisciplinary team should review for possible causes of changed intake, changed caloric need, change in medication (e.g., diuretics), or changed fluid volume status.
- Weight loss should be monitored on a continuing basis; weight loss should be assessed and care planned at the time of detection and not delayed until the next MDS assessment.

DEFINITIONS

5% WEIGHT LOSS IN 30 DAYS
Start with the resident's weight closest to 30 days ago and multiply it by .95 (or 95%). The resulting figure represents a 5% loss from the weight 30 days ago. If the resident's current weight is equal to or less than the resulting figure, the resident has lost more than 5% body weight.

10% WEIGHT LOSS IN 180 DAYS
Start with the resident's weight closest to 180 days ago and multiply it by .90 (or 90%). The resulting figure represents a 10% loss from the weight 180 days ago. If the resident's current weight is equal to or less than the resulting figure, the resident has lost 10% or more body weight.

Steps for Assessment

This item compares the resident's weight in the current observation period with his or her weight at two snapshots in time:

- At a point closest to 30-days preceding the current weight.
- At a point closest to 180-days preceding the current weight.

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K0300: Weight Loss (cont.)

This item does not consider weight fluctuation outside of these two time points, although the resident's weight should be monitored on a continual basis and weight loss assessed and addressed on the care plan as necessary.

For a New Admission

1. Ask the resident, family, or significant other about weight loss over the past 30 and 180 days.
2. Consult the resident's physician, review transfer documentation, and compare with admission weight.
3. If the admission weight is less than the previous weight, calculate the percentage of weight loss.
4. Complete the same process to determine and calculate weight loss comparing the admission weight to the weight 30 and 180 days ago.

For Subsequent Assessments

1. From the medical record, compare the resident's weight in the current observation period to his or her weight in the observation period 30 days ago.
2. If the current weight is less than the weight in the observation period 30 days ago, calculate the percentage of weight loss.
3. From the medical record, compare the resident's weight in the current observation period to his or her weight in the observation period 180 days ago.
4. If the current weight is less than the weight in the observation period 180 days ago, calculate the percentage of weight loss.

DEFINITIONS

PHYSICIAN-PRESCRIBED WEIGHT-LOSS REGIMEN
A weight reduction plan ordered by the resident's physician with the care plan goal of weight reduction. May employ a calorie-restricted diet or other weight loss diets and exercise. Also includes planned diuresis. It is important that weight loss is intentional.

BODY MASS INDEX (BMI)
Number calculated from a person's weight and height. BMI is used as a screening tool to identify possible weight problems for adults. Visit http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html.

Coding Instructions

*Mathematically round weights as described in Section K0200B **before** completing the **weight** loss calculation.*

- **Code 0, no or unknown:** if the resident has not experienced weight loss of 5% or more in the past 30 days or 10% or more in the last 180 days or if information about prior weight is not available.
- **Code 1, yes on physician-prescribed weight-loss regimen:** if the resident has experienced a weight loss of 5% or more in the past 30 days or 10% or more in the last 180 days, and the weight loss was planned and pursuant to a physician's order. In cases where a resident has a weight loss of 5% or more in 30 days or 10% or more in 180 days as a result of any physician ordered diet plan or expected weight loss due to loss of fluid with physician orders for diuretics, K0300 can be coded as **1**.

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K0300: Weight Loss (cont.)

- **Code 2, yes, not on physician-prescribed weight-loss regimen:** if the resident has experienced a weight loss of 5% or more in the past 30 days or 10% or more in the last 180 days, and the weight loss was not planned and prescribed by a physician.

Coding Tips

- A resident may experience weight variances in between the snapshot time periods. Although these require follow up at the time, they are not captured on the MDS.
- If the resident is losing a significant amount of weight, the facility should not wait for the 30- or 180-day timeframe to address the problem. Weight changes of 5% in 1 month, 7.5% in 3 months, or 10% in 6 months should prompt a thorough assessment of the resident's nutritional status.
- To code K0300 as **1, yes**, the expressed goal of the weight loss diet or the expected weight loss of edema through the use of diuretics must be documented.
- On occasion, a resident with normal BMI or even low BMI is placed on a diabetic or otherwise calorie-restricted diet. In this instance, the intent of the diet is not to induce weight loss, and it would not be considered a physician-ordered weight-loss regimen.

Examples

1. Mrs. J has been on a physician ordered calorie-restricted diet for the past year. She and her physician agreed to a plan of weight reduction. Her current weight is 169 lbs. Her weight 30 days ago was 172 lbs. Her weight 180 days ago was 192 lbs.

   Coding: K0300 would be **coded 1, yes, on physician-prescribed weight-loss regimen**.

   Rationale:
   - 30-day calculation: 172 x 0.95 = 163.4. Since the resident's current weight of 169 lbs is more than 163.4 lbs, which is the 5% point, she **has not** lost 5% body weight in the last 30 days.
   - 180-day calculation: 192 x .90 = 172.8. Since the resident's current weight of 169 lbs **is** less than 172.8 lbs, which is the 10% point, she **has** lost 10% or more of body weight in the last 180 days.

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K0300: Weight Loss (cont.)

2. Mr. S has had increasing need for assistance with eating over the past 6 months. His current weight is 195 lbs. His weight 30 days ago was 197 lbs. His weight 180 days ago was 185 lbs.

   Coding: K0300 would be **coded 0, No.**

   Rationale:

   - 30-day calculation: 197 x 0.95 = 187.15. Because the resident's current weight of 195 lbs is more than 187.15 lbs, which is the 5% point, he **has not** lost 5% body weight in the last 30 days.
   - 180-day calculation: Mr. S's current weight of 195 lbs is greater than his weight 180 days ago, so there is no need to calculate his weight loss. He has gained weight over this time period.

3. Ms. K underwent a BKA (below the knee amputation). Her preoperative weight 30 days ago was 130 lbs. Her most recent postoperative weight is 102 lbs. The amputated leg weighed 8 lbs. Her weight 180 days ago was 125 lbs.

   Was the change in weight significant? Calculation of change in weight must take into account the weight of the amputated limb (which in this case is 6% of 130 lbs = 7.8 lbs).

   - 30-day calculation:
     Step 1: Add the weight of the amputated limb to the current weight to obtain the weight if no amputation occurred:
     102 lbs (current weight) + 8 lbs (weight of leg) = 110 lbs (current body weight taking the amputated leg into account)
     Step 2: Calculate the difference between the most recent weight (including weight of the limb) and the previous weight (at 30 days)
     130 lbs (preoperative weight) - 110 lbs (present weight if had two legs) = 20 lbs (weight lost)
     Step 3: Calculate the percent weight change relative to the initial weight:
     20 lbs (weight change) /130 lbs (preoperative weight) = 15% weight loss
     Step 4: The percent weight change is significant if >5% at 30 days
     Therefore, the most recent postoperative weight of 102 lbs (110 lbs, taking the amputated limb into account) is >5% weight loss (significant at 30 days).
   - 180-day calculation:
     Step 1: Add the weight of the amputated limb to the current weight to obtain the weight if no amputation occurred:
     102 lbs (current weight) + 8 lbs (weight of leg) = 110 lbs (current body weight taking the amputated leg into account)
     Step 2: Calculate the difference between the most recent weight (including weight of the limb) and the previous weight (at 180 days):
     125 lbs (preoperative weight 180 days ago) - 110 lbs (present weight if had two legs) = 15 lbs (weight lost)
     Step 3: Calculate the percent weight change relative to the initial weight:
     15 lbs (weight change) / 130 lbs (preoperative weight) = 12% weight loss
     Step 4: The percent weight change is significant if >10% at 180 days

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K0300: Weight Loss (cont.)

The most recent postoperative weight of 110 lbs (110 lbs, taking the amputated limb into account) is >10% weight loss (significant at 180 days).

Present weight of 110 lbs >10% weight loss (significant at 180 days).

Coding: K0300 would be **coded 2, yes, weight change is significant; not on physician-prescribed weight-loss regimen.**

Rationale: The resident had a significant weight loss of >5% in 30 days and did have a weight loss of >10% in 180 days, the item would be coded as 2, yes weight change is significant; not on physician-prescribed weight–loss regime, with one of the items being triggered. This item is coded for either a 5% 30-day weight loss or a 10% 180-day weight loss. In this example both items, the criteria are met but the coding does not change as long as one of them are met.

K0310: Weight Gain

K0310. Weight Gain	
Enter Code ☐	**Gain of 5% or more in the last month or gain of 10% or more in last 6 months** 0. **No** or unknown 1. **Yes, on** physician-prescribed weight-gain regimen 2. **Yes, not on** physician-prescribed weight-gain regimen

Item Rationale

Health-related Quality of Life

- Weight gain can result in debility and adversely affect health, safety, and quality of life.

Planning for Care

- Weight gain may be an important indicator of a change in the resident's health status or environment.
- If significant weight gain is noted, the interdisciplinary team should review for possible causes of changed intake, changed caloric need, change in medication (e.g., steroidals), or changed fluid volume status.
- Weight gain should be monitored on a continuing basis; weight gain should be assessed and care planned at the time of detection and not delayed until the next MDS assessment.

Steps for Assessment

This item compares the resident's weight in the current observation period with his or her weight at two snapshots in time:

- At a point closest to 30-days preceding the current weight.
- At a point closest to 180-days preceding the current weight.

DEFINITIONS

5% WEIGHT GAIN IN 30 DAYS

Start with the resident's weight closest to 30 days ago and multiply it by 1.05 (or 105%). The resulting figure represents a 5% gain from the weight 30 days ago. If the resident's current weight is equal to or more than the resulting figure, the resident has gained more than 5% body weight.

10% WEIGHT GAIN IN 180 DAYS

Start with the resident's weight closest to 180 days ago and multiply it by 1.10 (or 110%). The resulting figure represents a 10% gain from the weight 180 days ago. If the resident's current weight is equal to or more than the resulting figure, the resident has gained more than 10% body weight.

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K0310: Weight Gain (cont.)

This item does not consider weight fluctuation outside of these two time points, although the resident's weight should be monitored on a continual basis and weight gain assessed and addressed on the care plan as necessary.

For a New Admission

1. Ask the resident, family, or significant other about weight gain over the past 30 and 180 days.
2. Consult the resident's physician, review transfer documentation, and compare with admission weight.
3. If the admission weight is more than the previous weight, calculate the percentage of weight gain.
4. Complete the same process to determine and calculate weight gain comparing the admission weight to the weight 30 and 180 days ago.

For Subsequent Assessments

1. From the medical record, compare the resident's weight in the current observation period to his or her weight in the observation period 30 days ago.
2. If the current weight is more than the weight in the observation period 30 days ago, calculate the percentage of weight gain.
3. From the medical record, compare the resident's weight in the current observation period to his or her weight in the observation period 180 days ago.
4. If the current weight is more than the weight in the observation period 180 days ago, calculate the percentage of weight gain.

Coding Instructions

*Mathematically round weights as described in **Section** K0200B **before** completing the weight gain calculation.*

- **Code 0, no or unknown:** if the resident has not experienced weight gain of 5% or more in the past 30 days or 10% or more in the last 180 days or if information about prior weight is not available.
- **Code 1, yes on physician-prescribed weight-gain regimen:** if the resident has experienced a weight gain of 5% or more in the past 30 days or 10% or more in the last 180 days, and the weight gain was planned and pursuant to a physician's order. In cases where a resident has a weight gain of 5% or more in 30 days or 10% or more in 180 days as a result of any physician ordered diet plan, K0310 can be coded as **1**.
- **Code 2, yes, not on physician-prescribed weight-gain regimen:** if the resident has experienced a weight gain of 5% or more in the past 30 days or 10% or more in the last 180 days, and the weight gain was not planned and prescribed by a physician.

Coding Tips

- A resident may experience weight variances in between the snapshot time periods. Although these require follow up at the time, they are not captured on the MDS.

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K0310: Weight Gain (cont.)

- If the resident is gaining a significant amount of weight, the facility should not wait for the 30- or 180-day timeframe to address the problem. Weight changes of 5% in 1 month, 7.5% in 3 months, or 10% in 6 months should prompt a thorough assessment of the resident's nutritional status.
- To code K0310 as **1, yes**, the expressed goal of the weight gain diet must be documented.

K0510: Nutritional Approaches

K0510. Nutritional Approaches Check all of the following nutritional approaches that were performed during the last **7 days** **1. While NOT a Resident** Performed ***while NOT a resident*** of this facility and within the ***last 7 days***. Only check column 1 if resident entered (admission or reentry) IN THE LAST 7 DAYS. If resident last entered 7 or more days ago, leave column 1 blank **2. While a Resident** Performed ***while a resident*** of this facility and within the ***last 7 days***	**1. While NOT a Resident**	**2. While a Resident**
	↓ Check all that apply ↓	
A. Parenteral/IV feeding	☐	☐
B. Feeding tube - nasogastric or abdominal (PEG)	☐	☐
C. Mechanically altered diet - require change in texture of food or liquids (e.g., pureed food, thickened liquids)	☐	☐
D. Therapeutic diet (e.g., low salt, diabetic, low cholesterol)	☐	☐
Z. None of the above	☐	☐

Item Rationale

Health-related Quality of Life

- Nutritional approaches that vary from the normal (e.g., mechanically altered food) or that rely on alternative methods (e.g., parenteral/IV or feeding tubes) can diminish an individual's sense of dignity and self-worth as well as diminish pleasure from eating.
- The resident's clinical condition may potentially benefit from the various nutritional approaches included here. It is important to work with the resident and family members to establish nutritional support goals that balance the resident's preferences and overall clinical goals.

Planning for Care

- Alternative nutritional approaches should be monitored to validate effectiveness.
- Care planning should include periodic reevaluation of the appropriateness of the approach.

DEFINITIONS

PARENTERAL/IV FEEDING
Introduction of a nutritive substance into the body by means other than the intestinal tract (e.g., subcutaneous, intravenous).

FEEDING TUBE
Presence of any type of tube that can deliver food/ nutritional substances/ fluids/ medications directly into the gastrointestinal system. Examples include, but are not limited to, nasogastric tubes, gastrostomy tubes, jejunostomy tubes, percutaneous endoscopic gastrostomy (PEG) tubes.

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K0510: Nutritional Approaches (cont.)

Steps for Assessment

- Review the medical record to determine if any of the listed nutritional approaches were performed during the 7-day look-back period.

Coding Instructions for Column 1

Check all nutritional approaches performed **prior** to admission/entry or reentry to the facility and within the 7-day look-back period. Leave Column 1 blank if the resident was admitted/entered or reentered the facility more than 7 days ago.

Coding Instructions for Column 2

Check all nutritional approaches performed **after** admission/entry or reentry to the facility and within the 7-day look-back period.

Check all that apply. If none apply, check K0510Z, None of the above

- **K0510A,** parenteral/IV feeding
- **K0510B,** feeding tube – nasogastric or abdominal (PEG)
- **K0510C,** mechanically altered diet – require change in texture of food or liquids (e.g., pureed food, thickened liquids)
- **K0510D,** therapeutic diet (e.g., low salt, diabetic, low cholesterol)
- **K0510Z,** none of the above

DEFINITIONS

MECHANICALLY ALTERED DIET
A diet specifically prepared to alter the texture or consistency of food to facilitate oral intake. Examples include soft solids, puréed foods, ground meat, and thickened liquids. A mechanically altered diet should not automatically be considered a therapeutic diet.

THERAPEUTIC DIET
A therapeutic diet is a diet intervention ordered by a health care practitioner as part of the treatment for a disease or clinical condition manifesting an altered nutritional status, to eliminate, decrease, or increase certain substances in the diet (e.g. sodium, potassium) (ADA, 2011).

Coding Tips for K0510A

K0510A includes any and all nutrition and hydration received by the nursing home resident in the last 7 days either at the nursing home, at the hospital as an outpatient or an inpatient, provided they were administered for nutrition or hydration.

- Parenteral/IV feeding—The following fluids may be included **when there is supporting documentation that reflects the need for additional fluid intake specifically addressing a nutrition or hydration need. This supporting documentation should be noted in the resident's medical record according to State and/or internal facility policy:**
  - — IV fluids or hyperalimentation, including total parenteral nutrition (TPN), administered continuously or intermittently
  - — IV fluids running at KVO (Keep Vein Open)
  - — IV fluids contained in IV Piggybacks
  - — Hypodermoclysis and subcutaneous ports in hydration therapy

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End of Life Nutrition and Hydration

K0510: Nutritional Approaches (cont.)

- — IV fluids can be coded in K0510A if needed to prevent dehydration if the additional fluid intake is specifically needed for nutrition and hydration. Prevention of dehydration should be clinically indicated and supporting documentation should be provided in the medical record.

- **The following items are NOT to be coded in K0510A:**
  - — IV Medications—**Code these when appropriate in O0100H, IV Medications.**
  - — IV fluids used to reconstitute and/or dilute medications for IV administration.
  - — IV fluids administered as a routine part of an operative or diagnostic procedure or recovery room stay.
  - — IV fluids administered solely as flushes.
  - — Parenteral/IV fluids administered in conjunction with chemotherapy or dialysis.
- Enteral feeding formulas:
  - — Should not be coded as a mechanically altered diet.
  - — Should only be coded as **K0510D, Therapeutic Diet** when the enteral formula is altered to manage problematic health conditions, e.g. enteral formulas specific to diabetics.

Coding Tips for K0510D

- Therapeutic diets are not defined by the content of what is provided or when it is served, but ***why*** the diet is required. Therapeutic diets provide the corresponding treatment that addresses a particular disease or clinical condition which is manifesting an altered nutritional status by providing the specific nutritional requirements to remedy the alteration.
- A nutritional supplement (house supplement or packaged) given as part of the treatment for a disease or clinical condition manifesting an altered nutrition status, does not constitute a therapeutic diet, but may be ***part*** of a therapeutic diet. Therefore, supplements (whether given with, in-between, or instead of meals) are only coded in K0510D, Therapeutic Diet when they are being administered as part of a therapeutic diet to manage problematic health conditions (e.g. supplement for protein-calorie malnutrition).
- Food elimination diets related to food allergies (e.g. peanut allergy) can be coded as a therapeutic diet.

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End of Life Nutrition and Hydration

K0510: Nutritional Approaches (cont.)

Examples

1. Mrs. H is receiving an antibiotic in 100 cc of normal saline via IV. She has a urinary tract infection (UTI), fever, abnormal lab results (e.g., new pyuria, microscopic hematuria, urine culture with growth >100,000 colony forming units of a urinary pathogen), and documented inadequate fluid intake (i.e., output of fluids far exceeds fluid intake) with signs and symptoms of dehydration. She is placed on the nursing home's hydration plan to ensure adequate hydration. Documentation shows IV fluids are being administered as part of the already identified need for additional hydration.

   Coding: K0510A would **be checked.** The IV medication would be coded at **IV Medications** item (O0100H).

   Rationale: The resident received 100 cc of IV fluid **and** there is supporting documentation that reflected an identified need for additional fluid intake for hydration.

2. Mr. J is receiving an antibiotic in 100 cc of normal saline via IV. He has a UTI, no fever, and documented adequate fluid intake. He is placed on the nursing home's hydration plan to ensure adequate hydration.

   Coding: K0510A would **NOT be checked.** The IV medication would be coded at **IV Medications** item (O0100H).

   Rationale: Although the resident received the additional fluid, there is no documentation to support a need for additional fluid intake.

K0710: Percent Intake by Artificial Route

Complete K0710 only if Column 1 and/or Column 2 are checked for K0510A and/or K0510B.

K0710. Percent Intake by Artificial Route - Complete K0710 only if Column 1 and/or Column 2 are checked for K0510A and/or K0510B			
1. **While NOT a Resident** Performed ***while NOT a resident*** of this facility and within the ***last 7 days***. Only enter a code in column 1 if resident entered (admission or reentry) IN THE LAST 7 DAYS. If resident last entered 7 or more days ago, leave column 1 blank 2. **While a Resident** Performed ***while a resident*** of this facility and within the ***last 7 days*** 3. **During Entire 7 Days** Performed during the entire ***last 7 days***	1. While NOT a Resident	2. While a Resident	3. During Entire 7 Days
	↓	Enter Codes	↓
A. **Proportion of total calories the resident received through parenteral or tube feeding** 1. 25% or less 2. 26-50% 3. 51% or more	☐	☐	☐
B. **Average fluid intake per day by IV or tube feeding** 1. 500 cc/day or less 2. 501 cc/day or more	☐	☐	☐

Item Rationale

Health-related Quality of Life

- Nutritional approaches that vary from the normal, such as parenteral/IV or feeding tubes, can diminish an individual's sense of dignity and self-worth as well as diminish pleasure from eating.

