

# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice

**Live Webinar: Thursday September 14, 2023 (2-3:00 PM ET)** Convert to your own [time zone](#)

**How to Participate in the Live Webinar:**  
<https://www.beckydorner.com/instructionsforwebinars/>

## Description:

The National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (KDOQI) has provided evidence-based guidelines for nutrition in kidney diseases since 1999. The 2020 update to the KDOQI Guidelines provides comprehensive up-to-date information on the care of patients with CKD and primarily focus on six primary areas: nutritional assessment, medical nutrition therapy (MNT), dietary protein and energy intake, nutritional supplementation, micronutrients, and electrolytes.



Join **Rachael Majorowicz, RDN, CSR, LD, FNKF** for this webinar update that reviews recent literature since the publication of the 2020 KDOQI Nutrition Guidelines. Rachael will also describe how nutrition professionals can apply the guidelines and newer literature into practice and discuss where nutrition professionals can find readily available resources to help CKD patients in their daily practice. Common misconceptions of “the renal diet” will be addressed, as well as how more healthful, balanced recommendations can be provided.

## Objectives:

After completing this activity, the learner should be able to:

1. Review evidence for the recommended changes to nutrition therapy interventions for patients with chronic kidney disease.
2. Identify recommendations and literature that differ from previous practice.
3. Implement the updated recommendations into practice with education of patients and colleagues.

## Disclosures:

Rachael Majorowicz, faculty for this event, has no relevant financial relationships to disclose and certifies that no conflict of interest exists for this program.

## Professional Approvals:

Becky Dorner & Associates, Inc. has been providing continuing professional education (CPE) since 1993 (Commission on Dietetic Registration provider number NU004).

|  |   |
|--|---|
| <b>This program is intended for:</b><br>RDNs, NDTRs and CDEs | <b>CDR Activity Type and Number:</b> 171 Live webinar<br><b>Activity number:</b> 177937; 175 Recorded webinar<br><b>Activity number:</b> 177938 |
| <b>Course CPEU Hours:</b> 1.0                                | <b>CDR Level:</b> 2   |
| <b>Suggested CDR Performance Indicators</b>                  | 1.15, 4.1.2, 8.1.1, 8.2.2   |

**Note: Numerous Other Performance Indicators May Apply.**


**Expiration Date for Recorded Webinar: September 14, 2026.**

**How to Complete a CPE Course:** [www.beckydorner.com/continuing-education/how-to-complete-cpe/](http://www.beckydorner.com/continuing-education/how-to-complete-cpe/)

**Questions?** Please contact us at [info@beckydorner.com](mailto:info@beckydorner.com)

# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice

**Today's Webinar**



**Program Length**

- 60 minutes

**Handouts**

- **Live:** Emailed to the person who registered for the program, and posted in the Go To Webinar System
- **Recording:** Available on our website with the recording

**Questions**

- Live: Use GoToWebinar to ask questions
- Recording: Email [info@beckydorner.com](mailto:info@beckydorner.com)

**Credit Hours/Certificate**

- Please refer to handouts or next slide for details

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**WEBINAR**

**The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice**

**PRESENTED BY**  
Rachael Majorowicz,  
RDN, CSR, LD, FNKF

**EARN 1 CEU**

**September 14, 2023**  
2-3 pm ET



Becky Dorner & Associates, Inc. #11481, is approved by the CDR to offer 1.0 CEU for this webinar.

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**Rachael R. Majorowicz, RDN, CSR, LD, FNKF**

- Renal dietitian, Mayo Clinic Dialysis Services
- Assistant Professor of Nutrition, Mayo Clinic College of Medicine
- Executive committee of the Renal Practice Group (RPG) of the Academy for 15 years; led the revision of the National Kidney Diet
- CSR test item writer, contributor to online medical information, peer-reviewed journals, and book chapters
- Honors: RPG Outstanding Service Award



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## Learning Objectives

1. Review evidence for the recommended changes to nutrition therapy interventions for patients with chronic kidney disease.
2. Identify recommendations and literature that differ from previous practice.
3. Implement the updated recommendations into practice with education of patients and colleagues.

