Best Practices in Nutrition Focused Physical Exam Questions & Answers

Mary Litchford, PhD, RD, LDN January 12, 2022

1. Q: Please differentiate malnutrition versus sarcopenia.

   A: Malnutrition is a condition that manifests as deficiencies, excesses or imbalances of macro or micronutrients. It is seen in undernourished individuals, overweight or obese individuals and in diet-related noncommunicable. It is seen in the context of acute disease, injury or trauma, chronic conditions and due to societal or environmental situations.

   Sarcopenia is a syndrome characterized by progressive and generalized loss of skeletal muscle mass, strength and function that are associated with increased adverse outcomes including falls, functional decline, frailty and mortality.

2. Q: What signs should I look for in patients with obesity?

   A: Signs of loss of muscle mass in the individual with obesity is best determined using imaging i.e., DXA, CT, etc. If imaging is not available, a dynamometer will measure muscle strength. BIA is another option to estimate muscle mass. Functional testing is also helpful to assess both strength and endurance.
   There are some emerging lab tests used to predict total muscle mass in research studies, but these are not approved for use to date.

   For malnutrition, look for signs of micronutrient deficiencies.

3. Q: Please comment on the ability to assess muscle loss in patients with obesity. Is it more difficult to palpate for muscle loss?

   A: Signs of loss of muscle mass in the individual with obesity is best determined using imaging i.e., DXA, CT, etc. If imaging is not available, a dynamometer will measure muscle strength. Loss of muscle mass generally precedes loss of strength. BIA is another option to estimate muscle mass. Functional testing is also helpful to assess both strength and endurance.

   There are some emerging lab tests used to predict total muscle mass in research studies, but these are not approved for use to date.

4. Q: How do you tell the difference between fat vs muscle loss in certain areas of the body?

   A: During NFPE, ask the client to engage the muscle by moving the jaw, flexing the arm or leg. Palpate for muscle volume and tone (flaccidity and hypotonus). Flaccidity is lack of active movement and hypotonus refers to muscle weakness.

5. Q: What is the best way to determine wasting in older adults (age appropriate vs severe wasting)?

   A: Wasting is generally associated with acute illness, poorly controlled chronic condition or other high stress event that accelerates loss of muscle mass. The progressive loss of muscle mass is also related to genetics and lifestyle choices. Look at overall health history and current medical situation. Ask questions about changes in functional status.

   Everyone loses muscle mass with aging because of a shift from muscle protein synthesis to muscle protein breakdown. Exercise and diet may counteract some of these effects.

6. Q: What is the recommended supplement dosage for Vitamin A for Follicular Hyperkeratosis?

   A: Repletion dosages for adults with signs of vitamin A deficiency are 3000 mcg (10,000 IU)/d https://emedicine.medscape.com/article/126004-treatment

   The American Society for Metabolic and Bariatric Surgeons Nutrition Recommendations only address corneal changes, but since vitamin A deficiency is reported in this population, https://asmbs.org/resources/nutrition-guidelines

   - In post-WLS patients with vitamin A deficiency without corneal changes: a dose of Vitamin A 10,000-25,000 IU/d should be administered orally until clinical improvement is evident (1-2 weeks).
   - In post-WLS patients with vitamin A deficiency with corneal changes: a dose of Vitamin A 50,000-100,000 IU should be administered IM for 3 days, followed by 50,000 IU/day IM for 2 weeks.
   - Post-WLS patients with vitamin A deficiency should also be evaluated for concurrent iron and/or copper deficiencies, as these can impair resolution of vitamin A deficiency.

7. Q: In regard to new spinal cord injury patients, what are your suggestions with NFPE when it is anticipated to have changes in muscle mass because of injury, how to determine what was loss prior to injury vs post?

   A: If you are seeing a new spinal cord injured patient for the first time, use historic data to determine if muscle loss may have occurred prior to the injury. If you have not seen the person before and have no historic data, then base your assessment on the data you have. These individuals will lose muscle and are very susceptible to pressure injuries.