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K0710: Percent Intake by Artificial Route (cont.)

Planning for Care

- The proportion of calories received through artificial routes should be monitored with periodic reassessment to ensure adequate nutrition and hydration.
- Periodic reassessment is necessary to facilitate transition to increased oral intake as indicated by the resident's condition.

K0710A, Proportion of Total Calories the Resident Received through Parental or Tube Feeding

Steps for Assessment

1. Review intake records to determine actual intake through parenteral or tube feeding routes.
2. Calculate proportion of total calories received through these routes.
   - If the resident took no food or fluids by mouth or took just sips of fluid, stop here and **code 3, 51% or more.**
   - If the resident had more substantial oral intake than this, consult with the dietician.

Coding Instructions

- Select the best response:
  1. 25% or less
  2. 26% to 50%
  3. 51% or more

Example

1. **Calculation for Proportion of Total Calories from IV or Tube Feeding**

   Mr. H has had a feeding tube since his surgery two weeks ago. He is currently more alert and feeling much better. He is very motivated to have the tube removed. He has been taking soft solids by mouth, but only in small to medium amounts. For the past 7 days, he has been receiving tube feedings for nutritional supplementation. The dietitian has totaled his calories per day as follows:

Oral and Tube Feeding Intake		
	Oral	**Tube**
Sun.	500	2,000
Mon.	250	2,250
Tues.	250	2,250
Wed.	350	2,250
Thurs.	500	2,000
Fri.	250	2,250
Sat.	350	2,000
Total	2,450	15,000

Draft

K0710: Percent Intake by Artificial Route (cont.)

Coding: K0710A columns 2 and 3 would be coded **3, 51% or more.**

Rationale: Total Oral intake is 2,450 calories
Total Tube intake is 15,000 calories
Total calories is 2,450 + 15,000 = 17,450
Calculation of the percentage of total calories by tube feeding:
15,000/17,450 = .859 X 100 = 85.9%
Mr. H received 85.9% of his calories by tube feeding, therefore K0710A **code 3, 51% or more** is correct.

K0710B, Average Fluid Intake per Day by IV or Tube Feeding

Steps for Assessment

1. Review intake records from the last 7 days.
2. Add up the total amount of fluid received each day by IV and/or tube feedings only.
3. Divide the week's total fluid intake by 7 to calculate the average of fluid intake per day.
4. Divide by 7 even if the resident did not receive IV fluids and/or tube feeding on each of the 7 days.

Coding Instructions

*Code for the average number of cc **per day of fluid the resident r**eceived via IV or tube feeding. Record what was actually received **by the resident**, not w**hat was or**dered.*

- **Code 1:** 500 cc/day or less
- **Code 2:** 501 cc/day or more

Examples

1. **Calculation for Average Daily Fluid Intake**

   Ms. A, a long term care resident, has swallowing difficulties secondary to Huntington's disease. She is able to take oral fluids by mouth with supervision, but not enough to maintain hydration. She received the following daily fluid totals by supplemental tube feedings (including water, prepared nutritional supplements, juices) during the last 7 days.

IV Fluid Intake	
Sun.	1250 cc
Mon.	775 cc
Tues.	925 cc
Wed.	1200 cc
Thurs.	1200 cc
Fri.	500 cc
Sat.	450 cc
Total	6,300 cc

Draft

K0710: Percent Intake by Artificial Route (cont.)

Coding: K0710B columns 2 and 3 would be coded **2, 501cc/day or more**.

Rationale: The total fluid intake by supplemental tube feedings = 6,300 cc
6,300 cc divided by 7 days = 900 cc/day
900 cc is greater than 500 cc, therefore **code 2, 501 cc/day or more** is correct.

2. **Calculation for Average Daily Fluid Intake**

Mrs. G. received 1 liter of IV fluids in the hospital on the Tuesday prior to her admission to the nursing home on Saturday afternoon. She received no other intake via IV or tube feeding during the last 7 days.

IV Fluid Intake	
Sun.	0 cc
Mon.	0 cc
Tues.	1,000 cc
Wed.	0 cc
Thurs.	0 cc
Fri.	0 cc
Sat.	0 cc
Total	1,000 cc

Coding: K0710B column 1 would be coded **1, 500 cc/day or less**.

Rationale: The total fluid intake by supplemental tube feedings = 1000 cc
1000 cc divided by 7 days = 142.9 cc/day
142.9 cc is less than 500 cc, therefore **code 1, 500 cc/day or less** is correct.

3. Mr. K. has been able to take some fluids orally; however, due to his progressing multiple sclerosis, his dysphagia is not allowing him to remain hydrated enough. Therefore, he received the following fluid amounts over the last 7 days via supplemental tube feedings while in the hospital and after he was admitted to the nursing home.

While in the Hospital		While in the Nursing Home	
Mon.	400 cc	Fri.	510 cc
Tues.	520 cc	Sat.	520 cc
Wed.	500 cc	Sun.	490 cc
Thurs.	480 cc		
Total	1,900 cc	Total	1,520 cc

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K0710: Percent Intake by Artificial Route (cont.)

Coding: K0710B1 would be coded 1, 500 cc/day or less. K0710B2 would be coded 2, 501 cc/day or more, and K0710B3 would be coded 1, 500 cc/day or less.

Rationale: The total fluid intake within the last 7 days while Mr. K. was not a resident was 1,900 cc (400 cc + 520 cc + 500 cc + 480 cc = 1,900 cc). Average fluid intake while not a resident totaled 475 cc (1,900 cc divided by 4 days). 475 cc is less than 500 cc, therefore **code 1, 500 cc/day or less is correct for K0710B1, While NOT a Resident**.

The total fluid intake within the last 7 days while Mr. K. was a resident of the nursing home was 1,520 cc (510 cc + 520 cc + 490 cc = 1,520 cc). Average fluid intake while a resident totaled 507 cc (1,520 cc divided by 3 days). 507 cc is greater than 500 cc, therefore **code 2, 501 cc/day or more is correct for K0710B2, While a Resident**.

The total fluid intake during the entire 7 days (includes fluid intake while Mr. K. was in the hospital AND while Mr. K. was a resident of the nursing home) was 3,420 cc (1,900 cc + 1,520 cc). Average fluid intake during the entire 7 days was 489 cc (3,420 cc divided by 7 days). 489 cc is less than 500 cc, therefore **code 1, 500 cc/day or less is correct for K0710B3, During Entire 7 Days**.

Draft

(Source: Reference 4)

CMS RAI Manual, Ch 4: CAA Process and Care Planning: Nutritional Status, Feeding Tubes and Dehydration/Fluid Maintenance

12. Nutritional Status

Undernutrition is not a response to normal aging, but it can arise from many diverse causes, often acting together. It may cause or reflect acute or chronic illness, and it represents a risk factor for subsequent decline.

The Nutritional Status CAA process reflects the need for an in-depth analysis of residents with impaired nutrition and those who are at nutritional risk. This CAA triggers when a resident has or is at risk for a nutrition issue/condition. Some residents who are triggered for follow-up will already be significantly underweight and thus undernourished, while other residents will be at risk of undernutrition. This CAA may also trigger based on loss of appetite with little or no accompanying weight loss and despite the absence of obvious, outward signs of impaired nutrition.

Nutritional Status CAT Logic Table

Triggering Conditions (any of the following):

1. Dehydration is selected as a problem health condition as indicated by:

   J1550C = 1

2. Body mass index (BMI) is too low or too high as indicated by:

   BMI < 18.5000 OR BMI > 24.9000

3. Any weight loss as indicated by a value of 1 or 2 as follows:

   K0300 = 1 OR K0300 = 2

4. Any planned or unplanned weight gain as indicated by a value of 1 or 2 as follows:

   K0310 = 1 OR K0310 = 2

5. Parenteral/IV feeding while NOT a resident or while a resident is used as nutritional approach as indicated by:

   K0510A1 = 1 OR K0510A2 = 1

6. Mechanically altered diet while NOT a resident or while a resident is used as nutritional approach as indicated by:

   K0510C1 = 1 OR K0510C2 = 1

7. Therapeutic diet while NOT a resident or while a resident is used as nutritional approach as indicated by:

K0510D1 = 1 OR K0510D2 = 1

8. Resident has one or more unhealed pressure ulcer(s) at Stage 2 or higher, or one or more likely pressure ulcers that are unstageable at this time as indicated by:

((M0300B1 > 0 AND M0300B1 <= 9) OR
(M0300C1 > 0 AND M0300C1 <= 9) OR
(M0300D1 > 0 AND M0300D1 <= 9) OR
(M0300E1 > 0 AND M0300E1 <= 9) OR
(M0300F1 > 0 AND M0300F1 <= 9) OR
(M0300G1 > 0 AND M0300G1 <= 9))

13. Feeding Tubes

This CAA focuses on the long-term (greater than 1 month) use of feeding tubes. It is important to balance the benefits and risks of feeding tubes in individual residents in deciding whether to make such an intervention a part of the plan of care. In some acute and longer term situations, feeding tubes may provide adequate nutrition that cannot be obtained by other means. In other circumstances, feeding tubes may not enhance survival or improve quality of life, e.g., in individuals with advanced dementia. Also, feeding tubes can be associated with diverse complications that may further impair quality of life or adversely impact survival. For example, tube feedings will not prevent aspiration of gastric contents or oral secretions and feeding tubes may irritate or perforate the stomach or intestines.

When this CAA is triggered, nursing home staff should follow their facility's chosen protocol or policy for performing the CAA. This CAA is triggered when the resident has a need for a feeding tube for nutrition.

Feeding Tubes CAT Logic Table

Triggering Conditions (any of the following):

1. Feeding tube while NOT a resident or while a resident is used as nutritional approach as indicated by:

K0510B1 = 1 OR K0510B2 = 1

The information gleaned from the assessment should be used to identify and address the resident's status and underlying issues/conditions that necessitated the use of a feeding tube. In addition, the CAA information should be used to identify any related risk factors. The next step is to develop an individualized care plan based directly on these conclusions. The focus of the care plan should be to address the underlying cause(s), including any reversible issues and conditions that led to using a feeding tube.

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14. Dehydration/Fluid Maintenance

Dehydration is a condition in which there is an imbalance of water and related electrolytes in the body. As a result, the body may become less able to maintain adequate blood pressure and electrolyte balance, deliver sufficient oxygen and nutrients to the cells, and rid itself of wastes. In older persons, diagnosing dehydration is accomplished primarily by a detailed history, laboratory testing (e.g., electrolytes, BUN, creatinine, serum osmolality, urinary sodium), and to a lesser degree by a physical examination. Abnormal vital signs, such as falling blood pressure and an increase in the pulse rate, may sometimes be meaningful symptoms of dehydration in the elderly.

When this CAA is triggered, nursing home staff should follow their facility's chosen protocol or policy for performing the CAA.

Dehydration/Fluid Maintenance CAT Logic Table

Triggering Conditions (any of the following):

1. Fever is selected as a problem health condition as indicated by:

   J1550A = 1

2. Vomiting is selected as a problem health condition as indicated by:

   J1550B = 1

3. Dehydration is selected as a problem health condition as indicated by:

   J1550C = 1

4. Internal bleeding is selected as a problem health condition as indicated by:

   J1550D = 1

5. Infection present as indicated by:

   (I1700 = 1) OR
   (I2000 = 1) OR
   (I2100 = 1) OR
   (I2200 = 1) OR
   (I2300 = 1) OR
   (I2400 = 1) OR
   (I2500 = 1) OR
   ((M1040A = 1))

6. Constipation present as indicated by:

   H0600 = 1

7. Parenteral/IV feeding while NOT a resident or while a resident is used as nutritional approach as indicated by:

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K0510A1 = 1 OR K0510A2 = 1

8. Feeding tube while NOT a resident or while a resident is used as nutritional approach as indicated by:

K0510B1 = 1 OR K0510B2 = 1

The information gleaned from the assessment should be used to identify whether the resident is dehydrated or at risk for dehydration, as well as to identify any related possible causes and contributing and/or risk factors. The next step is to develop an individualized care plan based directly on these conclusions. The focus of the care plan should be to prevent dehydration by addressing risk factors, to maintain or restore fluid and electrolyte balance, and to address the underlying cause or causes of any current dehydration.

(Source: Reference 4)

End of Life Nutrition and Hydration

CMS State Operations Manual Appendix PP – Guidance to Surveyors for Long Term Care (Revision 157, 6-10-16): 483.10 Right to refuse treatment

Note: At the time of this publication, Appendix PP was being revised by CMS. Access the most current information at https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-17-07.pdf and click on Appendix PP.

F153

§483.10(b)(2) -- The resident or his or her legal representative has the right--

(i) Upon an oral or written request, to access all records pertaining to himself or herself including current clinical records within 24 hours (excluding weekends and holidays); and

(ii) After receipt of his or her records for inspection, to purchase at a cost not to exceed the community standard photocopies of the records or any portions of them upon request and 2 working days advance notice to the facility.

Interpretive Guidelines §483.10(b)(2)

An oral request is sufficient to produce the current record for review.

In addition to clinical records, the term "records" includes all records pertaining to the resident, such as trust fund ledgers pertinent to the resident and contracts between the resident and the facility.

"Purchase" is defined as a charge to the resident for photocopying. If State statute has defined the "community standard" rate, facilities should follow that rate. In the absence of State statute, the "cost not to exceed the community standard" is that rate charged per copy by organizations such as the public library, the Post Office or a commercial copy center, which would be selected by a prudent buyer in addition to the cost of the clerical time needed to photocopy the records. Additional fees for locating the records or typing forms/envelopes may not be assessed.

F154

§483.10(b)(3) -- The resident has the right to be fully informed in language that he or she can understand of his or her total health status, including but not limited to, his or her medical condition;

Interpretive Guidelines §483.10(b)(3)

"Total health status" includes functional status, medical care, nursing care, nutritional status, rehabilitation and restorative potential, activities potential, cognitive status, oral health status, psychosocial status, and sensory and physical impairments. Information on health status must be presented in language that the resident can understand. This includes minimizing use of technical jargon in communicating with the resident, having the ability to communicate in a foreign language and the use of sign language or other aids, as necessary. (See §483.10(d)(3), F175, for the right of the resident to plan care and treatment.)

Procedures §483.10(b)(3)

Look, particularly during observations and record reviews, for on-going efforts on the part of facility staff to keep residents informed. Look for evidence that information is communicated in a manner that is understandable to residents and communicated at times it could be most useful to residents, such as when they are expressing concerns, or raising questions, as well as on an on-going basis.

§483.10(d)(2) – The resident has the right to be fully informed in advance about care and treatment and of any changes in that care or treatment that may affect the resident's well-being;

Interpretive Guidelines §483.10(d)(2)

"Informed in advance" means that the resident receives information necessary to make a health care decision, including information about his/her medical condition and changes in medical condition, about the benefits and reasonable risks of the treatment, and about reasonable available alternatives.

F155

(Rev. 133, Issued: 02-06-15, Effective: 02-06-15, Implementation: 02-06-15)

§483.10(b)(4) and (8)

§ 483.10(b)(4) – The resident has the right to refuse treatment, to refuse to participate in experimental research, and to formulate an advance directive as specified in paragraph (8) of this section; and

§483.10(b)(8) – The facility must comply with the requirements specified in subpart I of part 489 of this chapter relating to maintaining written policies and procedures regarding advance directives. These requirements include provisions to inform and provide written information to all adult residents concerning the right to accept or refuse medical or surgical treatment and, at the individual's option, formulate an advance directive. This includes a written description of the facility's policies to implement advance directives and applicable State law.

INTENT: (F155) §483.10(b)(4) and (8) Rights Regarding Refusal of Treatment and Participation in Experimental Research and Advance Directives

The intent of this requirement is that the facility promotes these rights by:

- Establishing and maintaining policies and procedures regarding these rights;
- Informing and educating the resident about these rights and the facility's policies regarding exercising these rights;

- Helping the resident to exercise these rights; and
- Incorporating the resident's choices regarding these rights into treatment, care and services.

NOTE: While the language of 42 C.F.R **§483.10(b)(8)** applies only to adults, states may have laws that govern the rights of parents or legal guardians of children to formulate an advance directive. The CMS believes that this is an important issue for the parents/guardians of terminally ill or severely disabled children. Therefore surveyors are encouraged to refer to state law in cases where concerns arise regarding advance directives in non-adult populations. The regulatory language found under 42 C.F.R. **§483.10(b)(4)** applies to all residents, regardless of age.

DEFINITIONS

"Advance care planning" is a process used to identify and update the resident's preferences regarding care and treatment at a future time including a situation in which the resident subsequently lacks capacity to do so. For example, when life-sustaining treatments are a potential option for care and the resident is unable to make his or her choices known.[1]

[1] Adapted from: Emanuel, L.L., Danis, M., Pearlman, R.A., Singer, P.A. (1995). Advance care planning as a process: structuring the discussions in practice. Journal of the American Geriatric Society, 43, 440-6.

"Advance directive" means, according to 42 C.F.R. §489.100, a written instruction, such as a living will or durable power of attorney for health care, recognized under State law (whether statutory or as recognized by the courts of the State), relating to the provision of health care when the individual is incapacitated. Some States also recognize a documented oral instruction.

"Cardiopulmonary resuscitation (CPR)" refers to any medical intervention used to restore circulatory and/or respiratory function that has ceased.

"Durable Power of Attorney for Health Care" (a.k.a. "Medical Power of Attorney") is a document delegating authority to an agent to make health care decisions in case the individual delegating that authority subsequently becomes incapacitated.

"Experimental research" refers to the development, testing and use of a clinical treatment, such as an investigational drug or therapy that has not yet been approved by the FDA or medical community as effective and conforming to accepted medical practice.

"Health care decision-making" refers to consent, refusal to consent, or withdrawal of consent to health care, treatment, service, or a procedure to maintain, diagnose, or treat an individual's physical or mental condition.

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"Health care decision-making capacity" refers to possessing the ability (as defined by State law) to make decisions regarding health care and related treatment choices.

"Investigational or experimental drugs" refer to new drugs that have not yet been approved by the FDA or approved drugs that have not yet been approved for a new use, and are in the process of being tested for safety and effectiveness.

"Life-sustaining treatment" is treatment that, based on reasonable medical judgment, sustains an individual's life and without it the individual will die. The term includes both life-sustaining medications and interventions (e.g., mechanical ventilation, kidney dialysis, and artificial hydration and nutrition). The term does not include the administration of pain medication or other pain management interventions, the performance of a medical procedure related to enhancing comfort, or any other medical care provided to alleviate a resident's pain.

2

"Legal representative" (e.g., "Agent," "Attorney in fact," "Proxy," "Substitute decision-maker," "Surrogate decision-maker") is a person designated and authorized by an advance directive or State law to make a treatment decision for another person in the event the other person becomes unable to make necessary health care decisions.

"Treatment" refers to interventions provided to maintain or restore health and well-being, improve functional level, or relieve symptoms.

OVERVIEW

Traditionally, questions of care were resolved at the bedside through decision-making by an individual, his or her family and health care practitioner. As technological advances have increased the ability of medicine to prolong life, questions have arisen concerning the use, withholding, or withdrawing of increasingly sophisticated medical interventions.

The Federal Patient Self - Determination Act contained in Public Law 101-508 is the authority on an individual's rights and facility responsibilities related to Advance Directives. The right of an individual to direct his or her own medical treatment, including withholding or withdrawing life-sustaining treatment, is grounded in common law (judge-made law), constitutional law, statutory law (law made by legislatures) and regulatory mandates governing care provided by facilities. Several landmark legal decisions have established an enduring judicial precedence for the legal principles of advance directives and the right to refuse or withhold treatment[3456].

These legal developments have influenced standards of professional practice in the care and treatment of individuals in health care facilities. Several decades of professional debate and discussion have simultaneously advanced the thinking on these matters and promoted implementation of pertinent approaches to obtaining and acting on patient/resident wishes.[78]

ESTABLISHING AND MAINTAINING POLICIES AND PROCEDURES REGARDING THESE RIGHTS

The facility is required to establish, maintain, and implement written policies and procedures regarding the residents' right to formulate an advance directive, refuse medical or surgical treatment and right to refuse to participate in experimental research. In addition, the facility is responsible for ensuring that staff follow policies and procedures.