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## KDOQI 2020 Nutrition Guideline

- Target Population
  - ✓ Adult = 19+
  - ✓ All genders
  - ✓ CKD 1-5 and transplant
  - ✗ Excluded: AKI and Critical Illness

- Limiting Factors
  - Inconsistent reporting of clinical outcomes
  - Low quality evidence in certain areas
  - Issues with nutrition studies: nutrient status, confounding variables...



Ikizler, et al. American Journal of Kidney Diseases. 2020. Vol 76(3), S1-107.

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|                     | KDOQI 2000-2007  | KDOQI 2020   |
|---------------------|--|--|
| <b>Energy Needs</b> | 30-35 kcal/kg  | 25-35 kcal/kg in all CKD or Tx (O)   |
| <b>Protein</b>      | 0.6-0.75 g/kg CKD<br>0.8 g/kg in CKD & DM<br>1.2-1.3 g/kg in HD-PD | 0.55-0.6 g/kg in CKD 3-5 (1A)<br>0.6-0.8 g/kg in CKD and DM (O)<br>1-1.2 g/kg in HD/PD and/or DM (O) |
| <b>Sodium</b>       | <2400 mg/day   | <2300 mg/day CKD 3-5 (1A),<br>dialysis and post-Tx (1C)  |
| <b>Potassium</b>    | 2300-2700 mg/day   | Adjust intake to maintain normal serum levels (O) - individualized                                   |
| <b>Phosphorus</b>   | 800-1000 mg/day  | Adjust intake to maintain normal serum levels (1B) - individualized                                  |

Evidence: O = opinion, 1A/B = strong/imperative, 1 C = fair, imperative

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## KDOQI 2020

- There is insufficient evidence to recommend plant vs animal protein
- "The quality of the overall diet may be as important or more important than the quantity of nutrients delivered."
- "There is a need to better understand how dietary pattern rather than single nutrient modifications can improve outcomes in patients with CKD" (research priority)

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# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice

## Potassium

Differences from previous guidelines:

- **We do not suggest specific dietary K range** (restriction *per se* may favor other nutrient deficiencies)
- "When treating hyperkalemia, clinicians are advised to first try to identify contributing factors that can be corrected, such as a hypoinsulinemic state or certain medications."

Scarcity of studies addressing dietary potassium in CKD.

The consequences of dietary potassium intake in patients with CKD are not known.



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## Phosphorus

Differences from previous guidelines:

1. **We do not suggest specific dietary PO4 range** (previously 800-1000 mg/d, RDA 700 mg/d)
2. **Individualize treatment** based on patient needs, clinician judgment, and availability/tolerance of adjunctive therapies (binders)
3. Need to account for **dietary PO4 sources** as they have very different bioavailability



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## KDOQI Nutrition Guidelines

- KDOQI data through April 2017 and/or August 2018
- Since then....
  - Plant-based diets to manage the risks and complications of chronic kidney disease (*Nat Rev Nephrol*, 2020)
  - Plant-based diets for kidney disease: a guide for clinicians (*AJKD*, 2021)
  - Plant-based diets for prevention and management of chronic kidney disease (*Curr Opin Nephrol Hypertens*, 2020)
  - Adequacy of plant-based proteins in chronic kidney disease (*JRN*, 2018)
  - Vegetable-based diet for chronic kidney disease? It is time to reconsider. (*Nutrients* 2019)
  - Vegetarian diets and chronic kidney disease (*Nephrol Dial Transplant*, 2019)
  - A plant-base diet prevents and treats chronic kidney disease (*Urol & Nephrol*, 2019)

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## KDOQI Nutrition Guidelines

- Since then....
  - Dietary management of hyperphosphatemia (*AJKD*, 2018)
  - Review of case reports of hyperkalemia induced by dietary intake: not restricted to chronic kidney disease patients (*Eur J Clin Nutr*, 2019)
  - Nutrient non-equivalence: does restricting high-potassium plant foods help to prevent hyperkalemia in hemodialysis patients? (*JRN*, 2016)
  - Potassium additives and bioavailability: are we missing something in hyperkalemia management? (*JRN*, 2018)

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## National Renal Diet Work Group