   A new citation that may be helpful is Invernizzi, M et al. Rethinking the clinical management of volumetric muscle loss in patients with spinal cord injury: Synergy among nutritional supplementation, pharmacotherapy, and rehabilitation*. Current Opinion in Pharmocology.2021. 57.132-139.*
   https://www.sciencedirect.com/science/article/abs/pii/S1471489221000084

8. Q: ASPEN and AND never discuss advanced age and natural decline. Would natural loss of muscle and fat stores not have to be considered? Or do we diagnose everyone over 85 with PCM? I think it's vital to consider age when making diagnostic decisions about PCM but there is never professional guidance.

   A: You must consider age of the client in your assessment. AND/ASPEN criteria do not address advanced age. The 2019 ESPEN guideline on clinical nutrition and hydration in geriatrics is one useful reference and report form European Working Group on sarcopenia.

   https://www.espen.org/files/ESPEN-Guidelines/ESPEN_guideline_on_clincal_nutrition_and_hydration_in_geriatrics.pdf

   https://pubmed.ncbi.nlm.nih.gov/30312372/

9. Q: Is there a good NFPE worksheet to use during assessments?

   A: I created one that will be in my upcoming NFPE CE course. I have not seen any other worksheets.

   ***Note:** This course will be available on the www.beckydorner.com website after it's release.*

10. Q: Is it better to take a supplement for a specific vitamin/mineral deficiency or would a multivitamin suffice?

    A: It depends on the severity of the deficiency. Use lab test results and monitor improvement.

11. Q: It seems a bit controversial that a dietitian might be diagnosing health conditions.... or would they be suggesting further evaluation to rule out the suspected health condition?

    A: I'm not suggesting that dietitians diagnose health conditions. The ACEND competencies address health screenings. If you complete a screening, and suspected a problem, you would collaborate with the appropriate medical team member for a comprehensive assessment per the team members expertise. The value that NFPE brings to the medical team that the RDN has the unique perspective to identify signs and symptoms that are associated with nutrition-related conditions. The other medical team members are not looking for the same things the RDN will see. The input of the RDN helps the team differentiate the diagnosis and not overlook nutrient deficiencies.

    Malnutrition is a nutrition diagnosis that is confirmed by the licensed medical provider (MD or NP, PA).

12. Q: Can you repeat the class of medications that interfere w/ iron, B12, folate?

    A: Prolonged use of antacids, antibiotics, and antiplatelet agents are associated with increased risk for Fe, B12, folate deficiencies.

13. Q: What age should you start using the SARC-Calf assessment on (i.e., 20 years and up)?

    A: We start to lose muscle mass by around age 30, but I don't recall any guidelines recommending sarcopenia screening in middle aged adults. The recommendations generally recommend screening for 'older adults.' The age that one becomes an 'older adult' is not universally defined, but it is between 51-65 years. The R-MAPP tool recommended screening of all clients 65 years or older. Muscle mass loss is seen in some highly inflammatory conditions before age 65, i.e., cancer patients.

14. Q: Our providers check for most of the physical signs of Malnutrition. They would not welcome an RDN into the clinic. How do you suggest we incorporate ourselves into this practice?

    A: What criteria do your providers use to assess for malnutrition? Do you feel that the medical providers are the nutrition experts in your clinic? RDNs are the nutrition experts and are best equipped to identify nutrient deficiencies and excesses or imbalances.

    RDNs must demonstrate their expertise to identify evidence of nutrition-related diagnoses in the healthcare setting. I would start with the medical provider who is most receptive to collaborative work.

15. Q: Is the Global Leadership Initiative on Malnutrition criteria validated?

    A: GLIM is a consensus guideline based on evidenced based research.