The facility's policies and procedures delineate the various steps necessary to promote and implement these rights, including, for example:

- Determining on admission whether the resident has an advance directive and, if not, determining whether the resident wishes to formulate an advance directive;

- Determining if the facility periodically assesses the resident for decision-making capacity and invokes the health care agent or legal representative if the resident is determined not to have decision-making capacity;

- Identifying the primary decision-maker (e.g., assessing the resident's decision-making capacity and identifying or arranging for an appropriate legal representative for the resident assessed as unable to make relevant health care decisions);

- Defining and clarifying medical issues and presenting the information regarding relevant health care issues to the resident or his/her legal representative, as appropriate;

- Identifying, clarifying, and periodically reviewing, as part of the comprehensive care planning process, the existing care instructions and whether the resident wishes to change or continue these instructions;

- Identifying situations where health care decision-making is needed, such as a significant decline or improvement in the resident's condition;

- Reviewing the resident's condition and existing choices and continuing or modifying approaches, as appropriate;

- Establishing mechanisms for documenting and communicating the resident's choices to the interdisciplinary team; and

- Identifying the process (as provided by State law) for handling situations in which the facility and/or physician do not believe that they can provide care in accordance with the resident's advance directives or other wishes on the basis of conscience.

INFORMING AND EDUCATING THE RESIDENT ABOUT THESE RIGHTS

The facility is required (by 42 C.F.R. §489.102 Requirements for Providers) to provide, at the time of a resident's admission, written information concerning the resident's rights to make decisions concerning medical care, including the right to refuse medical or surgical treatment, decline to participate in experimental research and the right to formulate advance directives. The resident must also receive a written description of the facility's policies that govern the exercise of these rights.

ESTABLISHING ADVANCE DIRECTIVES

The facility must ensure compliance with Federal and State requirements regarding advance directives. At the time the resident is admitted to a nursing home, staff must determine whether the resident has executed an advance directive or has given other instructions to indicate what care he or she desires in case of subsequent incapacity. Such a directive or instructions could be a living will, a directive to the attending physician, a durable power of attorney for health care, a medical power of attorney, a pre-existing medical order for "do not resuscitate (DNR)," or another document that

directs the resident's health care. Several States have also adopted the use of a portable and enduring order form that documents the resident's choices related to life-sustaining treatments.[9]

If the resident or the resident's legal representative has executed one or more advance directive(s), or executes one upon admission, it is important that copies of these documents be obtained, incorporated and consistently maintained in the same section of the resident's medical record readily retrievable by any facility staff, and that the facility communicate the resident's wishes to the resident's direct care staff and physician. If the resident has not executed an advance directive, the facility is required to advise the resident and family of the right to establish an advance directive as set forth in the laws of the State; to offer assistance if the resident wishes to execute one or more directive(s); and to document in the resident's medical record these discussions and any advance directive(s) that the resident executes. The resident has the option to execute advance directives, but cannot be required to do so. As required by 42 C.F.R. §489.102(a)(3), the facility may not condition the provision of medical care or discriminate against a resident based on whether he or she has executed an advance directive.

Advance Care Planning

In order for a resident to exercise his or her right to make knowledgeable choices about care and treatment or to decline treatment, the primary care provider and facility staff should provide information (in a language and terminology that the resident understands) to the resident and/or his/her legal representative regarding the resident's health status, treatment options, and expected outcomes. Whether or not the resident chooses to execute an advance directive, discussion and documentation of the resident's choices regarding future health care should take place during the development of the initial comprehensive assessment and care plan and periodically thereafter. The process of having such discussions, regardless of when they occur, is sometimes referred to as "advance care planning."

The process of advance care planning is ongoing and affords the resident, family and others on the resident's interdisciplinary health care team an opportunity to reassess the resident's goals and wishes as the resident's medical condition changes. Advance care planning is an integral aspect of the facility's comprehensive care planning process and assures re-evaluation of the resident's desires on a routine basis and when there is a significant change in the resident's condition. The process can help the resident, family and interdisciplinary team prepare for the time when a resident becomes unable to make decisions or is actively dying.

The ability of a dying person to control decisions about medical care and daily routines has been identified as one of the key elements of quality care at the end of life. Advance care planning is a method to further a resident's control over his or her own medical treatment and choices.[10] It also allows the decision-maker (whether it is the resident, family or other legal representative) to be better informed about the treatment alternatives available in a variety of circumstances.

RIGHT TO REFUSE MEDICAL OR SURGICAL TREATMENT

If a resident (directly or through an advance directive) declines treatment (e.g., refuses artificial nutrition or IV hydration, despite having lost considerable weight), the resident may not be treated against his/her wishes. If a resident is unable to make a health care decision, a decision by the resident's legal representative to forego treatment may, subject to State requirements, be equally binding on the facility. A facility may not transfer or discharge a resident for refusing treatment unless the criteria for transfer or discharge are otherwise met.

If a resident's refusal of treatment results in a significant change in condition, the facility should reassess the resident and modify the care plan as appropriate. The facility is expected to assess the resident for decision-making capacity and invoke the health care agent or legal representative if the resident is determined not to have decision-making capacity. Once the decision-making capacity is assessed, the facility is expected to determine and document what the resident is refusing, to assess the reasons for the resident's refusal, to advise the resident about the consequences of refusal, to offer pertinent alternative treatments, and to continue to provide all other appropriate services. The resident's refusal of treatment does not absolve a facility from providing other care that allows him/her to attain or maintain his/her highest practicable physical, mental and psychosocial well-being. For example, a facility would still be expected to provide appropriate measures for pressure ulcer prevention, even if a resident has refused food and fluids and is expected to die.

CARDIOPULMONARY RESUSCITATION (CPR)

Facilities must not implement a facility-wide "no CPR" policy as this policy may prevent implementation of a resident's advance directives and does not meet professional standards of quality as required in §483.20(k). The American Heart Association (AHA) publishes guidelines every five years for CPR and Emergency Cardiovascular Care (ECC). These guidelines reflect global resuscitation science and treatment recommendations. In the guidelines, AHA has established evidenced-based decision-making guidelines for initiating CPR when cardiac arrest occurs in or out of the hospital. AHA urges all potential rescuers to initiate CPR unless: 1) a valid DNR order is in place; 2) obvious signs of clinical death (e.g., rigor mortis, dependent lividity, decapitation, transection, or decomposition) are present; or 3) initiating CPR could cause injury or peril to the rescuer.[11] AHA guidelines for CPR provide the standard for the American Red Cross, state Emergency Medical Services, healthcare providers, and the general public.

If a resident experiences a cardiac arrest, facility staff must provide basic life support, including CPR, prior to the arrival of emergency medical services, and:

- in accordance with the resident's advance directives, or
- in the absence of advance directives or a Do Not Resuscitate order; and
- if the resident does not show obvious signs of clinical death.

Prompt initiation of CPR is essential as brain death begins four to six minutes following cardiac arrest if CPR is not initiated within that time.[12]

Additionally, CPR certified staff must be available at all times. Staff must maintain current CPR certification for healthcare providers through a CPR provider whose training includes hands-on skills practice and in-person assessment and demonstration of skills; online-only certification is not acceptable. Resuscitation science stresses the importance of properly delivered chest compressions to create blood flow to the heart and brain. Effective chest compressions consist of using the correct rate and depth of compression and allowing for complete recoil of the chest[13]. Proper technique should be evaluated by an instructor through in-person demonstration of skills. CPR certification which includes an online knowledge component yet still requires in-person skills demonstration to obtain certification or recertification is also acceptable.

Presence of a facility-wide "no CPR" policy interferes with a resident's right to formulate an advance directive and should be cited at §483.10(b)(4) and (8), Rights Regarding Treatment and Advance Directives, F155. For concerns related to provision of CPR and CPR certification of staff, the survey team should also consider §483.20(k)(3), Services Provided Meet Professional Standards, F281 and §483.75, Effective Administration for Resident Well-Being, F490.

RIGHT TO DECLINE TO PARTICIPATE IN EXPERIMENTAL RESEARCH

The resident has the right to refuse to participate in experimental research. A resident being considered for participation in experimental research must be fully informed of the nature of the experimental research (e.g., medication, other treatment) and the possible consequences of participating. The resident must give informed consent in order to participate. If the resident is incapable of understanding the situation and of realizing the risks and benefits of the proposed research, but a legal representative gives proxy consent, the facility has a responsibility to ensure that the proxy consent is properly obtained and that essential measures are taken to protect the individual from harm or mistreatment. The resident (or his/her legal representative if the resident lacks health care decision-making capacity) must have the opportunity to refuse to participate both before and during the experimental research activity.

A facility participating in any experimental research involving residents must have a process for committee (e.g., an Institutional Review Board) approval of this research and mechanisms in place for its oversight. In this regard, §483.75(c), Relationship to Other HHS Regulations, applies (i.e., research conducted at a facility must adhere to 45 CFR Part 46, Protection of Human Subjects of Research).

INVESTIGATIVE PROTOCOL

§483.101(b)(4) AND (8) RIGHTS REGARDING REFUSAL OF MEDICAL OR SURGICAL TREATMENT, PARTICIPATION IN EXPERIMENTAL RESEARCH AND ADVANCE DIRECTIVES

Objectives
To determine whether a facility promoted the resident's right to refuse medical or surgical treatment, to refuse to participate in experimental research, and to formulate an advance directive by:

- Establishing and maintaining policies and procedures regarding these rights;
- Informing and educating the resident about these rights and the facility's policies regarding these rights;
- Helping the resident exercise these rights; and
- Incorporating the resident's choices regarding these rights into treatment, care and services.

Use
Use this protocol for:

- Complaints from residents, family members or other resident representatives concerning services related to a resident's right to refuse medical or surgical treatment, participate in experimental research, formulate an advance directive, or provide written information, policies and procedures related to advance directives;
- All sampled residents identified with orders or a condition (e.g., neuromuscular diseases, exacerbation of COPD, temporary swallowing or gastrointestinal tract issues) potentially related to provision of life-sustaining treatments such as artificial nutrition/hydration, artificial ventilation, dialysis, blood transfusions, or cardiopulmonary resuscitation. (**NOTE:** For the Quality Indicator Survey (QIS) process this review would be conducted during Stage 2 of the survey);
- Residents who refused medical or surgical treatment; or
- Is participating in an experimental research activity or project.

Procedures
Briefly review the resident's record to determine if the resident has an advance directive, is participating in experimental research, refused medical or surgical treatment, received or is currently receiving life sustaining treatments. The surveyor(s) should conduct the following observations, interviews and record reviews.

Observations
Observe the selected resident care and treatments provided during various shifts. Note whether the care and services related to participation in experimental research, refusal of medical or surgical treatment, or provision of life-sustaining treatment are consistent with the care plan, progress notes and resident choices.

Interviews
Resident/Representative

Interview the resident and/or the resident's legal representative, as appropriate, regarding the following:

- What the facility has done to determine the resident's choices regarding care and treatment;
- What the staff and practitioner have done to inform the resident or the resident's legal representative about the resident's medical condition and relevant health care issues;
- What the staff and practitioner have done to inform the resident or the resident's legal representative about treatment options and the relevance of those options to the resident's goals, wishes, medical condition and prognosis;
- What the staff and practitioner have done to help the resident or the resident's legal representative document treatment choices (e.g., advance directives or another format consistent with State and Federal law and regulation); and
- If the resident is participating in research, did the resident or the resident's legal representative receive information prior to the start of the project that: sufficiently explained the research for which he/she was being asked to give consent; made clear the risks and benefits of the research; and informed him/her of the right to refuse to participate?

Facility staff

Interview staff who are involved in informing residents about treatment options and documenting resident wishes to determine:

- How the facility determines whether the resident has an advance directive or other existing documentation related to life-sustaining treatment;
- What training staff receive regarding advance directives and their initiation;
- How the facility assessed the resident's capacity to make health care decisions and consent to participate in experimental research;
- How the practitioner and facility inform the resident or legal representative about his or her medical condition and relevant health care issues;
- How the practitioner and facility inform and educate the resident or legal representative about treatment options and the resident's right to refuse medical or surgical treatment, to formulate an advance directive and to refuse to participate in experimental research;
- How staff helps the resident or legal representative document treatment choices and formulate an advance directive;

- How documented choices and treatment decisions are communicated to the interdisciplinary team;
- How the practitioner and staff monitor and safeguarded the rights of the resident involved in experimental research;
- How staff know where to access the documented information on the resident's treatment choices and advance directives in the medical record, during both routine care and in an urgent or emergent situation; and
- How the facility ensures that practitioner orders and treatment decisions are consistent with the resident's documented choices and goals.

Health care practitioners and professionals

Interview one or more health care practitioners and professionals as necessary (e.g., physician, nurse practitioners, physician assistants, charge nurse, director of nursing, social worker) who, by virtue of training and knowledge of the resident, should be able to provide information regarding:

- How the facility seeks, identifies, and documents the resident's wishes regarding advance care planning and life-sustaining treatments;
- How the facility ensures that medical orders and treatments reflect the resident's choices and goals;
- The process by which the staff and practitioners are involved in advising the resident and the resident's legal representative about the right to refuse treatment (including life-sustaining treatments);
- How documented choices and treatment decisions are communicated to the interdisciplinary team;
- How the staff and practitioner obtain and document informed consent of the resident who is participating in experimental research;
- How the staff and practitioners proceed if the resident who is involved in experimental research is suspected of, or identified as, suffering adverse consequences related to his/her participation;
- How staff know where to access the documented information on the resident's treatment choices and advance directives in the medical record, during both routine care and in an urgent or emergent situation; and

- How the staff and practitioner periodically reassess the resident's condition and prognosis to identify whether existing advance directives remain pertinent and/or whether there is a need to review or possibly modify them.

  During the course of the review, the surveyor should consider contacting the attending physician or health care practitioner regarding questions related to the treatment regimen. It is recommended that the facility's staff have the opportunity to provide the necessary information about the resident and the concerns to the physician or health care practitioner for his/her review prior to responding to the surveyor's inquiries. If the attending physician or health care practitioner is unavailable, interview the medical director as appropriate.

  Record Review
  Depending on the issue of concern, review the resident's records for evidence of whether and how the facility determines the resident's capacity to understand and make decisions regarding the right to refuse treatment, to formulate an advance directive and/or refuse to participate in experimental research. Review whether information was provided in writing regarding these rights. Review whether the facility determined at admission if the resident had an existing advance directive and, if the resident did not have one, whether the facility offered the resident the option to formulate an advance directive. Review for any information regarding initiating, continuing, withholding, or withdrawing treatment.

  Note whether the care plan considers the resident's choices.

Depending on the issue of concern, review information such as medical orders and interdisciplinary progress notes to determine:

- Whether there is documentation of the rationale for recommendations and treatment decisions related to life-sustaining treatment options;

- Whether the practitioner's orders are consistent with the resident's documented choices and goals. Unless, in rare circumstances, where a physician needs more information about the residents decisional capacity, has a conscientious objection to the residents decision or other aspects of the case in order to be comfortable writing orders that are consistent with the resident's expressed wishes;

- The frequency and scope of monitoring the resident who is participating in experimental research activities for responses to and adverse consequences of any experimental treatments;

- Whether any treatments or interventions have been ordered (e.g., unplanned hospitalizations or placement of a feeding tube) that are inconsistent with the resident's documented treatment preferences or with any existing advance directives; and

- Whether the resident's advance directive, if formulated, has been incorporated into his or her active record, including in medical orders, progress notes, the resident care plan or other relevant means of communication to the interdisciplinary team.

Review of Facility Practices
Depending on the issue of concern, the assigned surveyor should review, as indicated, the facility's policies, procedures, records related to determining and documenting resident wishes regarding advance care planning and implementing medical orders that reflect a resident's wishes. Related concerns may have been identified that would suggest the need for further review of facility practices. Examples of such activities may include a review of policies, staffing, staff training and/or functional responsibilities.

DETERMINATION OF COMPLIANCE

Criteria for Compliance
The facility is in compliance with 42 §CFR 483.10 (b)(4) and (8), if the facility has:

- Established and implemented policies and procedures regarding the right to formulate advance directives, refuse medical and surgical treatment and other related interventions and to decline to participate in experimental research;

- Informed and educated the resident about these rights, including the facility's policies regarding exercising these rights;

- Determined whether the resident has an advance directive in place or has offered the resident the opportunity to develop an advance directive;

- Documented when the resident is determined not to have decision-making capacity and therefore decision-making is transferred to the health care agent or legal representative;

- Helped the resident to exercise these rights based on explaining risk and benefits of declining treatment;

- Incorporated the resident's choices into the medical record and orders related to treatment, care and services;

- Consistently maintained advance directives and resident goals and in the same section of the clinical record or other document filing system for all appropriate residents, where those documents are easily retrievable by staff during both routine and urgent or emergent situations; and

End of Life Nutrition and Hydration

The survey team must evaluate the harm or potential for harm based upon the following levels of severity. First, the team must rule out whether Severity Level 4 (immediate jeopardy to a resident's health or safety) exists by evaluating the deficient practice in relation to immediacy, culpability, and severity. (Follow the guidance in Appendix Q, Determining Immediate Jeopardy.)

Severity Level 4 Considerations: Immediate Jeopardy to Resident Health or Safety
Immediate jeopardy is a situation in which the facility's noncompliance with one or more requirements of participation:

- Has allowed, caused, or resulted in (or is likely to allow, cause, or result in) serious injury, harm, impairment, or death to a resident; and

- Requires immediate correction as the facility either created the situation or allowed the situation to continue by failing to implement preventative or corrective measures.

NOTE: The death or transfer of a resident, who was harmed as a result of facility practices, does not remove a finding of immediate jeopardy. The facility is required to implement specific actions to correct the deficient practices which allowed or caused the immediate jeopardy.

Examples of avoidable actual or potential resident outcomes that demonstrate severity at Level 4 may include, but are not limited to:

- As a result of the facility's failure to obtain and implement medical orders related to life-sustaining treatments, after the resident had documented choices, the resident was transferred to the hospital for an acute change of condition against his wishes, where he was resuscitated against his documented wishes, despite the facility's knowledge that the intervention was against the resident's wishes.

- A facility has implemented a facility-wide "no CPR" policy, meaning staff do not initiate CPR on any resident.

NOTE: If Severity Level 4 (immediate jeopardy) has been ruled out based upon the evidence, then evaluate whether actual harm that is not immediate jeopardy exists at Severity Level 3 or the potential for more than minimal harm at Severity Level 2 exists.

Severity Level 3 Considerations: Actual Harm that is Not Immediate Jeopardy
Severity Level 3 indicates noncompliance that resulted in actual harm that is not immediate jeopardy. The negative outcome can include but may not be limited to clinical compromise, decline, or the resident's inability to maintain and/or reach his/her highest practicable well-being.

Examples of avoidable resident outcomes that demonstrate severity at Level 3 may include, but are not limited to:

- The facility failed to identify the medical orders that detailed the resident's wishes to forego lab work, IV antibiotic treatment and IV hydration for the resident's 7th episode of aspiration pneumonia. Furthermore, the nurses refused to allow the resident to attend his son's wedding, insisting that the resident remain in the nursing home so that a chest x-ray and blood work be done, which went against the resident's expressed wishes. The resident suffered emotional harm.

NOTE: If Severity Level 3 (actual harm that is not immediate jeopardy) has been ruled out based upon the evidence, then evaluate as to whether Severity Level 2 (no actual harm with the potential for more than minimal harm) exists.

Severity Level 2 Considerations: No Actual Harm with Potential for More than Minimal Harm that is not Immediate Jeopardy

Severity Level 2 indicates noncompliance that resulted in a resident outcome of no more than minimal discomfort and/or had the potential to compromise the resident's ability to maintain or reach his or her highest practicable level of well being. The potential exists for greater harm to occur if interventions are not provided.

Examples of avoidable outcomes at Severity Level 2 include, but are not limited to:

- As a result of the facility's failure to establish and implement policies and procedures regarding the rights to decline treatment and other related interventions, the resident and/or the resident's legal representative was unaware of the opportunities to decline medical treatment, although a situation involving the use of life-sustaining treatment options had not yet arisen in the resident's care; or

- As a result of the facility's failure to obtain medical orders that were consistent with the resident's documented wishes, the direct care staff was unaware of the resident's wishes, although a situation involving life-sustaining treatment options had not yet arisen in the resident's care.

Severity Level 1: No Actual Harm with Potential for Minimal Harm
The failure of the facility to recognize and facilitate the exercising of the resident's right to refuse medical or surgical treatment, to refuse to participate in experimental research and to formulate an advance directive; and to maintain written policies and procedures regarding these rights, places the resident at risk for more than minimal harm. Therefore, Severity Level does not apply for this regulatory requirement

ENDNOTES:

[1] Adapted from: Emanuel, L.L., Danis, M., Pearlman, R.A., Singer, P.A. (1995). Advance care planning as a process: structuring the discussions in practice. Journal of the American Geriatric Society, 43, 440-6.

[1] TX Health and Safety Code Title 2, §166.002: Definitions – Advance Directives Act. Available from: http://www.statutes.legis.state.tx.us; Accessed on December 3, 2010.

[1] Thomas, K.R. (Updated September 19, 2005). The Right to Die: Constitutional and Statutory Analysis. Congressional Research Service Report for Congress, 907-244A. (http://www.policyarchive.org/handle/10207/bitstreams/363.pdf)

[1] Quinlan. (1976). 70 N.J. 10, 355 A.2d 647. (http://www.libraryindex.com/pages/582/Court-End-Life-RIGHT-PRIVACY-KAREN-ANN-QUINLAN.html">Court)

[1] Bartling v. Superior Court. (1984). Dec 27:209:220-7. (http://www.ncbi.nlm.nih.gov/pubmed/11648164)

[1] Cruzan v. Director, Missouri Department of Health. (1990). 497 U.S. 261. (http://www.oyez.org/cases/1980-1989/1989/1989_88_1503)

[1] Atmore, C. & Naksook, C. (2007). Respecting Patient Choices – Literature Review. Prepared by Health Issues Centre for the Respecting Patient Choices Project, Austin Health, La Trobe University, VIC, Australia. (http://www.healthissuescentre.org.au/documents/items/2008/04/205853-upload-00001.pdf)

[1] Emanuel, L.L., von Gunten, C.F., Ferris, F.D. (1991). Education for Physicians at the End of Life (EPEC) Participant's Handbook -- Plenary 2, Legal Issues. Robert Wood Johnson Foundation. (http://endoflife.northwestern.edu/legal_issues/module15.pdf)

[1] POLST Physician Orders for Life Sustaining Treatment Paradigm (http://www.ohsu.edu/polst/)

[1] Teno, J.M., Casey, V.A., Welch, L.C., Edgman – Levitan, S. (2001). Patient-Focused, Family-Centered End-of-Life Medical Care: Views of the Guidelines and Bereaved Family Members. Journal of Pain and Symptom Management, Vol. 22 No. 3.

[1] http://circ.ahajournals.org/content/122/18_suppl_3/S665.full.pdf+html.

[1] http://circ.ahajournals.org/content/122/18_suppl_3/S665.full.pdf+html.

[1] http://circ.ahajournals.org/content/122/18_suppl_3/S685.full.

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§483.10(b)(1) -- The facility must inform the resident both orally and in writing in a language that the resident understands of his or her rights and all rules and regulations governing resident conduct and responsibilities during the stay in the facility. The facility must also provide the resident with the notice (if any) of the State developed under

(Source: Reference 1)

Sources for Regulatory Information

1. Centers for Medicare and Medicaid Services. *State Operations Manual Appendix PP - Guidance to Surveyors for Long Term Care Facilities,* Rev. 157, 6/10/16. https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html. Accessed November 16, 2016.
2. Centers for Medicare and Medicaid Services. Form CMS-20073 (7/20/15). https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/CMS-20073-Hospice-End-of-Life.pdf. Accessed May 9. 2016.
3. Centers for Medicare and Medicaid Services. Form CMS–20093 (7/13/15). https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/CMS-20093-Tube-Feeding.pdf. Accessed March 9, 2016.
4. Centers for Medicare and Medicaid Services. MDS 3.0 RAI Manual. http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/MDS30RAIManual.html. Accessed March 9, 2016.

End of Life Nutrition and Hydration

Chapter 7: Patient and Family/Surrogate Education

Making care decisions at the end of life can be difficult for patients and families. The materials provided in this section may be helpful for you to provide as handouts when you counsel those who are facing these decisions and/or dealing with symptoms that affect their ability to eat and drink near the end of life.

Additional information that might be useful to residents, patients and families is also available at:

- Caring Connections provides advance directive forms by state (to meet each individual state's laws and requirements): http://www.caringinfo.org/stateaddownload.
- Consider the Conversation provides a series of videos on end of life decisions: condiserthe conversation.org.
- Aging with Dignity's Five Wishes form specifically outlines an individual's wishes in certain end of life situations: http://www.agingwithdignity.org/five-wishes.php.
- Family Caregiver Alliance provides information on end of life decision-making: http://www.caregiver.org/caregiver/jsp/content_node.jsp?nodeid=401.

The following pages include patient and family/surrogate education materials to assist you with counseling and education. These materials were taken from the following resource:
Dorner B. Diet Instructions: Nutrition Education and Counseling. Becky Dorner & Associates, Inc. Dunedin, FL. 2017. (In Process)

Note: The following *Patient and Family/Surrogate Educational Materials* are also available on the enclosed CD for hard copy purchases. For e-book purchases, these can be downloaded from the link provided on your original order confirmation.

End of Life Nutrition and Hydration

Choosing Comfort-Guided Nutrition Care: Frequently Asked Questions

My elderly mother has decided she does not want aggressive interventions to sustain her life. Is there anything special we should do for her from a food and nutrition standpoint?

Yes and no! At this time in your mother's life, her quality of life takes priority. Meals can be a pleasurable experience and a time for visiting with others. Here are some suggestions to make her quality of life the best it can be:

- Provide your mother's favorite foods and fluids, whatever she desires and can tolerate.
- Liberalize her diet! If there are foods she enjoys that she has been avoiding because of a health problem, now is the time to make them available. (Just double check with your health care provider first.)
- Offer small meals and small snacks between meals; sometimes too much food on the plate is overwhelming.

My dad has trouble feeding himself. What can I do to help?
Encourage your father to feed himself if possible, but provide gentle assistance if he needs it. Adaptive feeding equipment (such as cups with lids or built up handles on forks and spoons) or simple changes such as putting food in bowls may be useful to help him feed himself. If needed, he should be fed if he is willing.

I have noticed that mom is not eating and drinking well at all. What can I do to help?
It can be hard to accept that a loved one doesn't want to eat. However, it is important to know that a lack of interest in food is considered fairly normal for a person as they near the end of life. Your mother may not feel hunger or thirst, which may be one reason she is not eating and drinking well. Nutrition supplements (such as Boost®, Ensure®, or other beverages) may be one solution, especially if your mother drinks better than she eats. Food and fluids should be offered but you should not force your mother to eat or drink supplements.

The speech therapist said my dad has trouble swallowing and recommends a puree diet. Dad complains that he wants "real food". What should I do?
Make sure the speech therapist knows your father's concerns. You, your father, and his health care providers need to find a balance between his safety, comfort, and what makes him happy. Pureed diets are usually recommended because a person can't eat more solid foods without a risk of choking or aspiration (inhaling food or fluid into the lungs). Sometimes a pureed diet or liquids that are thickened can help a person eat and drink more. However, if your father dislikes the puree diet and does not eat enough as a result, his health risks increase - and his quality of life may decrease. If his doctor or speech therapist recommends a pureed diet and he does not eat, it might be better to give him regular foods, knowing that he might be at risk for swallowing problems. Health care professionals know that your father has the right to make his own choices, even if they appear risky, as long as he understands the risks and benefits of those choices.

End of Life Nutrition and Hydration

End of Life Symptoms that Affect Nutritional Care

When a person nears the end of life, symptoms of health problems can affect their comfort. This guide provides suggestions for caregivers to help control or manage symptoms.

Anorexia/Loss of Appetite

- Offer favorite foods (or whatever sounds good to the individual at the time)
- Offer nutrient dense foods/supplements
- Try 6 small meals/snacks a day, or offer food every few hours

Taste/Smell Alterations

- Offer anything that the individual thinks they may like
- Try more flavorful foods if they are tolerated
- Avoid strong odors that are offensive to the individual

Dry Mouth

- Provide good oral care (frequent swabbing of the mouth and tongue)
- Offer sips of fluids frequently
- Offer ice chips
- Sorbets, lemon ice, sherbet, or lemon drops with or in between meals may be helpful

Sore Mouth

- Provide good oral care (frequent swabbing of mouth and tongue)
- Avoid acidic and spicy foods
- Encourage fluids to maintain hydration
- Offer soft, chopped or ground foods if needed

Cramps, Heartburn, Bloating, and Gas

- Encourage the person to eat slowly and chew food well
- Support a relaxed atmosphere at meal time
- Encourage small, frequent feedings
- Try liquids between meals rather than with meals
- Avoid high fat foods
- Avoid spicy foods
- Avoid chewing gum
- Avoid gas-forming foods such as apples, asparagus, dried beans, bran, broccoli, Brussels sprouts, cabbage, carbonated beverages, and cauliflower

End of Life Nutrition and Hydration

End of Life Symptoms that Affect Nutritional Care (page 2)

Nausea

- Offer whatever foods/fluids the individual can tolerate
- Offer small meals and snacks
- Encourage the person to eat slowly and chew food thoroughly
- Try "dry meals" with liquids given between meals (one hour before or after); offer cool, clear liquids
- Don't force the person to eat
- Encourage the person to avoid favorite foods during bouts of nausea to avoid developing aversions to those foods
- Avoid any specific food intolerances or dislikes
- Avoid fatty and fried foods, heavy sweets, spicy foods and foods with very strong odors
- Avoid unpleasant odors
- Encourage carbonated beverages such as lemon-lime soda or ginger ale

Vomiting

- Avoid eating until vomiting passes
- Drink clear liquids after vomiting episodes if tolerated
- These foods may be more tolerable for individuals with nausea and vomiting:
    - Crackers, pretzels, toast, angel food cake, cream of wheat or rice cereal
    - Soft, bland fruits or vegetables such as peaches or green beans
    - Broth or cream soups
    - Ginger ale or lemon-lime soft drinks
    - Sherbet, pudding, ice cream, popsicles, gelatin
    - Juices (other than citrus or sour juices), fruit drinks
    - Dairy products
    - Meat salad sandwiches
    - Desserts with fruits

Constipation

- Offer high fiber foods. Increase fiber intake as tolerated
    - Whole grain breads and cereals, bran cereals
    - Offer more fruits and vegetables, lentils, split peas, navy, pinto or kidney beans in casseroles or soups
- Offer and encourage plenty of fluids daily
- Encourage physical activity
- Try prunes or prune juice for their laxative effect
- Hot beverages may act as bowel stimulants

End of Life Symptoms that Affect Nutritional Care (page 3)

Diarrhea

- Consider food intolerances, such as lactose intolerance, as a cause, and eliminate offending foods to see if diarrhea resolves
- Encourage small, frequent meals
- If severe, drink only clear liquids and advance to a regular diet as tolerated
- Avoid carbonated beverages, liquids with meals, high fiber foods, fatty or fried foods
- Avoid raw fruits and vegetables
- Avoid spicy foods
- Encourage fluid between meals
- Encourage bed rest
- Offer salty foods or salt to replace lost sodium
- Offer foods high in potassium; bananas, potatoes, apricot nectar

The following foods may be better tolerated for those experiencing diarrhea:

- Starches: rice, noodles, cream of wheat or farina, white bread
- Fruits and vegetables: pureed cooked vegetables, applesauce, grape or apple juice, ripe bananas, canned or cooked fruit without skin
- Protein foods: yogurt, eggs (completely cooked and not fried), smooth peanut butter, chicken, turkey, tender lean beef, low-fat beef, cottage cheese

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End of Life Nutrition and Hydration

Managing Gastro Intestinal (GI) Symptoms

GI symptoms can be caused by medical conditions, medications, food-borne illness, or food intolerance and allergies. Symptoms can vary from person to person. A food that gives one person gas may not have an effect on another person. It is best to use trial and error to decide which foods may be difficult for you to tolerate. The lists below may be helpful to you in controlling symptoms.

Potential Gas-Producing Foods		
Alcohol	Chewing gum	Onions
Apples	Chinese vegetables	Peaches
Artichokes	Chives	Pears
Asparagus	Corn	Peas
Baked beans	Cucumbers	Peppers (green, red, yellow)
Beans	Dairy products (cheese, ice cream)	Pickles
Beer		Prunes
Beets	Dried beans, peas, lentils	Radishes
Bran	Eggs	Sauerkraut
Broccoli	Fatty foods	Spinach
Brussels sprouts	Melons	Squash
Cabbage	Milk	Turnips
Carbonated beverages	Nuts	Wheat and whole grains
Cauliflower	Oats	Yeast

Potential Odor-Producing Foods		
Asparagus	Dried beans, peas, lentils	Mustard
Beans	Eggs	Onions
Beets	Fish	Radishes
Broccoli	Garlic	Sauerkraut
Cabbage	Green peppers	Turnips
Cauliflower		

Note: Some medications and vitamin/mineral supplements may also cause odor

Foods That May Be Incompletely Digested		
Cabbage	Green pepper	Pineapple
Celery	Lettuce	Popcorn
Coconut	Nuts	Seeds
Corn	Olives	Skins of fruits and vegetables
Cucumbers	Peas	
Dried beans, peas, lentils	Pickles	Spinach
Dried fruit		

End of Life Nutrition and Hydration

Managing Gastro Intestinal (GI) Symptoms (page 2)

Foods That May Cause Loose Stools or Diarrhea		
Alcohol	Dried beans	Raw fruits, vegetables
Apple juice	Fried foods	Sorbitol containing foods
Broccoli	Green beans	Spicy foods
Chocolate	Leafy green vegetables	Sugary (high sugar) foods
Coffee	Prune juice	

Foods That May Help Control Loose Stools or Diarrhea		
Applesauce	Cheese	Rice
Bananas	Crackers (saltines)	Yogurt (& other probiotics)
Bread, white or dry toast	Potatoes (no skins)	

Additional Instructions:

If you have questions, please call:

End of Life Nutrition and Hydration

Helpful Hints for Nausea or Vomiting

Severe Nausea or Vomiting

- If nausea is severe, avoid foods and fluids until it lessens
- Don't force eating; it may cause a permanent dislike for foods that are forced
- Avoid favorite foods during nausea to avoid developing an aversion to them
- Your physician may prescribe a medication to help
- To help prevent nausea or vomiting, take your medications as instructed, with food if indicated

These Foods May Be More Tolerable if You Have Nausea

- Angel food cake
- Broth or cream soups
- Crackers or pretzels
- Cream of wheat or rice
- Dairy products
- Desserts with fruits
- Fruit drinks
- Gelatin
- Ginger ale or lemon-lime soda
- Juices (other than citrus or sour juices)
- Meat salad sandwiches
- Soft drinks (such as powdered drink mixes)
- Popsicles
- Sherbet, pudding, ice cream
- Soft, bland fruits or vegetables such as peaches or green beans
- Toast

Other Helpful Tips

Meals and Snacks

- Try small meals and snacks
- Eat slowly
- Chew food thoroughly
- Try "dry meals" with liquids between meals (1 hour before or after)
- Rest calmly but remain upright for 30-60 minutes after eating
- Wear loose, comfortable clothing

Foods to Avoid

- Any specific food intolerances (different for each person)
- Fatty and fried foods
- Heavy sweets
- Spicy foods
- Foods with very strong odors

Foods that May Be Helpful

- Any foods/fluids that appeal to you
- Peppermint or spearmint if tolerated
- Cold foods may be more appealing

Other Things to Avoid

- The kitchen - cooking odors may increase the feeling of nausea
- Other unpleasant odors

Liquids/Tips that May Be Helpful

- Drink slowly
- Drink cool, clear liquids
- Carbonated beverages such as lemon-lime or ginger ale

Diet Advancement

- Try small sips of clear liquids and increase amount very gradually
- When clear liquids are tolerated, advance gradually to a regular diet

End of Life Nutrition and Hydration

Helpful Hints for Cramps, Heartburn, and Bloating

The following suggestions may help to alleviate these uncomfortable GI symptoms:

- Eat slowly and chew food well
- Create a relaxed atmosphere at meal time
- Encourage small, frequent meals and snacks rather than large meals
- Don't skip meals-it may contribute to the problem
- Try liquids between meals rather than with the meal
- Try bland food that can be easily digested
- Try taking a break during the meal
- Avoid high fat foods
- Avoid spicy foods, chewing gum, too many sweets
- Avoid gas-forming foods:
    - Baked beans
    - Broccoli
    - Cabbage
    - Carbonated beverages
    - Cola
    - Dried beans
    - Nuts
    - Onions
- Antacids may be needed to alleviate symptoms completely

Food sensitivities that cause GI symptoms vary from person to person; what one person can tolerate may bother another person. It might be useful to keep a food diary to help identify foods that cause problems.

Additional Instructions:

_____

_____

_____

_____

_____

_____

If you have questions, please call:

End of Life Nutrition and Hydration

Helpful Hints for Diarrhea

Diarrhea may be caused by disease, infections, medications, treatments, emotional upset or food sensitivity. Food sensitivities vary from person to person - what one person can tolerate may bother another. Anti-diarrheal medications may be needed if diarrhea is severe or is persistent.

The following suggestions might help treat diarrhea:

- Try small, frequent meals and snacks rather than large meals
- If diarrhea is severe, begin a clear liquid diet, give liquids at room temperature, and advance as tolerated
- Avoid carbonated beverages, liquid with meals, high fiber foods, greasy foods, fatty or fried foods
- Avoid raw fruits and vegetables, and spicy foods
- Drink fluids between meals
- Avoid very hot or very cold foods and beverages
- Limit caffeine (coffee, tea, cola, chocolate, etc.)
- Eat salty foods or add salt with meals (if permitted) to replace sodium lost from diarrhea
- Investigate potential food intolerances – especially lactose intolerance

These foods may be more easily tolerated:

Starches:	**Fruits and vegetables:**	**Protein foods:**
• Rice • Noodles • Cream of wheat or farina • White bread	• Pureed cooked vegetables • Applesauce • Grape or apple juice • Ripe bananas • Canned or cooked fruit without skin	• Yogurt • Eggs (completely cooked) • Smooth peanut butter • Chicken, turkey, tender lean beef, low-fat beef • Cottage cheese

Additional Instructions:

_____

_____

If you have questions, please call:

End of Life Nutrition and Hydration

Dehydration: Risk Factors and Symptoms

Dehydration occurs when the amount of fluid you drink is less than the amount your body loses through sweat, urine, and other body functions. You may be at risk for dehydration, so it is important to be sure to drink enough fluids.

Risk Factors for Dehydration:	**Signs of Dehydration:**
• Fluid loss due to factors such as diarrhea, fever, profuse sweating, uncontrolled diabetes • Fluid restriction because of renal dialysis • Functional impairments that make it hard to reach fluids or to ask for fluids • Forgetting to drink • Refusing to drink	• Dry skin and mucous membranes (nose, mouth, lips, tongue) • Thirst • Dry mouth • A decrease in urination and/or urine that is dark in color • Significant weight loss that is not planned • Elevated temperature • Headache • Flushed appearance • Constipation

Helpful Hints

These items can help meet your fluid needs:

• Any fluid liquid • Broth • Coffee • Fruit drinks	• Gelatin • Ice • Ice cream • Ices, flavored	• Juice • Milk • Milkshakes • Popsicles	• Sherbet • Soft drinks • Tea • Water

Try to:

1. Drink fluids, at least 4 to 8 ounces (½ to 1 cup), when you take your medications.
2. Keep a water pitcher at your bedside, and carry a water bottle with you when you leave home.
3. Drink at least 6 to 8 (8 ounce) glasses of water or fluids daily - unless your doctor tells you otherwise.
4. Note: If you need thickened liquids, all fluids should be thickened to the consistency your doctor ordered.

Estimating How Much Fluid You Need Daily

The following chart will guide you in deciding how much fluid you need every day to stay hydrated. Remember that every person is different and you may need more or less fluids based on your individual health condition. Your doctor and/or dietetics professional can assist you in determining your specific fluid needs.