16. Q: ASPEN and GLIM are not promoted for same applications. Can you please comment on this?

    A: The Academy was not one of the global clinical nutrition societies on the core leadership committee for the development of GLIM. The core leadership group included ASPEN (www.nutritioncare.org), European Society for Clinical Nutrition and Metabolism (ESPEN) (www.espen.org), Federacion Latinoamericana de Terapia Nutricional, Nutricion Clinica y Metabolismmo (FELANPE) (www.felanpeweb.org), and Parenteral and Enteral Nutrition Society of Asia (PENSA) (www.pensa-online.org). *The 2 systems have many similarities and some differences. Each healthcare setting needs to determine which one best fits for their population.*

17. Q: Are RDNs no longer required to be a Certified Diabetes Educator to adjust insulin/meds?

    A: The new ACEND competencies did not address this issue. I do not know the answer.

18. Q: Are there any tools that a facility can create to help train their associates?

    A: Use the tools already available at Becky Dorner & Associates, CASE Software & Books, ANHI, Nestle Nutrition Institute, ASPEN, DNS DPG.

    Note: *The BDA Nutrition Focused Physical Assessment Self-study Course is available at* *https://www.beckydorner.com/product/nutrition-focused-physical-exam-self-study-course/*

19. Q: You mentioned 70% of those that were frail, were obese (in the study you referenced). Can you explain how they measured "frailty"? What criteria did they use? How would you assess many of these areas you just spoke about in a patient with obesity?

    A: Researchers used the modified Hopkins score to classify frailty.

    Reference: Mrdutt, M et al. Preoperative Frailty and Surgical Outcomes Across Diverse Surgical Subspecialties in a Large Health Care System. American College of Surgeons J Am Coll Surg. 2019 Apr;228(4):482-490. doi: 10.1016/j.jamcollsurg.2018.12.036. Epub 2019 Mar 1.

20. Q: With the new CRDN to be able to place NGT, how do you think this will be implemented, since most RDNs do not do this now? Will it be training more RDNs to train the interns or involve more nurses for training?

    A: The ACEND competencies didn't address how current RDNs would be trained to insert NG tubes.

21. Q: How do we assess malnutrition in people with spastic quadriplegia, paraplegics? Can we go by consistent usual body weight instead? I.e., spasticity? This population generally appears emaciated looking.

    A: Neither the Academy/ASPEN nor GLIM address these populations. You would need to use your clinical judgement and work collaboratively with the healthcare team.

22. Q: Is there a calf circumference variation for different races?

    A: There is some research on Asian populations. Chen LK, Woo J, et al. Asian Working Group for Sarcopenia: 2019 Consensus Update on Sarcopenia Diagnosis and Treatment. J Am Med Dir Assoc. 2020 Mar;21(3):300-307.e2. doi: 10.1016/j.jamda.2019.12.012. Epub 2020 Feb 4. PMID: 32033882.

Chen CY, Tseng WC, Yang YH, et al. Calf Circumference as an Optimal Choice of Four Screening Tools for Sarcopenia Among Ethnic Chinese Older Adults in Assisted Living. *Clin Interv Aging*. 2020;15:2415-2422. Published 2020 Dec 23. doi:10.2147/CIA.S287207

23. Q: What is the swallow screen, and which one should we use?

    A: It is my understanding that there isn't one validated swallow screening tool. I created a pre-screen and screen form for my updated NFPE book. Also, ASHA.org, provides some guidance; https://www.asha.org/practice-portal/clinical-topics/adult-dysphagia/swallowing-screening/. Accessed 09/8/2021.

    Note: The Nestle EAT-10: A Swallowing Screening Tool is available as well and can be accessed here https://www.nestlehealthscience.com/health-management/gastro-intestinal/dysphagia/eat-10.

24. Q: Does loss of interosseous muscles signify worse malnutrition sign?

    A: Interosseous is an important muscle group for the use of the hands to prepare food and to self-feed. Loss of use of the hand is potentially detrimental to nutritional status. It is one area the RDN can easily examine. When looking for changes in body composition, look for a variety of sites to get a global view of muscle loss.

25. Q: I've never understood that you had to have 2-3 areas of muscle loss examination to identify muscle loss - what's the reference for this?