Weight:	**Drink a Minimum of:**
☐ Less than or equal to 100 pounds	6 ¼ cups
☐ 100-125 pounds	7 cups
☐ 125-150 pounds	8 ½ cups
☐ 150-175 pounds	10 cups
☐ 175-200 pounds	11 ½ cups
☐ More than 200 pounds For every 10 pounds over, add a ½ cup fluid	_____ cups

Additional Instructions:

If you have questions, please call:

End of Life Nutrition and Hydration

All About Dysphagia

Dysphagia is the medical term for swallowing difficulty. The problem can be in the mouth or esophagus. There are many causes of dysphagia, including neurological disorders like stroke or Parkinson's disease, esophageal stricture or tumors, and gastro-esophageal reflux disease (GERD).

Warning Signs Of Dysphagia Include:

- Frequent throat clearing, and/or wet/gurgly voice
- Coughing frequently or weak cough before, during or after a swallow
- Difficulty controlling liquids or solids in the mouth (or pocketing of food in the mouth after eating)
- Extremely slow eating which is not due to self-feeding difficulties
- Taking a long time to begin a swallow
- Needing to swallow 3 to 4 times with each bite of food
- Refusing to eat and/or spitting food out
- Complaining that it feels like food is sticking in the throat, and/or that the throat or chest feels full or tight
- Persistent low grade fever, recurring or persistent pneumonia, or repeated upper respiratory infections
- Rocking the tongue back and forth (front to back)
- Unexplained loss of appetite, unintended weight loss, or malnutrition

Dysphagia Treatment

A speech and language pathologist (SLP) can recommend individualized techniques to improve swallowing function such as:

- Therapy
- Positioning tips
- Swallowing techniques
- Strengthening exercises for the mouth and tongue
- Texture-modified diet (such as a mechanical soft or pureed diet)
- Thickened liquids (such as nectar-thick, honey- thick, or spoon-thick)

End of Life Nutrition and Hydration

Positioning Tips for Those with Swallowing Problems

People who have trouble swallowing could aspirate (inhale food into the lungs) or choke on food if they are not positioned properly at meal time. A speech language pathologist (SLP) or occupational therapist (OT) may be able to offer specific tips for positioning for safe swallowing. ***Please note that the techniques in this handout are not appropriate for everyone, and should be individualized as recommended by health care providers.***

Positioning for a Safe Swallow:
Sit in a dining chair with arms if possible
Remember *"90 X 4".* Try to create 90° angles at the:

1. **Feet and lower legs**
2. **Lower legs and thighs**
3. Lap and torso
4. Torso and head

Keep the:

- **Feet on the floor**
- Small of the back against the chair
- Head upright with chin *slightly* tucked

Provide support as needed to maintain positioning.
Be sure the table height is at a level where the person can easily reach the food, and range of motion is comfortable for self-feeding.

For a person who eats in bed, get as close to ***"90 X 4"*** position as possible by:

- Propping up with pillows if needed. Use pillows under the knees for a 90° hip flexion.
- The 90° angle of the head to torso is most important. Don't let the head tip back at any time (unless your speech and language pathologist has recommended this).
- A nosey cup may be helpful for drinking liquids. (This is a cup with the side cut out for the nose, to keep the head from tipping back.)
- Do not use straws unless instructed to by your speech and language pathologist.

After Eating

1. Provide good oral hygiene to remove food debris from the mouth.
2. Remain upright for at least 30 minutes to reduce likelihood of aspiration.
3. Keep the head of the bed elevated at least 6 inches (or 30 degrees) at all times to reduce the incidence of aspiration.

End of Life Nutrition and Hydration

Preparing Pureed Food

Preparing pureed foods involves processing solid food with enough liquid to make it smooth and easy to swallow. Foods should be processed to a consistency like moist mashed potatoes without lumps. When serving, you can use an ice-cream scoop to portion pureed foods, a spatula to flatten the scoop into a patty shape, or pipe the pureed food through a cake-decorating tool to create visual interest. Commercial thickening agents (purchased at a pharmacy or online) can help achieve the right consistency.

Tips for Safe Preparation of Pureed Foods

- Follow basic food safety guidelines, available at https://www.foodsafety.gov/.
- Use a food processor (not a blender).
- Do not fill the food processing bowl more than 2/3 to 3/4 full.
- Use a start/stop action (pulse) at first to break up the food; then use the continuous feature to puree.
- Do not walk away from the food processor while it is running.
- Use a food thermometer to assure safe temperatures (more than 140° F for hot food, less than 40° F for cold food).
- Clean all equipment and utensils thoroughly after each use and allow to completely air dry.

Basic Recipes and Tips for Preparing Pureed Foods

Pureed Vegetables

Ingredients	1 Serving	2 Servings	5 Servings
Vegetables, drained	½ cup	1 cup	2 ½ cups
Margarine, melted	½ T	1 T	2 ½ T
Vegetable juice	2 T	¼ cup	2/3 cup
Bread	½ slice	1 slice	2 ½ slices

Serving Size: ½ cup pureed

Directions:

1. Drain vegetables well, reserve liquid. Place drained vegetables in food processor bowl.
2. Add melted margarine and blend. Add one-half liquid; blend.
3. Add bread and blend.
4. Add additional vegetable liquid slowly, blending after each addition until moist mashed potato consistency is achieved (use more fluid if needed).
5. Heat to serving temperature.

End of Life Nutrition and Hydration

Pureed Meat

Ingredients	1 Serving	2 Servings	5 Servings
Meat	3 oz	6 oz	15 oz
*Broth	¼ cup	½ cup	1 ¼ cup
Bread	½ slice	1 slice	2 ½ slices

Serving Size: 3 ounce portion (about 2/3 cup pureed)

Directions:

1. Choose appropriate portion size. Place in food processor bowl.
2. Puree well.
3. Add one-half of broth and puree.
4. Add bread and puree.
5. Add small amounts of liquid, blending after each addition until moist mashed potato consistency.
6. Heat to serving temperature.

*Slightly more or less fluid may be required to achieve moist mashed potato consistency.

Serve with gravy over top. May be scooped out onto plate and then flattened to look like a patty.

Tips for Pureeing Meats

- Cook meat thoroughly prior to pureeing. Internal temperature should be a minimum of 165° F.
- Use a variety of meats (pork, beef), fish, poultry (chicken, turkey).
- Different meats, fish, poultry have different textures. Start with a well-cooked, tender piece of meat. Tough meat will be tough to puree.
- De-bone meat, skin, and trim all visible fat.
- After pureeing, check for lumps. Puree again as needed.

End of Life Nutrition and Hydration

Pureed Fruit

Ingredients	1 Serving	2 Servings	5 Servings
Fruit, Drained	½ cup	1 cup	2 ½ cups

Serving Size: 1/3 cup pureed

Directions:

1. Drain fruit well and measure. Place drained fruit in food processor bowl.
2. Blenderize until smooth consistency.
3. Chill to 40° F prior to serving.

Tips for Pureeing Fruit

- Fibrous fruits such as pineapple may be difficult to puree. Use a strainer if needed to assure a smooth consistency.
- Ripe bananas may be thoroughly mashed instead of pureed. Be sure there are no lumps.
- Some fruits may discolor upon standing or refrigeration. It is best to serve them immediately.
- Fruits with a high water content (watermelon, cantaloupe, honeydew, melon, oranges, grapefruit, grapes) do not puree to an appropriate consistency. A commercial thickening agent may be added to achieve a pudding-like consistency.

Pureed Casserole

Ingredients	1 Serving	2 Servings	5 Servings
Casserole	6 oz	12 oz	1 7/8# (30 oz)
Gravy or Broth	1 T	2 T	1/3 cup (5 T)

Serving Size: 6 ounce portion (about 2/3 cup pureed)

Directions:

1. Measure casserole portions after draining off any excess liquid. Place in food processor bowl.
2. Puree well. More may be necessary, depending on product composition.
3. Heat to serving temperature.

Note: Slightly more or less fluid may be required to achieve moist, mashed potato consistency.

End of Life Nutrition and Hydration

Thickened Liquids

Your doctor has recommended that you drink liquids that have been thickened. Thin liquids can be harder to swallow and can cause choking. Thickening liquids helps make them easier and safer to swallow.

Your doctor/speech therapist recommends:

- **Thin liquids:** water, coffee, tea, soda, ices, juices, milk, anything that will liquefy in the mouth within a few seconds.
- **Nectar-like liquids:** thickened to nectar consistency such as apricot or peach nectar.
- **Honey-like liquids:** thickened to honey consistency.
- **Spoon Thick liquids:** thickened to a pudding consistency.

Commercial thickeners can be purchased at your local pharmacy or online.

- Pre-thickened liquids can be purchased at your local pharmacy or on-line.
- Follow the manufacturer's instructions to achieve the ordered consistency.

Thicken **all** liquids to the proper consistency, including soups, water, and all other beverages. Examples of each consistency are listed below.

Thin	Nectar-like	Honey-like	Spoon Thick
Broth, Bouillon Carbonated beverages Coffee or Tea Gelatin Ice chips Ice cream, Frozen yogurt Ices Juice Malts Milk, Milkshakes Nutritional supplements Soda Soups, Thin broth Tomato juice	Apricot nectar Peach nectar Pear nectar Vegetable juice Commercial thickeners may be added to thin liquids to achieve nectar-like consistency. Commercially prepared nectar-like thick products.	Commercial product needed to achieve desired consistency. Commercially prepared honey-like thick products.	Commercial product needed to achieve desired consistency.

End of Life Nutrition and Hydration

Weight Loss in the Elderly

My father seems to be losing weight gradually. He's 85 years old and lives in a nursing home. Should I be concerned?
Yes, you should definitely follow up if you think your father has lost weight. He is weighed regularly, so ask the nurses to share his weights with you.

What are some of the causes of weight loss in the elderly?
Weight loss might be related to decline in food and fluid intake, which can decrease for many reasons. For example:

- Medications that affect intake.
- Underlying medical problems, such as cancer, lung disease, or dementia.
- Change in ability to eat and drink.
- Psychological issues like depression, anxiety, or bereavement.
- Acute medical problems (pressure injuries or infections) that increase calorie needs.

You should know that when an older adult is in the end stages of a terminal illness, including end-stage dementia, there may come a time when weight loss is probably unavoidable.

What can I do to help?
Spend some time with your dad during meals to get a better idea of how much he is eating and if he needs more help at meals. Also, talk to the staff at his nursing home to see if they have observed changes in his eating patterns, appetite, or ability to feed himself. If necessary the facility staff can recommend assistance at meals, special feeding equipment, or nutrition supplements such as Boost® or Ensure®.

Dad says he likes the food and it seems like he is eating fairly well. Does he need a nutrition supplement?
A supplement may or may not help your dad. If he is eating well, it is a good idea to try giving him more food at meals or snacks between meals. If he is not eating well, a supplement might be needed. A wide variety of supplements are available and they can be a good idea, especially for those who drink better than they eat.

End of Life Nutrition and Hydration

Boosting Nutritional Value with Fortified Foods

The following suggestions may help you if you have unintended weight loss or other nutrition concerns. If you need to increase calories to maintain or gain weight, and are not on low fat or carbohydrate controlled diet there are many things you can do.

1. Focus on food first! Choose your favorite foods and boost the nutritional value of the food by using the suggestions in this handout
2. Try to eat 5-6 times a day (small meals and snacks)
3. Monitor your weight at least weekly. Alter your nutrition approaches based on how well you tolerate them and if they are improving your weight

Calorie Boosters

Plan to use multiple suggestions to boost calories in the diet.

Margarine or Butter	Add to casseroles, hot cereals, vegetables, potatoes, rice and noodles, soups Spread on bread, sandwiches, toast, crackers, rolls, and muffins	
Mayonnaise	Spread on bread, sandwiches, toast, crackers, rolls, muffins; use in egg, chicken, tuna or meat salad	
Peanut Butter	Spread on bread, sandwiches, toast, crackers, rolls, muffins, apples, bananas	
Sour Cream	Use on baked potatoes or as a dip	
Half & half Cream	Add to milk shakes, hot chocolate, cereals; use in cream soups, puddings	
Other Calorie Dense Foods:	Casseroles with cream Cheese *Corn syrup Cream cheese Evaporated milk Fried foods Gravy *Hard candy *Honey *Ice cream floats, sundaes *Jam and jelly	*Maple syrup *Marshmallows Oils *Pudding Salad dressings Soups (with whole milk or half & half) *Syrup Whipped cream
Nutrition Supplements	*Bars *Beverages Fortified or enhanced foods	Juices *Milkshakes *Puddings

*These foods are high in simple sugars and must be counted into the day's total carbohydrate if on a carbohydrate controlled diet.

End of Life Nutrition and Hydration

Protein Boosters

The following suggestions are for people who have difficulty eating high protein foods. These suggestions will help boost protein intake.

Skim Milk Powder	Mix 1 cup of skim milk powder into 1 quart of whole milk and use in recipes for creamed soups, hot cocoa, cooked cereals, cooked custard or pudding, casseroles and mashed potatoes. Skim milk powder can also be added to scrambled eggs, soups, casseroles, meat loaf or meat balls, cookies and muffins. Start by adding 1 tablespoon of skim milk powder per serving.
Milk or Half & half	Use instead of water for soups, cereals and instant cocoa
Cheese or Cheese Sauce	Add grated or melted cheese to vegetables, casseroles, soups
Eggs (fully cooked only)	Plain or in mixed dishes
Peanut Butter	Use on bread, crackers, or celery, apples and bananas
Instant Shake	Combine and mix well: 1 packet instant breakfast mix, 1 cup whole milk or half-and-half and ½ cup ice cream
Other High Protein Foods	Cottage cheese Yogurt Meat, fish, poultry

Some of these foods are high in simple sugars and must be counted into the day's total carbohydrate if on a carbohydrate controlled diet.

Fortified Food Recipes

Fortified Oatmeal (1/2 Cup Portion): 331 calories, 6.6 gms protein

Ingredients	Measurement	Serves 10
Oatmeal	cup	3 1/3
Half-and-half	cup	5
Water	cup	2 1/2
Salt	tsp	1 1/4
Margarine	Tbs	3 1/3
Brown Sugar	Tbs	10

Directions:

1. Measure half-and-half, water, salt and margarine into saucepan. Bring to a boil.
2. Add oatmeal and cook until thick.
3. Serve with brown sugar on top.
4. Hold at ≥ 135° F until service.

Orange Creamsicle (1/2 Cup Portion): 264 calories, 2.5 gms protein

Ingredients	Measurement	Serves 10
Orange Sherbet	cup	3 1/3
Half-and-half	cup	2 1/2
Light Corn Syrup	cup	5/8
Oil	Tbs	3 1/3

Directions:

1. Measure ingredients and blend together.
2. Maintain temperature ≤ 41° F.
3. Serve immediately.

Calorie Dense Pudding (1/2 Cup Portion): 240 calories, 4.4 gms protein

Ingredients	Measurement	Serves 10
Dry Instant Pudding Mix	cup	1 1/4
Half-and-half	cup	5

Directions:

1. Measure ingredients and blend together.
2. Refrigerate to set.
3. Maintain temperatures ≤ 41° F until service.

Ice Cream Delight (1/2 Cup Portion): 283 calories, 4.1 gms protein)

Ingredients	Measurement	Serves 10
Ice Cream	cup	5
Half-and-half	cup	2 1/2
Light Corn Syrup	Tbs	10
Vanilla Extract	Tbs	5

Directions:

1. Blend all ingredients together.
2. Maintain temperature ≤ 41° F until service.
3. Serve immediately after producing.

Super Soup (3/4 Cup Portion): 217 calories, 5.3 gms protein

Ingredients	Measurement	Serves 10
Condensed Cream Soup*	10¾ oz cans	3
Half-and-half	1 can	3

*Cream of Celery, Cream of Chicken, Cream of Mushroom, Cream of Potato, or Cream of Onion

Directions:

1. Measure ingredients into an appropriate size pan and whisk together. (Use soup can to measure the half-and-half). Heat to boiling stirring constantly.
2. Maintain temperature ≥ 135º F for holding and service.
3. Cool any leftovers to < 41º F within 4 hours for storage. Reheat leftovers to 165º F for a minimum of 15 seconds prior to serving (hold at ≥ 135º F for service).

Power Potatoes (1/2 Cup Portion): 226 calories, 4 gms protein

Ingredients	Measurement	Serves 10
Mashed Potato Flakes	cup	3 1/3
Water	cup	1 1/4
Half-and-Half Cream	cup	3 1/3
Margarine	Tbs	5
Salt	tsp	1 1/2

Directions:

1. Heat water, half-and-half cream, margarine and salt in a sauce pan just to boiling. (Do not overheat or cream will curdle.)
2. Remove from heat. Stir in mashed potato flakes until moistened. Let stand 30 seconds or until liquid is absorbed.
3. Whip with spoon until fluffy. Add additional hot liquid if potatoes are too stiff.
4. Serve with margarine or gravy to moisten.
5. Hold at ≥ 135° F for service.

Variations: Sour Cream: Serve with 1-2 Tbsp. sour cream per serving.
Cheesy: Mix in 1 Tbsp grated cheddar cheese per serving.
Garlic: Substitute garlic salt for salt in the recipe.

Cherry Vanilla Drink (3/4 cup Portion): 216 calories, 3 gms protein

Ingredients	Measurement	Serves 10
Cherry Sherbet	cup	3 1/3
Half-and-Half Cream	cup	1 2/3
Almond Extract Flavoring	tsp	1

Directions:

1. Process cherry sherbet in blender.
2. Add other ingredients and blend until smooth.
3. Maintain temperatures ≤ 41° F.

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Key Lime Shake (3/4 Cup Portion): 250 calories, 3 gms protein

Ingredients	Measurement	Serves 10
Lime Sherbet	cup	3 3/4
Light Corn Syrup	cup	1/2
Half-and-half	cup	2 3/4
Limeade Concentrate	Tbs	3 1/3

Directions:

1. Place ingredients in blender.
2. Blend until smooth and serve immediately.
3. Maintain temperature < 41° F.

Orange Ale (½ Cup Portion): 208 calories, 1 gm protein

Ingredients	Measurement	Serves 10
Orange Sherbet	cup	3 1/3
Ginger ale	cup	2 1/2
Light Corn Syrup	cup	1/2
Oil	Tbs	3 1/3

Directions:

1. Measure ingredients and blend together.
2. Maintain temperature < 41° F.
3. Serve immediately.

Other flavors of sherbet may be substituted.

Strawberry-Banana Frost (3/4 Cup Portion): 255 calories, 4 gms protein

Ingredients	Measurement	Serves 10
Banana, ripe, frozen, sliced	each	3 1/3
Strawberries, frozen in syrup	cup	2 1/4
Light Corn Syrup	Tbs	3 1/3
Vanilla Ice Cream	cup	1 1/2
Half-and-half	cup	3 1/3
Vanilla Extract	tsp	3/4 tsp

Directions:

1. Slice bananas and freeze overnight.
2. Place ingredients in blender and blend until smooth.
3. Maintain temperature ≤ 41° F.
4. Serve immediately.

Chocolate Dream (3/4 Cup Portion): 246 calories, 4 gms protein

Ingredients	Measurement	Serves 10
Chocolate Syrup	Tbs	2 1/2
Light Corn Syrup	Tbs	2 1/2
Chocolate Ice Cream	cup	5
Half-and-half	cup	2 1/2

Directions:

1. Blend all ingredients together in blender until smooth.
2. Maintain temperature ≤ 41° F.
3. Serve immediately.

Strawberry Frost (6 oz Portion): 280 calories, 4 gms protein

Ingredients	Measurement	Serves 10
Strawberries, sweetened, frozen, sliced	cup	2 1/4
Light Corn Syrup	Tbs	3 1/3
Vanilla Ice Cream	cup	1 1/2
Half-and-half	cup	3 1/3
Vanilla Extract	Tsp	3/4 tsp

Directions:

1. Thaw strawberries and process in blender until smooth.
2. Add remaining ingredients and blend until smooth.
3. Maintain temperature ≤ 41° F.
4. Serve immediately.

Peach Cooler (3/4 Cup Portion): 208 calories, 1 gm protein

Ingredients	Measurement	Serves 10
Peaches, canned in heavy syrup	cup	3 1/3
Light Corn Syrup	Tbs	3 1/3
Vanilla Ice Cream	cup	3 1/3
Half-and-half	cup	2 1/4
Almond Extract	Tsp	1/2

Directions:

1. Puree peaches.
2. Add half-and-half, almond extract and corn syrup. Process in blender to liquefy.
3. Add ice cream and blend until smooth.
4. Maintain temperature ≤ 41° F.
5. Serve immediately.

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End of Life Nutrition and Hydration

Sample Snack Schedules

Rotate types and flavors of high calorie/protein snacks to provide variety and avoid flavor fatigue. Here is an example of how you can vary snacks.

Regular Diet: Sample Enhanced/Fortified Food Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2 PM ½ Egg Salad Sandwich 4 oz Milk	**2 PM** 4 oz Vanilla Pudding 4 Short-bread Cookies	**2 PM** ½ Chicken Salad Sandwich 4 oz Milk	**2 PM** 4 oz Chocolate Cream Pie 6 Vanilla Wafers	**2 PM** ½ Tuna Salad Sandwich 4 oz Milk	**2 PM** 4 oz Butterscotch Pudding 6 Vanilla Wafers	**2 PM** ½ Peanut Butter & Jelly Sandwich 4 oz Milk
PM 8 oz Cherry Vanilla Shake ½ Cheese Sandwich	**PM** 8 oz Peach Shake ½ Tuna Salad Sandwich	**PM** 8 oz Orange Cream Shake ½ Peanut Butter & Jelly Sandwich	**PM** 8 oz Strawberry Shake ½ Egg Salad Sandwich	**PM** 8 oz Chocolate Shake ½ Peanut Butter & Jelly Sandwich	**PM** 8 oz Strawberry Banana Shake ½ Cheese Sandwich	**PM** 8 oz Vanilla Shake 4 Lorna Doones

NOTE: All items must be at the consistency ordered by the physician for diet level and liquid thickness.

Nutritional Supplements

There are many nutritional supplements available for purchase.

Check your pharmacy or grocery store for these manufacturers:

- Abbott Nutrition
- Hormel Health Labs
- Nestle Nutrition

End of Life Nutrition and Hydration

Risk and Benefits of Tube Feeding: Frequently Asked Questions

My 89 year-old mother is not eating or drinking. The staff at the nursing home has asked us if we want to start a tube feeding. How do I know if this is the right choice for my mother?

Making the decision for a loved one on whether to place a tube feeding can be difficult and complicated. Tube feeding, which involves delivering nutrients directly into the stomach or intestines in a liquid form, is considered a medical intervention. Health care professionals rely on scientific evidence to help patients and families make the right choice. The best evidence indicates that your mother might be a good candidate for a tube feeding if she is:

- Recovering from trauma, surgery, or stroke and has difficulty eating and drinking enough food and fluid
- Has gastro-intestinal obstructions or GI motility problems
- Has a severe swallowing disorder
- Has a neurological disorder that impedes swallowing

If your mother's lifespan is limited and she might have other life-limiting medical problems, GI problems, or advanced dementia, there is little evidence to support tube feeding to improve health or sustain life. However, it is important that you and your mother talk to your health care provider, and weigh the risks and benefits to make the decision that you are most comfortable with.

Are there risks involved with tube feeding?

Yes, as with any medical intervention, there are risks. Insertion of a PEG tube (a feeding tube that allows tube feeding formula to go directly into the stomach) requires minor surgery and carries potential for infection around the surgical site. Other possible complications include:

- Intolerance to the feeding, resulting in nausea, vomiting, or diarrhea
- Fluid overload or electrolyte imbalance
- Aspiration pneumonia
- Potential for your mother to pull the tube out, especially if she is confused
- Need for additional interventions such as catheters, blood draws, and medications to manage complications of tube feeding
- Quality of life issues such as:
    - Limited mobility (related to being attached to a feeding pump)
    - Lack of socialization if she is not attending meals
    - Deprived sensory pleasures of eating
    - Sleep disruption for feedings and care of the tube
    - Potential need for restraints to prevent her from pulling the tube out

I am not sure my mother is a candidate for tube feeding but I can't live with letting her starve.

Your concerns are common in people who are making this decision. Although you probably feel a moral duty and emotional need to provide food and water to your

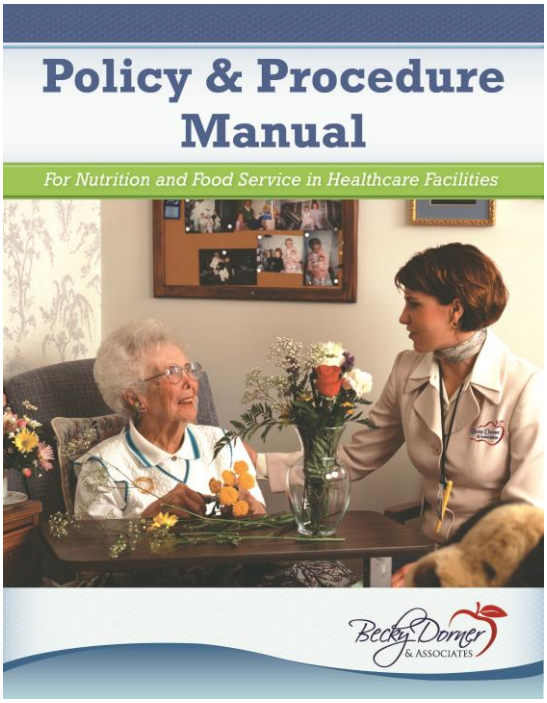
mother, you should understand that the loss of desire to eat and drink is a natural part of the dying process. It can be difficult to accept that your mother is succumbing to her age and illness. Without tube feeding she will eventually die a natural death, rather than being kept alive by a medical intervention.

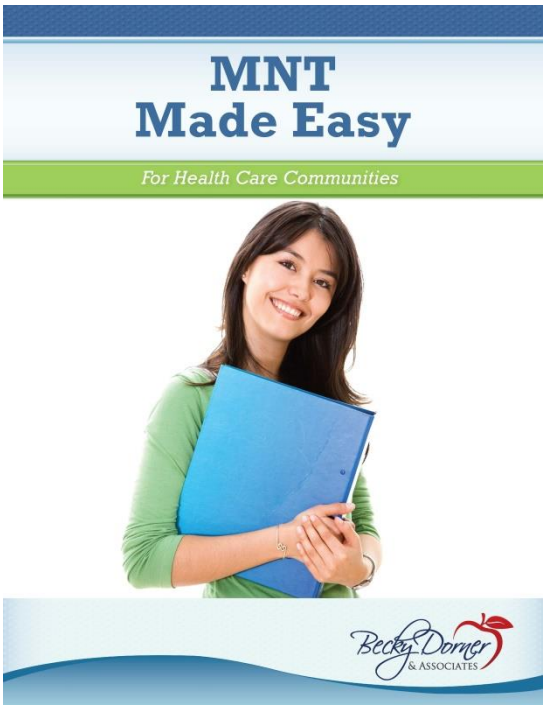
Will my mother be in pain if she is not tube fed?
Studies show that patients don't experience thirst or hunger, and therefore are not likely to suffer at the end of life. When food and fluid intake is poor, death is usually from dehydration rather than starvation. Although you might fear a painful death for your mother if she isn't tube fed, research doesn't support that belief. In fact, many health care professionals report that dying individuals who are naturally dehydrated experience a peaceful, comfortable, and "good" death.

Appendix

*Note: Many of the resources in this section were taken from the following Becky Dorner & Associates, Inc. publications available from www.beckydorner.com:

- Dorner B. *Policy & Procedure Manual: For Nutrition and Food Service in Health Care Facilities*. Becky Dorner & Associates, Inc. Dunedin, FL. 2017. (In Progress).
- Dorner B. *Medical Nutrition Therapy Made Easy*: *For Health Care Communities*. Becky Dorner & Associates, Inc. Naples, FL. 2015. (Reference 1.)





End of Life Nutrition and Hydration

Medical Nutrition Therapy Assessment Sample Form (1)

Name_____ **Room/ID#/Residence**_____ **Physician**_____ **Gender M / F DOB** _____ **Age** ___

Assessment Type: Initial / Quarterly / Yearly / Significant Change:

Ht (inches) Actual / Estimated
Wt (#) (Date)

UBW (#) **DBW** (#)
Adj. BW (#)(Amputation)
↑ ↓ **WNL**

BMI _____

□	**<18.5**	**Underweight**
□	18.5-24.9	Normal Weight
□	25-29.9	Overweight
□	≥30	Obese
□	≥40	Extremely Obese

Weight Changes (Date)
Wt_____# ( ) ↑↓ 5% in 1 mo
Wt_____# ( ) ↑↓ 7.5% in 3 mo
Wt _____# ( ) ↑↓ 10% in 6 mo
Wt _____# ( ) ↑↓ 2-3% in 1 wk/↑↓ 20% in 12 mo)
Planned change? Y / N Comments:

Diet Order:
Food allergies / Intolerances:
Meals: Room / Dining Room / Independent / Tray set up / Supervision / Limited Assist / Total Dependence / **Restorative Dining** Y / N
Adaptive Eating Equipment:

Medical Food Supplement / Snacks
Fluid Restriction? Y / N
Food/Fluid Intake: **Meets estimated needs:** Y / N

Alternate Feeding Orders None / PPN/ TPN/ IV / Tube feeding (including flush orders) **Advanced Directives:**
_____mL Formula = _____ Kcals ____ g protein, ____% RDI (_____mL FF + _____ mL flush) = _____ Total mL Fluids
Appropriate Y / N **Tolerated** Y / N **Changes Needed** Y / N **Comments:**

Communication Alert / Confused / Unable to communicate **Physical Limitations:**

Medication Interactions (any that affect eating, GI status or nutritional status)
Antibiotics Cardiac Meds Diuretics Laxatives Nutrition Herbs/Supplements: Psychotropics New Meds / Other:

Labs (Date _____)
H/H _____ HbA1c _____ Glu _____ Na _____ K+ _____
Ca++ _____ Alb _____ Pre-alb _____ BUN _____ Cr _____

Other Pertinent Data (Date_____)

Alteration in Nutrition and/or Hydration Status as Evidenced by (Check/Circle all that apply)

- □ Abnormal Labs (Refer to data above)
- □ Altered Taste
- □ Alternate Feeding: TF / IV / TPN
- □ Altered Hydration: Dehydration / Edema / Overhydration / Fluid restriction
- □ Anemia
- □ Cancer / Chemo / Radiation
- □ Cardiovascular: CVD / CVA / TIA / CHF / HTN / PVD
- □ Dysphagia/ Chewing/Swallowing Problem
- □ Communication Difficulty:
- □ Cultural/Religious Food Issues
- □ Dementia/Cognitive Decline /Depression
- □ Diabetes
- □ Failure to Thrive
- □ ↑ ↓ Food / Fluid Intake
- □ Fracture:
- □ GI Issues:
- □ Hepatic (Liver) Disease
- □ Infection / Fever / Sepsis /URI/ UTI
- □ Kidney Disease / Dialysis
- □ Malnutrition / Undernutrition
- □ Mobility Issues:
- □ Neurological / Muscular Disease:
- □ Obesity
- □ Pain Affecting Eating
- □ Pressure Ulcer Risk Score_____
- □ Pressure Ulcers/Wounds / Wound VAC:
- □ Pulmonary Condition / COPD
- □ Self Feeding Difficulty
- □ Significant Weight Change: Loss / Gain
- □ Surgery (Recent):
- □ Terminal Status
- □ **Other:**

Data Gathered by: _____(Signature/Credentials) **Date:** _____

Nutritional Needs Estimation (Based on CBW)

Total Kcal Needs:	**Protein Needs** (g)**:**	**Fluid Needs** (mL)**:**
Mifflin St Jeor OR Kg Wt X 25 / 30 / 35 +500 cal to gain/ -500 cal to lose Based on CBW	Kg Wt X 0.8 / 1.0 / 1.25 /1.5 Based on CBW	Kg Wt X 25mL/ 30mL/ 35 mL / 1 mL/kcal Based on: CBW

Summary

Nutrition Diagnosis Statement (PES)	**Nutrition Prescription or Intervention**

Proceed to Plan of Care and/or CAAs: Yes / No

Nutrition Education, Monitoring (Weights/Labs/Skin/Diet/TF Tolerance), and Evaluation

Signature: _____ **Date:** _____

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End of Life Nutrition and Hydration

Nutrition Care Process Sample Form (Pg 2 MNT Assessment/Re-Assessment) (1)

Name: _____ **Room/ID #:** _____ **Date:** _____

Nutrition Diagnosis (Problem):

□ Inadequate Oral Food/Beverage Intake (I)
□ Underweight (C)
□ Involuntary Weight Loss (C)
□ Overweight (C)
□ Increased Nutrient Needs (I)
□ Inadequate Protein Energy Intake
□ Excessive Intake - Oral- Enteral/Parenteral (I)
□ Inappropriate Infusion of EN/TPN (I)
□ Swallowing / Chewing Difficulty
□ Disordered Eating Pattern
□ Impaired Nutrient Utilization (C)
□ Food Safety

Etiology (Related to):

□ Food intolerances:
□ Changes in taste, appetite, preferences
□ Intake of meals or supplements
□ Inappropriate Intake of:
Medications: _____
Laxatives: _____
Other: _____
□ Excessive Physical Activity
□ Depression/Eating Disorder
□ Impaired Cognition
□ Conditions Leading to Excessive Fluid Weight Gain /Loss
□ Decreased Nutrient Needs
□ Intolerance of Enteral/Parental Nutrition

Signs/Symptoms:

□ Intake Less/Excess than Estimated Needs of: _____
□ Weight Loss/Gain of: _____
□ Pressure injury:
Stage: _____ Location: _____
□ Presence Of Edema/Extent: _____
□ Elevated Lab(s): _____
□ Chewing / Swallowing Difficulties – Food / Fluids
□ Nausea/ Vomiting/ Constipation / Diarrhea
□ GI Pain During/After Eating
□ Diet Noncompliance
□ Not Ready to Accept Change/Poor Understanding of Health Condition/Dietary Needs

Nutrition Prescription:

Interventions:

□ Food: __ Least Restrictive Diet __ Fortified Food Plan / Snack:
□ Modify Consistency Food / Fluid
□ Medical Food Supplement: House / Diabetic / Protein Module
□ Recommend Vitamin/Mineral Supplement: MVI / Fe / Calcium:
□ Feeding Assistance – Adaptive Equipment / DR Placement / Limited Assist / Extensive Assist
□ Enteral / Parenteral Nutrition: Change Formula / Rate / Time / Flush:

Education:

□ Initial / Brief Nutrition Education with Resident / Family:
□ Provided Comprehensive Nutrition Education with Resident / Family
□ Diet Information Left with Resident / Family:
□ Accepts / Rejects Instruction:

Coordination of Care:

□ Note/ Recommendation Left for Physician
□ Refer to or Note Left for: PT / OT / SLP / Psych / Social Services / Pharmacist / Renal Dietitian/ Nurse Practitioner / Wound Nurse / Care Plan Team

Monitor (How Responding to Interventions):

□ Tolerating Diet
□ Tolerating Assistance
□ Accepting Meals / Snacks
□ Stable / Improved Weight / Skin / Labs

Evaluation (Expected outcomes met? If Not, Reassess and Revise):

□ Accepts and Follows Interventions and Recommendations
□ Declined to Follow Interventions and Recommendations
□ Poor Readiness to Change / Learn

Signature: _____ Date:_____

This page created by Suzanne Cryst, RDN, CSG, LD. Adapted and used with permission.

End of Life Nutrition and Hydration

MNT Care Plan for Hospice/Palliative/Comfort Care Sample Form (1)

Name_____Room/ID#_____

Date	Problems/Etiology/Signs/ Symptoms	Goals (and Dates)	Nutrition Interventions
	□ Unable to meet nutritional needs □ Under-nutrition related □ terminal diagnosis □ failure to thrive □ no further interventions desired □ end of life wishes and desires	□ Maintain comfort and pleasure and honor wishes □ Safely maintain oral intake for pleasure for as long as possible	□ Provide diet and fluids per physician order □ Provide oral nutrition supplements per physician order □ Provide TF and Flush per order □ Honor all reasonable food desires and preferences
	Nutriton Quality of Life □ **Decreased related to diagnosis**		□ Adjust diet according to tolerance and desires □ Monitor food/fluid intake □ Encourage PO intake □ Oral nutrition supplement as ordered □ Assist at meals as needed □ Educate as needed □ Medications as ordered □ Monitor diet tolerance □ Monitor TF tolerance □ Follow comfort protocols □ Follow palliative protocols □ Follow hospice protocols
	Nutrition Diagnosis (NI/NB/NC)		**Nutrition Prescription (ND/E/C/RC)**
			Food/Nutrient Delivery (ND)
Intake (NI)	**Inadequate fluid intake**		
			Education
NI	**Malnutrition**		**Counseling**
NI	**Inadequate protein/energy intake**		**Coordination of Care**
Behavior/ Environ-mental NB)			
Functional (NC)	**Underweight** **Unintended Weight Loss**		

Signature_____ Date_____

End of Life Nutrition and Hydration

Penn State Equation for Predicting Metabolic Rate (2003b) (3)
$RMR = BMR(0.96) \times V_E(31) + T_{max}(167) - 6212$
BMR – Basal metabolic rate in kcal/day calculated by Harris-Benedict equation V_E – minute ventilation (L/min) T_{max} – maximum daily body temperature in degrees Celsius

Ireton-Jones Equation for Calculating Energy Needs (4)

Ireton-Jones offers two basic equations for estimating energy needs as Estimated Energy Expenditures (EEE).

Spontaneously Breathing Individuals
EEE(S) = 629 – 11(A) + 25(W) – 609(O)
Ventilator Dependent Individuals
EEE(V) = 1784 – 11(A) + 5(W) + 244(S) +238(T) – 804(B)

A = Age in years
W = Body weight in Kg
O = Obesity (present = 1, absent = 0)
S = Sex (male = 1, female = 0)
T = Trauma Diagnosis (present = 1, absent = 0)
B = Burn diagnosis (present = 1, absent = 0)

Example: 170# male; non-obese; 45 years old

Spontaneously Breathing	**Ventilator Dependent**
EEE(S) = 629 – 11 (45) + 25 (77) – 609 (0)	EEE(V) = 1784 – 11 (45) + 5 (77) + 244 (1) + 238 (0) – 804 (0)
629 – 495 + (1925) – 0 = 2059	1784 - 495 + 385 + 244 + 0 – 0 = 1918
EEE = 2059	EEE = 1918

Swinamer Equation (5).	
BMR = BSA(945) + A(6.4) + T(108) + RR(24.2) + VT(81.7) – 4349	
BMR – Basal metabolic rate in kcal/day BSA – Body surface are (m^2) T – Body temperature in degrees Celsius	RR – Respiratory rate (breaths/minute) VT – Tidal volume (L/minute)

Alternate Methods of Calculating Energy Needs (6-8)

Kilocalorie Needs		
Weight Maintenance	**Underweight**	**Underweight with Pressure injuries**
F: 18-22 kcal/kg body weight M: 20-24 kcal/kg body weight	27-28 kcal/kg body weight or higher for weight gain	30-35 kcal/kg/day for individuals under stress with pressure injuries May need additional calories to regain lost weight
Normal Weight Adult	**Obese Critically Ill**	**Paraplegics/Quadriplegics**
25-35 kcal/kg/day	21-22 kcal/kg/day	28 kcal/kg/day for paraplegics 23 kcal/kg/day for quadriplegics

End of Life Nutrition and Hydration

Physical Changes Indicating Altered Nutritional Status

Body Composition	Age related loss of muscle mass and/or reduced muscle strength and/or function occurs (sarcopenia). Body fat may increase while muscle and lean body mass decrease. This can lead to a reduction of resting metabolic rate and a need for fewer calories while maintaining or increasing nutrient needs to maintain good health. Sarcopenia may also lead to reduced strength and ability to function independently (including ability to purchase, prepare and eat food independently).
Body Structure	A decline in bone density may cause fractures that are difficult to mend, leading to decreased physical activity and social interaction which can have a major effect on consuming a balanced diet.
Diseases/Conditions	Diseases and conditions such as cancer, diabetes mellitus, advanced or uncontrolled heart or lung disease, infection, fever, liver disease, hyperthyroidism, mood disorder and repetitive movement disorders, such as wandering, pacing, or rocking Hyper metabolic state that increases demand for energy and protein such as chronic obstructive pulmonary disease, pneumonia, infection, and fever
Enzymes	Changes in production and/or effectiveness of enzymes can affect ability to digest or metabolize foods. Example: A lack of the enzyme lactase may result in stomach cramps and diarrhea after consuming dairy foods.
Gastrointestinal Tract	Disorders such as pancreatitis, gastritis, motility disorders, small bowel dysfunction, gall bladder disease, liver dysfunction, prolonged diarrhea or vomiting are risk factors for altered nutritional status. Digestion and/or absorption may be impaired due to stomach inflammation, abnormal bacterial growth, and/or reduced acid output. Absorption of vitamin B-12 may be reduced due to lack of intrinsic factor. The small intestine no longer functions at the highest level leading to poor absorption of key nutrients such as carbohydrates, fats, protein, vitamins and minerals. Constipation may be the result of poor gastrointestinal motility, weak muscle tone and/or inadequate fiber and/or fluid intake.
Mouth	Chewing and swallowing ability may be hindered by missing teeth, deterioration of gums, and/or reduced salivary production. This can possibly lead to dysphagia. Mouth pain, discomfort, and/or mouth or gum soreness may reduce food intake.
Sensory Changes	Includes visual acuteness, hearing, smell and taste. A therapeutic diet with unappealing bland food or a mechanically altered diet may cause a decline in nutrient intake.
Urinary Tract	A diminished thirst mechanism makes older adults susceptible to dehydration. Urinary tract infections are common in older adults resulting in an increase use of antibiotics with the resulting adverse effects of GI distress and poor appetite. Kidney function declines as the kidneys decrease in size, resulting in inefficient removal of metabolic waste products.