    A: That was the answer given at the first CE program given by the Malnutrition Workgroup at FNCE 2011 roll out of the Characteristics of Malnutrition and other sessions I have attended by members of the original workgroup. The minimum number of sites to assess for muscle loss/wasting is not specified in the original White, 2012 paper. It is important to note that the SGA body composition section is very similar to the Academy/ASPEN malnutrition characteristics. The Lim paper notes minimum of 3 sites of loss of muscle to use as a sign of malnutrition. Remember that NFPE is a head to toe assessment looking at muscle groups in the face, chest, arms, hand, and legs. The RDN documentation needs to assess each area that is accessible.

    Lim, A, Seven-Point Subjective Global Assessment Is More Time Sensitive Than Conventional Subjective Global Assessment in Detecting Nutrition Changes. JPEN.2015 DOI: 10.1177/0148607115579938

26. Q: I work with the elderly and usually use the NFPE to determine the extent of muscle loss - so I expect to see it, and in care homes there is a level of inevitability (resignation, even) about this. Would you recommend prioritizing any of the individual areas of assessment when working with a population (in LTC) that will have age-related muscle loss?

    A: I prioritize the muscle groups that impact eating, i.e., muscle of mastication, hands and upper body. If they are ambulatory, I would look at the lower extremities since lower body weakness increases risk of falls.

27. Q: How can you determine wasting vs patient usual appearance?

    A: If you have never seen the person before, you do not have a baseline to compare. I look at age and illness as factors and ask about changes in functional status.

28. Q: How can you quantify between mild to severe malnutrition/wasting?

    A: The latest edition of Academy's NFPE pocket guide has some good photos. I will have a comprehensive book on NFPE coming out early in 2022 with lots of photos and more in depth descriptions.

    ***Note:** Dr. Litchford's book/course will be available at www.beckydorner.com/courses after it is released. You can also purchase our self-study course on Nutrition Focused Physical Assessment Self-study Course which is based partially on the Academy's NFPE Pocket Guide at https://www.beckydorner.com/product/nutrition-focused-physical-exam-self-study-course/*

29. Q: Would you address sarcopenia normal for aging vs in malnutrition?

    A: Use the cutpoint values set by Cederholm,T et al. GLIM criteria for the diagnosis of malnutrition – A consensus report from the global clinical nutrition community. Journal of Cachexia, Sarcopenia and Muscle 2019; **10**: 207–217. **DOI:** 10.1002/jcsm.12383
    Cruz-Jentoft, AJ, et al. Group on Sarcopenia in Older People 2 (EWGSOP2), and the Extended Group for EWGSOP2, Sarcopenia: revised European consensus on definition and diagnosis, *Age and Ageing*, Volume 48, Issue 1, January 2019, Pages 16–31, https://doi.org/10.1093/ageing/afy169

30. Q: Where do you say pressure injuries fit into the malnutrition framework?

    A: Malnutrition is a risk factor for pressure injuries. Munoz, N, Litchford, M, Cox, J. et al. National Pressure Injury Advisory Panel White Paper: Malnutrition and Pressure Injury Risk in Vulnerable Populations: Application of 2019 International Clinical Practice Guideline. Advances in Skin and Wound Care, in press 2022.

31. Q: Can you repeat how you assess the masseter muscle for chewing?

    A: Clench your teeth and bite down several times while palpating the masseter and temporalis muscles. Ask patient to move jaw from side to side and then bite while palpating the masseter and temporalis muscles.

32. Q: How important is it to know the baseline status of the patient when evaluating muscle mass? Also, the normal variation in frame size and muscle mass?

    A: Any historic knowledge is valuable. Muscle mass and frame size vary in both men and women, physically active adults vs sedentary.

33. Q: I recently completed the NFPE for a resident who had deteriorated bicep/tricep muscles, but also notable loss of muscle/fat in the forearm. I don't see that location listed anywhere. Is this an area that we can assess formally for malnutrition?