(References: 9-11)

End of Life Nutrition and Hydration

Nutrition Focused Physical Assessment

Nutrition-focused physical assessment (NFPA) is an emerging area of nutrition and dietetics practice for RDNs and nutrition and dietetic technicians registered (NDTRs). Although it is only one component of the nutrition assessment process, it can help identify causes of nutritional deficiency and characteristics of malnutrition. NFPA goes beyond the traditional measurement of height, weight, body fat, arm and calf circumference and is considered an adjunct to traditional nutrition assessment. The NFPA combines a physical examination, vital signs, and anthropometrics with patient/resident interviews and data from the medical record (12). It is an important tool in the identification of malnutrition using the guidelines proposed by the Academy of Nutrition and Dietetics and the American Society for Enteral and Parenteral Nutrition.

The 2013 *International Dietetics and Nutrition Terminology (IDNT) Reference Manual* defines NFPA as: "findings from an evaluation of body systems, muscle and subcutaneous fat wasting, oral health, suck, swallow/breathe ability, appetite, and affect" (13) More in depth forms of NFPA require training and assessment of competency.

Performing a Nutrition-Focused Physical Assessment

Nutrition-focused physical assessment is a hands-on assessment that uses four steps (12).

Inspection: A general observation that progresses to a more focused observation using the senses of sight, smell, and hearing. Most RDNs and NDTRs already perform a general observation of an individual's condition and this should include things like noticing an order that might indicate ketosis or alcohol use and observing visually for signs of undernutrition or wasting.

1. **Palpitation:** Touching the individual to feel the skin's temperature, and presence of edema, and touching the abdomen to assess for tenderness, and superficial masses.
2. **Percussion:** Assessment of body sounds to detect gas in the abdomen, fluid in the lungs, or other issues.
3. **Auscultation:** Use of the ear or a stethoscope to listen to heart and lung sounds, bowel sounds, and blood vessels.

The assessment uses a systems approach by evaluating the factors in the table on the next page (12,14). Traditionally physicians, nurse practitioners, physician's assistants, and nurses perform these assessments. However, RDNs can embrace a hands-on approach and incorporate physical assessment into their practices (10) and/or review findings of another health care professional (12). Clinical judgment must be used to select indicators and determine the appropriate measurement techniques and reference standards (8). To successfully use the results of a NFPA, the practitioner must be able to interpret vital signs and physical findings and be familiar with how findings correlate with compromised nutritional status. Understanding these correlations is key to identifying and categorizing malnutrition.

Nutrition Focused Physical Assessment and Scope of Practice

In 2013 the Academy of Nutrition and Dietetics published a *Scope of Practice for the Registered Dietitian.* Registered dietitians must practice under the state statutes (practice acts) that may (but not always) outline the types of activities they can perform. Each individual is responsible for understanding the legal requirements they operate under in the state in which they practice. The Academy's *Scope of Practice* indicates that individual RDNs "can only practice in areas in which they are qualified and have demonstrated competence to achieve ethical, safe, and quality outcomes in the delivery of food and nutrition services" (15). This applies to all areas of nutrition and dietetics practice including the NFPA.

It is imperative for RDNs who plan to conduct NFPA develop their assessment skills and demonstrate competence using a framework outlined by an employer or qualified agency. Reference standards

that are outlined in facility policies and procedures should be used (13). For example, a hospital or nursing facility may have competency guidelines for nurses and nursing assistants for taking vital signs, listening to bowel sounds, etc. An RDN could easily undergo facility training and demonstrate competency to perform these evaluations and interpret their results. RDNs that are learning the NFPA process should, with the agreement of their employer, shadow other professionals who perform assessments and participate in hands-on assessments as part of the training process.

Systems Approach to Evaluating Physical Factors for Nutrition Focused Physical Assessment

Physical Appearance • Body size • Body type • Appearance of wasting or obesity • Level of consciousness • Paralysis or involuntary movement • Amputations or contractures • Affect • Condition of hair and nails	**Nerves and Cognition** • Ability to communicate • Cognitive status • Reflexes • Ability to feel pain in extremities • Gross and fine motor skills
Vital Signs • Blood pressure • Heart rate • Oxygen saturation/respiratory rate • Temperature	**Extremities, Muscles, and Bones** • Hand grip strength • Range of motion • Subcutaneous fat • Muscle mass • Edema • Ability to stand and walk
Skin • Skin turgor • Skin color • Presence of surgical wounds, pressure injuries, stasis ulcers, or diabetic foot ulcers • Poor or delayed wound healing	**HEENT (Head, Eyes, Ears, Nose, and Throat)** • Ability to smell and taste • Loss of orbital (around the eye), buccal (around the cheeks), facial fat • Vision and hearing • Chewing or swallowing problems
Digestive System • Condition of teeth, presence of dentures and/or partials • Condition of oral cavity and tongue • Inflamed or bleeding gums • Bowel sounds • Abdominal pain	**The Cardiopulmonary System** • Ability to breathe • Breath sounds • Regular heart rhythm

(References: 12-14)

End of Life Nutrition and Hydration

Indicators of Dehydration/Fluid Maintenance

Symptoms	Abnormal Laboratory Values	Cognitive, Communication and Mental Status	Diseases/ Conditions*	Oral intake
• Dizziness on sitting or standing • Confusion or change in mental status • Lethargy • Recent decrease in urine volume or more concentrated urine than usual • Decreased skin turgor, dry mucous membranes • Newly present constipation, fecal impaction • Fever • Functional decline • Increased risk for falls • Fluid and electrolyte disturbance	• Hemoglobin • Hematocrit • Potassium chloride • Sodium • Albumin • Blood urea nitrogen • Urine specific gravity	• Depression or anxiety • Behavioral disturbance that interferes with intake • Recent change in mental status • Alzheimer's or other dementia that interferes with eating due to short attention span, resisting assistance, slow eating/drinking, etc. • Difficulty making self understood • Difficulty understanding others	• Infection • Fever • Diabetes • Congestive heart failure • Swallow problems • Renal disease • Weight loss • New CVA • Unstable acute or chronic condition • Nausea or vomiting • Diarrhea • Excessive sweating • Recent surgery • Recent decline in activities of daily living, including body control or hand control problems, inability to sit up, etc. • Parkinson's or other neurological disease that requires unusually long time to eat • Abdominal pain, with or without diarrhea, nausea, or vomiting • Newly taking a diuretic or recent increase in diuretic dose • Takes excessive doses of a laxative • Hot weather (increases risk for elderly in absence of increased fluid intake)	• Recent change in oral intake • Skips meals or consumes less than 25% of meals • Fluid restriction • Newly prescribed diet • Decreased perception of thirst • Limited fluid-drinking opportunities • Fluid intake limited to try to control incontinence • Dependence on staff for fluid intake • Excessive output compared to fluid intake

*****That predispose to limitation in maintaining normal fluid balance

(Sources: 2,16)

Laboratory Tests and Nutrition Interventions Related to Anemia (7,16,17)					
Lab Test	**Normal Values**	**Iron Deficiency (Microcytic)**	**Folate Deficiency (Macrocytic)**	**B12 Deficiency (Macrocytic)**	**Anemia of Chronic Disease**
Hemoglobin (Hgb)	Female: 12-16 g/dL Male: 14-18 g/dL	↓	↓	↓	↓
Hematocrit (Hct)	Female: 37-47% Male: 42-52%	↓	↓	↓	↓
Mean corpuscular volume (MCV)	80-95 micrograms	↓	↑	Normal or increased	Normal
Mean corpuscular hemoglobin (MCH)	27-31 picograms	↓	↑	↑	Normal
Serum Iron (Fe)	Female: 60-160 µg/dL Male: 80-180 µg/dL	↓	↑	↑	↓
Total Iron Binding Capacity (TIBC)	250-460 µg/dL	↑	N/A	N/A	↓
Ferritin	Male: 12-300 ng/mL Female: 10-150 ng/mL	< 12 ng/mL	> 300 ng/mL	> 300 ng/mL	Normal or increased
Serum B12	160-950 pg/mL	Normal	↓	↓	Normal
Folate	5-25 µg/dL	Normal	↓	↑	Normal or decreased
Nutrition Interventions		Increase iron-rich foods, particularly heme sources. Include a vitamin C source with meals to increase iron absorption. Limit coffee, tea, nuts, which may inhibit iron absorption. A multivitamin with iron is recommended for individuals with mild to moderate deficiency. For individuals with severe deficiency, an iron supplement is needed.	Increase folate-rich foods (fresh fruits/vegetables). Folate supplementation may be required for individuals with impaired absorption. Folate may mask a vitamin B_{12} deficiency, so serum B_{12} levels should always be checked prior to administering folate supplements.	Increase amounts of B12 containing foods in the diet based on individual preferences. Supplementation with intramuscular injections or oral of B12 is almost always recommended, due to the risk of irreversible neuropathy associated with B12 deficiency.	There is no nutritional therapy that will treat this type of anemia. The only treatment for this type of anemia is to correct the underlying condition or disease causing the anemia. Taking additional iron or vitamins does not help as the body is unable to absorb the additional nutrients.

Nutrition Interventions to Address Malnutrition

Potential Interventions to improve nutritional status will vary depending on the etiology of the malnutrition, comorbidities, goals, and plan of care. The benefits of nutrition intervention to improve clinical outcomes have been well-documented (14). Interventions can be broadly organized into 4 categories: food and/or nutrient delivery, nutrition education, nutrition counseling, and coordination of nutrition care (14). Specific nutrition interventions might include (6,18,19).

- Additional food or snacks for those who are eating well.
- Individualizing a diet to remove restrictions that might be undesired or result in unpalatable food.
- Foods and beverages fortified with protein, calories, and other nutrients.
- Oral Nutritional Supplements (ONS) for those whose intake is not meeting their estimated needs.
- Modifications in food texture or beverage consistency in response to chewing or swallowing problems.
- Adaptive feeding equipment to facilitate self-feeding.
- Changes in dining environment to provide a more or less stimulating environment for a patient.
- Medication review and changes if appetite is affected by medications.
- Enteral feeding if indicated and desired.
- Nutrition counseling during stay at facility and prior to discharge.
- Referral to appropriate resources in the community at discharge.

Important Note: Until further research has been completed to validate the new diagnosis process for malnutrition, practitioners may choose to use validated nutrition screening tools to identify malnutrition or undernutrition (or risk of either).

End of Life Nutrition and Hydration

Nutritional Needs During Periods of Stress

An individual with a critical illness or chronic condition (i.e. trauma, injury, burns, wounds, pressure injuries, major surgery, major infection) is at risk for a dangerous stress response resulting in hypermetabolism, increased catabolism and loss of lean body tissue. This can lead to protein energy malnutrition (PEM) and weight loss, which contribute to immune impairment, weakness and increased risk of pressure injury development.

General Reactions To Stress Hypermetabolism
↑ Resting energy expenditure
↑ Protein breakdown (proteolysis)
↑ Branched Chain AA breakdown
↑ Liver production of proteins (hepatic protein synthesis)
↑ Urea production due to protein breakdown (ureagenesis)
↑ Nitrogen loss (via urine)
↑ Urea production due to protein breakdown
↑ Protein converted to glucose for energy use (gluconeogenesis)

Metabolic responses during stress or trauma also have a dramatic impact on the body's organs and systems. Cytokines (proinflammatory proteins) are released in response to inflammation, tissue damage, or infection. Cytokines stimulate cell growth, destroy target cells, cause signs of infection such as fever, and contribute to metabolic and gastrointestinal changes that can create anorexia and malaise. The release of cytokines stimulates an increase in the catabolism (breakdown) of lean body mass protein in response. In addition, counterregulatory hormones (such as glucagons, cortisol and catecholamines) are released. These hormones mobilize fatty acids, promote breakdown of glucose, and breakdown of proteins to glucose for energy.

Production of energy becomes increasingly dependent on proteins. Branched chain amino acids fuel the muscles. Arginine, a conditionally indispensible (essential) amino acid, may be essential for the critically ill because it is needed for formation of nitric oxide and other mediators of the inflammatory response. *Note: Nitric oxide is a vasodilator produced by the endothelial cells. Vasodilators widen the blood vessels to help increase blood flow and in turn, lower blood pressure*.

Metabolic Response to Trauma

Organ or System	Response
Liver	↑ Glucose production ↑ Amino acid uptake ↑ Acute phase protein synthesis
Central nervous system	Anorexia, Fever
Circulation	↑ Glucose ↑Triglycerides ↑ Urea ↓ Amino acids ↓ Iron ↓ Zinc
Skeletal muscle	↑ Amino acid efflux (especially glutamine) leading to loss of muscle mass
Intestine	↓ Amino acid uptake, leading to gut mucosal atrophy

Metabolic stress causes poor utilization of carbohydrate, protein and fat. Rapid breakdown of lean body mass (LBM) causes urinary loss of potassium, phosphorus and magnesium. Fat metabolism increases to create energy. This series of events results in an acute protein energy malnutrition (PEM) in which albumin, transferrin, prealbumin and retinol-binding protein decrease. C-reactive protein may also increase during the inflammatory response. A negative nitrogen balance occurs due to rapid loss of LBM, resulting in muscle wasting. Hyperglycemia is also common during stress as the body rushes

to produce energy, but simultaneously reduces the production of insulin. At the same time all of these catabolic activities are taking place, there is a decrease in anabolic hormones such as testosterone and growth hormone. Anabolic hormones normally support anabolism (creating glycogen, triglycerides and proteins).

Acute and Adaptive Responses to Trauma	
Acute Response	**Adaptive Response** (associated with recovery)
Catabolism • ↑ Metabolic rate • Production of acute-phase proteins • ↑ Nitrogen excretion	**Anabolism** • ↓ Hypermetabolic rate • Potential to restore the body's protein • Wound healing
Goals • Minimize catabolism • Maintain fluid and electrolyte balance	**Goals** • Meet needs for calories, protein, nutrients • Correct any nutritional deficiencies

In a trauma or acute situation, the stress response typically peaks at 3 to 4 days, and subsides in 7 to 10 days. However, in situations of a chronic nature (i.e. severe wounds, pressure injuries), hypermetabolism and the catabolic response may last weeks or even months. Metabolic alterations begin at the time of the injury or acute illness and continue until recovery/healing is complete. Unfortunately, the rate of recovery of LBM is much slower during the recovery stage than the rate of loss during the inflammatory stage.

Lean body mass (LBM) makes up 75% of body weight mostly in the form of muscle, bone and tendon. LBM provides the majority of the body's protein including visceral protein, collagen, enzymes, antibodies and growth factors. Proteins in the body are constantly changing and evolving depending on what the body needs at any given time. Protein is critical for growth and maintenance, fluid and electrolyte balance, acid-base regulation, blood clotting, enzymatic functions, metabolism, and immune function.

- When the body has lost just 10% of its LBM there is a decrease in immune response with increased risk of infection.
- At 15% or more loss of LBM, various components compete for protein to replace losses, thus reducing the rate of wound healing and increasing weakness.
- At 30% loss of LBM, pressure injuries develop and healing response is non-existent
- At 40% LBM loss, death may occur, usually due to pneumonia

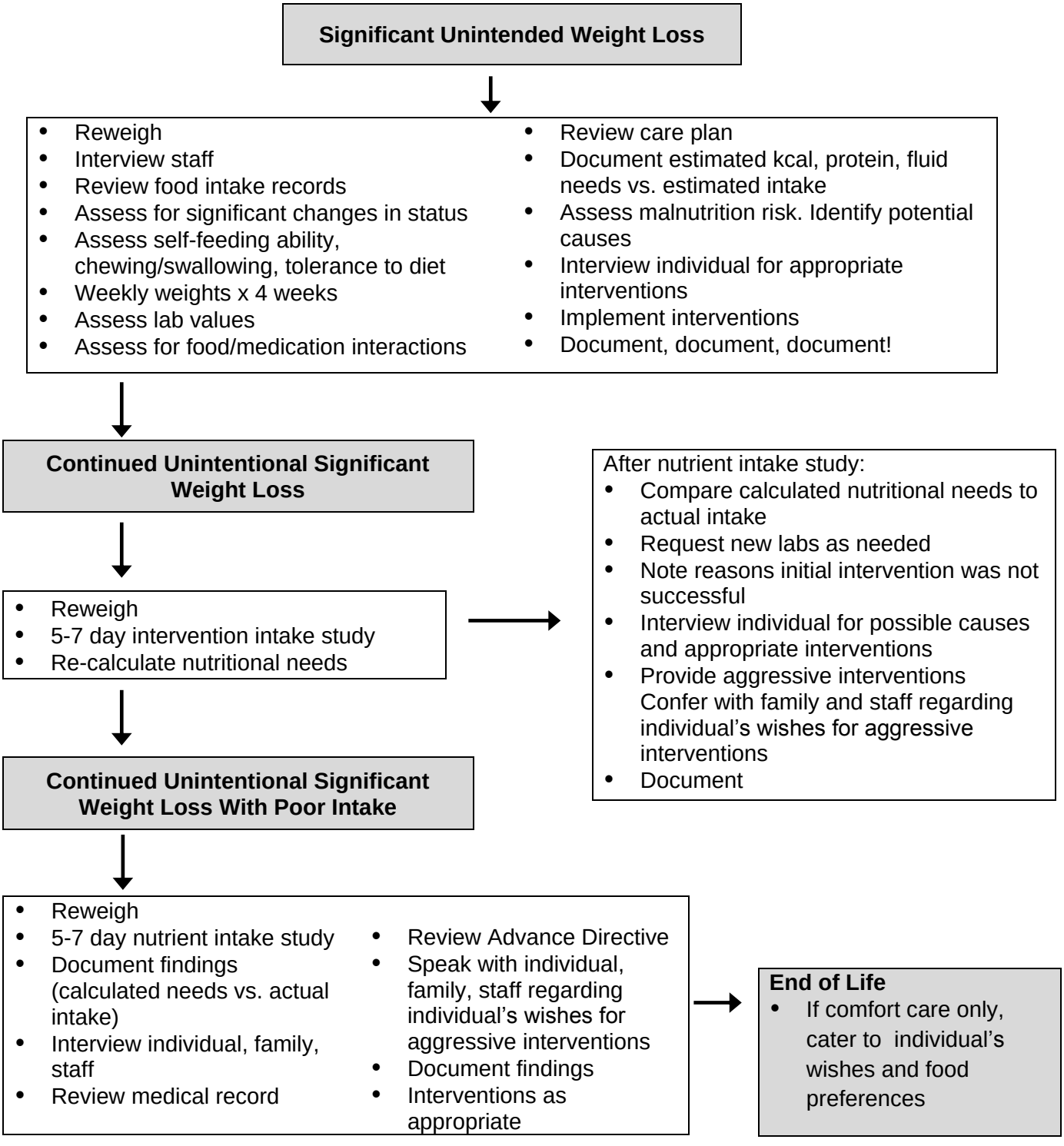
To reverse the catabolic state, and promote anabolism (tissue synthesis), adequate nutrition along with resistance exercise is needed. Anabolic agents are sometimes used to restore lost weight by promoting lean body mass.