    A: Yes, any area you identify should be noted. I think the reason why the forearm is not mentioned in NFPE is that there are twenty forearm muscles which are arranged in two compartments. It is hard for the RDN to differentiate the muscle groups without more in-depth training.

34. Q: Is it appropriate to use a diagnosis of mild malnutrition on an adult? I have the understanding a diagnosis of mild malnutrition is appropriate for pediatrics.

    A: It is my understanding that you can have mild to moderate or severe malnutrition in adults and children.

35. Q: Is there a way that established RDNs can get trained to these new requirements for assessing, e.g., injections?

    A: I do not have any information about training RDNs to meet the new ACEND competencies. I expect the Academy to come out with these in the future.

36. Q: Unable to locate the WHO app. Is there a link on the WHO site?

    A: Go the App store and look for WHO ICOPE handbook app.

37. Q: How do you evaluate muscle loss in clients who may have excess fat stores?

    A: It is very difficult to assess muscle mass loss in adults with excess fat stores. Assessing functional status is one option and imaging is the most definitive method if available.

38. Q: What about bariatric and SBS niacin resistant Pellagra - often overlooked and related to a tryptophan deficiency?

    A: Tryptophan deficiency is one possible etiology of pellagra. I don't know of any literature specific to SBS niacin resistant pellagra.

39. Q: You stated that placement of "g-tubes" was an added competency for interns, did you mean nasogastric tubes?

    A: Competency for DI, per ACEND CRDN 3.5 Insert nasogastric or nasoenteric feeding tubes.

40. Q: How do you measure muscle strength if a person has bad arthritis in their hands?

    A: It is difficult if not impossible to measure muscle strength when the joints are impacted by arthritis. The GLIM criterion looks at muscle mass rather than strength as a measure of malnutrition.

41. Q: Assuming lack of time and perhaps discomfort, is there any ONE body area (other than oral) that is the best, easiest proxy for malnutrition diagnosis?

    A: During the comprehensive nutrition assessment, identify potential nutrients that may be lacking and assess the areas of the body where deficiency signs may be present. For example, vitamin B12 deficiency affects the appearance of the tongue.

42. Q: How do we get training to do blood tests, BP, etc.?

    A: I do not have any information about training RDNs to meet the new ACEND competencies. I expect the Academy to come out with these in the future.

43. Q: Are there a minimum number of sites to assess to be able to diagnose malnutrition? Preferred sites?

    A: The minimum number of sites to assess for muscle loss/wasting is not specified in the original White, 2012 paper. It is important to note that the SGA body composition section is very similar to the Academy/ASPEN malnutrition characteristics. The Lim paper notes minimum of 3 sites of loss of muscle to use as a sign of malnutrition. Remember that NFPE is a head to toe assessment looking at muscle groups in the face, chest, arms, hand, and legs. The RDN documentation needs to assess each area that is accessible.

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44. Q: Some students are saying that you need 2 different protein or 2 fat pad wastings to call it a fat or muscle deficiency. For example, temporal and clavicle wasting vs just temporal wasting. I was taught 1, is there a change in standards or did I miss something?

    A: The minimum number of sites to assess for muscle loss/wasting is not specified in the original White, 2012 paper. It is important to note that the SGA body composition section is very similar to the Academy/ASPEN malnutrition characteristics. The Lim paper notes minimum of 3 sites of loss of muscle to use as a sign of malnutrition. SGA does not assess for fat wasting. Remember that NFPE is a head to toe assessment looking at muscle groups in the face, chest, arms, hand, and legs. The RDN documentation needs to assess each area that is accessible.

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45. Q: I was wondering if you felt it appropriate to use manual muscle testing information pulled from rehab assessments? For example, Per OT/PT notes, manual muscle tests indicate a decline in..., etc. I worry about having enough time to conduct all of these assessments on my own. I am an RDN that follows 150 patients at a PACE program.

    A: If the client is being seen by rehab therapists, I would encourage you to collaborate with these professionals and refer in your notes to the measures documented in therapist section of medical record.