Optimal nutrition is necessary to promote anabolic activity as part of the total treatment plan.

(References: 17,20-22)

End of Life Nutrition and Hydration

Significant Weight Loss Protocol Algorithm



Adapted from: Dorner, B. Enteral Nutrition for Older Adults: Comprehensive Nutrition Assessment and Interventions. Naples, FL: Becky Dorner & Associates, Inc.;2013. (Reference 23)

End of Life Nutrition and Hydration

How to Talk to Family about Tube Feeding a Patient without a Terminal Diagnosis Sample

This information is intended as a guide to help you talk to a patient and/or family about advance directives regarding tube feeding. Consider individual circumstances and modify as needed to meet the needs of specific patients and families and your facility or agency policies.

Hi. My name is _____. I am a registered dietitian nutritionist. I wanted to talk to you today about your loved one's meal intake. Our staff is concerned because your loved one has not eaten well for the past several days. We record meal intake daily, and it seems that he/she has only eaten about ____% of most meals. We also have noticed that he/she is not drinking well and has lost some weight. We are monitoring your loved one's weight and food intake carefully, and our weight/nutrition risk committee is watching him/her. We have tried different nutrition supplements and snacks for your loved one, and his/her intake of meals and supplements remains poor.

I do not know why your loved one is not eating well. It does not seem like a swallowing problem, but we will have him/her evaluated by our speech and language pathologist just in case. Sometimes poor intake is a cognitive issue—the patient just cannot remember to eat, cannot focus on food, or is unable to remember why it is important to eat. In other cases, the person simply has no appetite. In any case, your loved one appears unwilling and/or unable to eat and drink enough to maintain his/her nutritional status. We have tried many interventions to increase his/her intake. The next steps include trying a medicine that will stimulate your loved one's appetite. If that does not work, it may become necessary for you to consider tube feeding your loved one.

Unless food and/or fluid is provided intravenously (by IV) or tube feeding, a person who is not eating and drinking eventually will pass away. Deciding whether or not to start tube feeding sometimes is a difficult decision. Some families will opt to tube feed. Others believe their loved one's poor intake is part of the end of life process, and they decide against tube feeding, especially if their loved one is in pain from illness or disability. Your family must make the decision that is best for your loved one. If you should decide not to tube feed your loved one, we will closely monitor him/her and keep him/her as comfortable as possible.

If you opt for tube feeding, we will probably insert a percutaneous endoscopic gastrostomy (PEG) tube into the stomach to feed your loved one. This involves minor surgery that is done by a doctor. Once a PEG is inserted, I will calculate your loved one's nutrient needs and make sure that the feeding provides enough calories, protein, fluids, and other nutrients to keep his/her body functioning. We will continue to monitor his/her ability to eat orally. Sometimes when a patient with a poor intake is fed and hydrated, they regain strength and are able to eat on their own again. If his/her intake improves with time, it may become possible to remove the tube at some point in the future.

It is important to consider your loved one's desires, as well as his/her quality of life as you make this decision. Do you have any questions I can answer for you?

(Source: Reference 25)

End of Life Nutrition and Hydration

How to Talk to a Family about the Possibility of Inserting a Feeding Tube in a Patient with a Terminal Diagnosis Sample

This information can be used as a guide to help you talk to a patient and/or family about advance directives regarding tube feeding. Consider individual circumstances and modify as needed to meet the needs of specific patients and families and your facility policies.

Hi. My name is _____. I am a registered dietitian nutritionist and work for this facility. I wanted to talk to you today about your loved one's meal intake. Our staff is concerned because your loved one has not been eating well over the past several days. We record meal intake daily and it seems that s/he has only eaten about ____% of most meals. We have also noticed that s/he is not drinking well and has lost some weight.

It appears that your loved one is unwilling or unable to consume enough food and fluid to meet his/her nutritional needs at this time. That's why I'd like to talk to you about how you feel about tube feeding your loved one. This can be a difficult decision and is a very personal decision. I'd like to help you understand the pros and cons of tube feeding a patient who is terminally ill. Once you make a decision about tube feeding, it will be recorded in your loved one's medical record and that decision will be honored by medical staff.

According to the doctor, your loved one's condition will not improve. Often in that situation, as part of the natural end of life process, a person simply stops eating and drinking. Unless food and/or fluid is provided by IV's or tube feeding, the person will eventually pass away. If you decide not to tube feed your loved one, he/she will be closely monitored and all other needs will be met to make sure s/he is as comfortable as possible. There are many people who opt not to tube feed an elderly and/or terminally ill patient because it may extend their life but will not improve the quality of life. However, your family must make the decision that is best for your loved one.

If you do opt to tube feed your loved one, we will probably insert a PEG tube (Percutaneous Endoscopic Gastrostomy) into the stomach to feed your loved one. This involves minor surgery that must be done by a doctor. Once a PEG is inserted I will calculate your loved one's nutrient needs and be sure that the feeding provides enough calories, protein, fluids, and other nutrients to keep his/her body functioning. Feeding your loved one will keep him/her nourished and hydrated but it will not change his/her terminal status.

It is important to consider your loved ones desires as well as quality of life as you make this decision. Do you have any questions I can answer for you?

(Source: Reference 25)

End of Life Nutrition and Hydration

Decline of Life-Prolonging Procedures and Treatments Sample Form

I, _____ (Patient/Resident), or I _____ (Surrogate/Legal Guardian/Responsible Party) on this _____day of _____, 20_____, request that the attending physician use the following guidelines for interventions, treatments and procedures.

Indicate yes or no for each item listed.
Yes = treatment/procedure will be done, no = intervention/procedure/treatment will not be done):

Intervention, Procedure or Treatment	Yes	No
Nutrition/Hydration:		
Thickened liquids		
Intravenous Fluids (IVs)		
Naso Gastric (NG) feeding tube		
Percutaneous endoscopic gastrostomy tube (PEG)		
Medications:		
Antibiotic medications for infections		
Administration of meds other than those needed for pain		
Procedures:		
Blood draw for lab tests		
Urine sample for lab tests		
Xray, CT scans		
Blood transfusion		
Transfer to an acute care hospital		
Transfer to hospice or palliative care unit		
Other (please list):		

I fully understand the impact and potential consequences of my refusal for the above procedures and treatments. I have been informed of the risks versus benefits of the above named interventions/procedures/treatments. I have been advised of the adverse effects that may happen if I refuse any of these interventions/procedures/treatments. I understand that by refusing the above listed interventions/procedures/treatments that death may occur. I understand that I may change any or all of these requests by notifying staff in writing, and I will be required to complete a new request form with any changes I desire.

_____ _____
Signature **Date**

Circle one: Patient Resident Surrogate Legal guardian Responsible party

_____ _____
Witness **Date**

References and Sources for Appendix

1. Dorner, B. Medical Nutrition Therapy Made Easy For Health Care Communities. Naples FL: Becky Dorner & Associates, Inc.; 2015.
2. Dorner B. Diet Manual: A Comprehensive Nutrition Guide. Naples FL: Becky Dorner & Associates; 2016.
3. Malone A, Russell MK. Nutrient requirements. In: Charney P, Malone A., eds. *Pocket Guide to Nutrition Assessment*. 3rd ed. Chicago IL: Academy of Nutrition and Dietetics;2016;2113-236.
4. Ireton-Jones CS. Intake: Energy. In Mahan LK, Escott-Stump S, Raymond JL. Krause's Food and the Nutrition Care Process, 13th ed. St. Louis MO: Elsevier Saunders; 2012;19-31.
5. Winkler MF, Malone AM. Medical Nutrition Therapy for Metabolic Stress: Sepsis, Trauma, Burns, and Surgery. In Mahan LK, Escott-Stump S, Raymond JL. Krause's Food and the Nutrition Care Process, 13th ed. St. Louis MO: Elsevier Saunders; 2012:884-900.
6. Academy of Nutrition and Dietetics. Nutrition Care Manual. www.nutritioncaremanual.org. Accessed July 22, 2016.
7. Eckstein L, Adams K, eds. Pocket Resource for Nutrition Assessment. Chicago IL: Dietetics in Health Care Communities Dietetic Practice Group of the Academy of Nutrition and Dietetics; 2013.
8. National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers: Quick Reference Guide. Emily Haesler (Ed.). Cambridge Media: Osborne Park, Western Australia; 2014.
9. 2016 A.S.P.E.N. Board of Directors. Enteral nutrition practice recommendations [published online ahead of print January 26, 2009]. JPEN *J Parenter Enteral Nutr*. 2009;33:122-167.
10. Litchford MD. *Common Denominators of Declining Nutritional Status*. CASE Software and Books: Greensboro, NC; 2009.
11. Centers for Medicare & Medicaid Services. State Operations Manual, Guidance to Surveyors for Long Term Care Facilities, Appendix PP https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS1201984.html. Revision 157, 6/10/16. Accessed November 16, 2016.
12. Furhman MP. Nutrition-Focused Physical Assessment. In Charney P, Malone AM. ADA Pocket Guide to Nutrition Assessment, 2nd ed. Chicago IL: American Dietetic Association, 2009;40-61.
13. Academy of Nutrition and Dietetics. Nutrition Terminology Reference Manual (eNCPT): Dietetics Language for Nutrition Care. http://ncpt.webauthor.com. Accessed July 22, 2016.
14. Litchford MD. Nutrition Focused Physical Assessment: Making Clinical Connections. Greensboro, NC: Case Software; 2012.
15. Academy of Nutrition and Dietetics: Scope of Practice for the Registered Dietitian. *J Acad Nutr Diet*. 2013;Suppl 2(1):S17-S28.
16. Niedert KC, Carlson MP, eds. *Nutrition Care of the Older Adult: A Handbook for Nutrition Throughout the Continuum of Care.* 3rd ed. Chicago IL: Academy of Nutrition and Dietetics; 2016.
17. Dorner B. *The Complete Guide to Nutrition Care for Pressure Ulcers*. Naples FL: Becky Dorner & Associates; 2015.
18. Tappenden KA, Quatrara B, Parkhurst ML, et al. Critical role of nutrition in improving quality of care; an interdisciplinary call to action to address adult hospital malnutrition. J Acd Nutr Diet. 2013;113:1219-1237.
19. Dorner B. Dysphagia Diet Solutions. Naples FL: Becky Dorner & Associates; 2008.

20. Demling R, *Involuntary Weight Loss, Protein-Energy Malnutrition, and the Impairment of Cutaneous Wound Healing, Wounds: A Compendium of Clinical Research and Practice; Supplement D*. Vol 13, No. 4, July/August 2001.
21. Demling R, DeSanti L, Protein-Energy Malnutrition, and the Nonhealing Cutaneous Wound, 2003.
22. Posthauer ME, Banks M, Dorner B, Schols J. The role of nutrition for pressure ulcer management: National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel, and Pan Pacific Pressure Injury Alliance White Paper. *Adv Skin Wound Care.* 2015; 28(4): 175-188.
23. Dorner B. Enteral Nutrition for Older Adults: Comprehensive Nutrition Assessment and Interventions. Naples FL: Becky Dorner & Associates; 2013.
24. Nutrition411.com. How to talk to a family about tube feeding a patient without a terminal diagnosis. http://www.nutrition411.com/content/how-talk-family-about-tube-feeding-patient-without-terminal-diagnosis-0. Accessed July 22, 2016.
25. Nutrition411.com. How to talk to a family about tube feeding a patient with a terminal diagnosis. http://www.nutrition411.com/content/considering-tube-feeding-%E2%80%93-terminal-patient. Accessed July 22, 2016.
26. Friedrich E. PEG Tube Feeding at the End of Life: When it's Appropriate, When it's Not. Today's Dietitian 2012 (12): 42.

End of Life Nutrition and Hydration

Instructions for Obtaining Continuing Professional Education

Becky Dorner & Associates is a Continuing Professional Education (CPE) Accredited Provider (NU004) with the Commission on Dietetic Registration (CDR). CDR Credentialed Practitioners will receive 16 Continuing Professional Education units (CPEUs) for completion of this activity/material.

To obtain the CPE certificate, each participant must pass a test (a grade of 70% is required) and complete a simple evaluation. You may re-take the test as many times as needed. If you are interrupted and cannot finish the test, you can save the test and come back later to finish it. You are also required to complete the two essay questions on the following pages. These are for your own portfolio records.

There are 2 ways to access the test:

1. Access your email order confirmation and scroll towards the bottom where you will find an area that states, *"To take a TEST, click on the link(s) below:"* There will be a link after the text for you to click on; you can fill in your name to take the test and receive the certificate.
2. If you are a member on the Becky Dorner & Associates' website, you can access the test by logging into the website at www.beckydorner.com. Once you are logged in, click on the left tool bar on the category "Members Only", then click on "Purchased Tests". This page has all of the tests that you have purchased from Becky Dorner & Associates.

Carefully read the contents of this program. Keep in mind the practical applications it has for you in your individual setting. The focus is to increase your knowledge and application of the subject matter. For multiple choice questions select the one best answer from the choices given.

Upon successfully completing the test, you will automatically be directed to the evaluation. Simply enter your email address and complete the evaluation. When finished, click "Submit Survey." Click on either "print" or "download your certificate" to generate the CPE Certificate with all of the course information including your name.

For Registered Dietitian Nutritionists, Registered Dietitians, and Dietetic Technicians Registered: After successfully completing the self-testing portion of this continuing education package, a certificate of completion is provided for your portfolio. Place the certificate in your portfolio for your records. You do not need to submit this form to Becky Dorner & Associates, Inc. or to the Commission on Dietetic Registration (CDR).

Important for Certified Dietary Managers: Once you have completed the course and obtained your certificate by following the instructions above, please obtain the subsequent approval form from the Association of Nutrition & Foodservice Professionals (ANFP) website to request your continuing professional education credits (as required). Do not submit this form to Becky Dorner & Associates, Inc. http://www.anfponline.org/CE/CE_forms_subsequent.shtml

Description:

The End of Life Nutrition and Hydration book includes:

- Suggestions for practice with patients/residents at the end of life detailing advance directives regarding nutrition and hydration, end of life care planning
- The role of the RDN
- End of life medical nutrition therapy including nutrition screening, nutrition care process, nutrition assessment, nutrition focused physical examination, laboratory assessment,

evaluating for dehydration, fluid/electrolyte balance, anemia; determining diagnosis of malnutrition; estimating nutritional needs including advice on mathematical formulas when indirect calorimetry is not available

- Review of MDS 3.0 (for nursing facilities) and care planning process
- Details and guidance on benefits and risks of enteral nutrition at the end of life, making the decision to provide enteral nutrition, tube feeding and dementia, considerations for health care providers
- Choosing comfort-guided nutrition care, palliative care and hospice care
- End of life symptoms that may affect nutritional care, end-of-life pain and discomfort related to food and fluid intake
- Legal issues and end of life care
- Enteral Nutrition at the end of life including: selecting the type of feeding, nutrition care of the tube-fed patient, selecting enteral formulas (including information on disease specific and blenderized formulas), delivery methods, determining the tube feeding schedule and administration of the feeding, using feeding tubes to deliver medications, drug-nutrient interactions, complication of enteral feeding, monitoring for refeeding syndrome, and discontinuing enteral feeding
- Sample policies and procedures, resources, sample forms, etc.
- Meeting state and federal regulations: Surveyor guidance (tube feeding, right to refuse treatment, etc.), CMS tube feeding assessment form, hospice/end of life/palliative care critical element pathway, MDS
- Patient/Family/Surrogate education tools: FAQs and copy ready educational handouts
- Appendix full of additional resources
- 2 inservices: Comfort Guided Nutrition Care and To PEG or Not to PEG

Objectives:

After completion of this CPE program, participants will be able to:

1. Determine how to implement MNT for the patient/resident who is at the end of life.
2. Understand how to implement comfort guided nutrition care in palliative care and hospice patients/residents.
3. Implement nutrition related interventions to alleviate end of life symptoms including pain and discomfort related to disease process, medications and/or treatments.
4. Determine whether or not a patient/resident is a good candidate for tube feeding based on their prognosis and comorbidities.
5. Utilize tools and resources to assist families/patients/residents in making decisions regarding use of tube feeding at the end of life.
6. Implement appropriate enteral feeding in individuals who require tube feeding, and select an appropriate formula and feeding schedule to meet nutritional needs.
7. Understand the complications of enteral feeding and propose interventions to help manage complications.
8. Understand how to meet state and federal regulations (for nursing homes).
9. Implement education tools for Patient/Family/Surrogate as needed.
10. Implement staff education using the resources provided.

CPE Program Expiration Date: February 15, 2020 CDR Level: 2

End of Life Nutrition and Hydration

CDR Top 4 Learning Needs Codes and Performance Indicators:

(5430) End of life care

8 Uses current knowledge and skills to convey the specific application of food and nutrition sciences and physical activity in the dietetics profession.
- 8.3 Demonstrates a commitment to maintaining and enhancing knowledge.
- 8.3.6 Keeps abreast of current nutrition and dietetics knowledge and trends.

(1050) Ethics

1 Accepts responsibility and accountability for providing competent, ethical, customer-centered nutrition and dietetics services.

Identifies with and adheres to the code of ethics for the profession.
- 1.1.3 Understands the impact of personal values and beliefs on practice.
- 1.1.6 Recognizes and manages situations with ethical implications.
- 1.3 Applies customer-centered principles in practice.
- 1.3.1 Applies strategies that engage the customer in a collaborative approach.
- 1.3.6 Develops and implements culturally appropriate strategies when delivering service.

2 Communicates and collaborates with others to achieve common goals and enhance relationships in the provision of nutrition and dietetics services.
- 2.2 Collaborates with others to achieve common goals and to optimize delivery of services.
- 2.2.4 Collaborates with others when the required skill is beyond his/her competence.

4 Employs critical reasoning and professional judgment in decision making and problem solving relevant to RDN and NDTR scope of practice.
- 4.1.5 Recognizes situations where services provided to a customer should be adjusted, limited, modified or discontinued.

9 Provides education and counseling to meet the learning needs of students and customers.
- 9.4 Teaches, guides and instructs a variety of individuals, groups or populations
- 9.4.6 Uses socially and culturally appropriate strategies in order to respect diverse cultures and values

(5000) Medical Nutrition Therapy

8 Uses current knowledge and skills to convey the specific application of food and nutrition sciences and physical activity in the dietetics profession.
- 8.1 Interprets and applies current food and nutrition science and principles in dietetics practice.
- 8.1.5 Applies medical nutrition therapy in disease prevention and management.

10 Provides safe, effective and ethical medical nutrition therapy to assist the client in establishing and achieving individual health and nutrition goals tailored to prevent and/or manage disease, injury or condition.
- 10.2 Implements the Nutrition Care Process to ensure individual health goals are established, monitored and achieved while adhering to the Standards of Practice in Nutrition Care for RDNs.
- 10.2.9 In collaboration with the client and interdisciplinary team (including NDTRs), selects and implements current and evidence-based nutrition interventions and patient education.

End of Life Nutrition and Hydration

(5440) Enteral and parenteral nutrition support

8 Uses current knowledge and skills to convey the specific application of food and nutrition sciences and physical activity in the dietetics profession.
- 8.3 Demonstrates a commitment to maintaining and enhancing knowledge.
- 8.3.6 Keeps abreast of current nutrition and dietetics knowledge and trends.

Additional Learning Needs Codes that may apply:

(3020) Assessment of target groups, populations
(3050) Feeding, swallowing, dentition
(3060) Laboratory tests
(4190) Elderly nutrition
(5010) Acute
(5030) Home care
(5040) Long-term, intermediate, assisted living
(5050) Rehabilitation
(5100) Elderly
(5380) Wound care
(5390) Care planning, documentation and eval.
(5450) Feeding equipment, tube placement, adaptive utensils
(6000) Education, training and counseling
(7100) Institution/regulatory policies and procedures, HCFA, OBRA, JCAHO, OSHA, USDA

Note: Additional Performance indicators may apply.

Continuing Professional Education Reviewers

Thank you to our continuing education reviewers:

Mary Ellen Posthauer, RDN, CD, LD, FAND
President MEP Healthcare Dietary Services,Inc.
Past Director/President-National Pressure Ulcer Advisory Panel
Nutrition411 Advisory Board
Evansville, IN

Susan Straub, RD, CD
Consultant Dietitian
Haubstadt, IN

Jamie Ritchie, MS, RD, CSG, LDN
Consultant Dietitian
Raleigh, NC