- Janelle Gonyea, RDN, LD, FNFK
  - Jennifer Parker, RDN, CSR, LDN
  - Judy Kirk, MS, RDN, CDN, CSR, FNKF
  - Rachael Majorowicz, RDN, CSR, LD, FNKF
  - Lynn Munson, MS, RD, LD
  - Brittany Sparks, RDN, CSR
  - Liz Kirk, RDN, CDN
- Contributors: Jean Stover, RDN, Mary Ann Hodorowicz, MBA, RDN, CDCES

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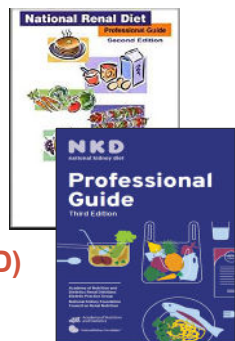
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National Renal Diet



National Kidney Diet (NKD)



Images used with permission of the Academy of Nutrition and Dietetics, 2023

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# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice

## NKD Revisions

- 2015-2023
- Review survey results of 2nd edition (2002)
- Review patient education and professional guide booklets
  - Update per new guidelines
  - Update to correlate with MyPlate and new food labels
  - Updating food lists for greater diversity and inclusion of ethnic foods



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## Quotes in CKD

“Don’t eat anything **red**, **orange**, or **yellow**.”

“Don’t eat anything **green** or **purple**.”

“Don’t eat anything **white**.”



“If it tastes good,  
**spit it out.**”

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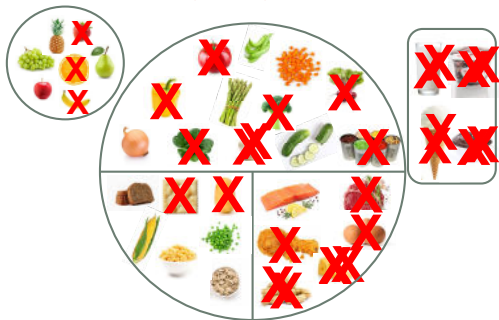
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## Low Na, Fat, K and P



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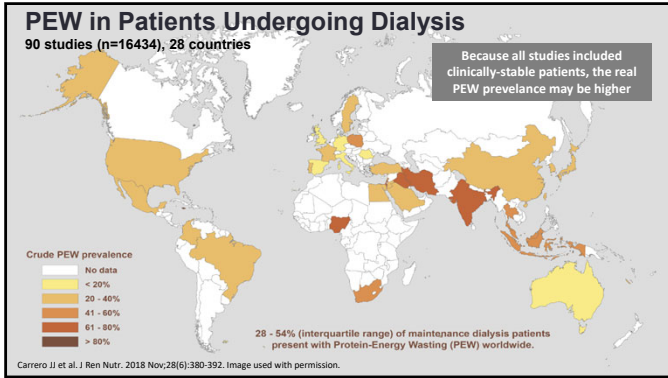
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### Facts

- Patients with kidney disease have...
  - Worse survival than most chronic illnesses
  - The lowest quality of life
- The Renal Diet is ranked the worst of all diets
- Patients can retain only 1-2 points of education

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## NKD Revisions

| Professional Guide   | Examples   |
|--|--|
| <ul style="list-style-type: none"><li>• <b>Simplify</b> for newer and non-renal RDs</li><li>• Enhance background information for newer <u>and</u> experienced RDs</li><li>• <b>Add</b> KA information</li><li>• Expand <b>patient education</b> chapter</li><li>• <b>Add</b> home dialysis, supportive care, and transplant chapters</li><li>• Add <b>CMS reimbursement</b> section</li><li>• <b>Add</b> renal nutrition diagnosis section</li><li>• Add vitamin K antagonist <b>anticoagulation</b> section</li></ul> | <ul style="list-style-type: none"><li>• Patient education process,</li><li>• Removed medium-K listings,</li><li>• Removed adjusted body weight and HBV protein</li></ul> |

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## NKD Revisions

| Patient Education  | Examples   |
|--|--|
| <ul style="list-style-type: none"><li>• Improve <b>simple</b> and patient-centered language</li><li>• Maximize <b>positive</b> messages</li><li>• Remove booklet format and create handouts allowing for <b>individualization</b></li><li>• Ensure safety if no RD instruction; allows for wider use and more consistent message</li></ul> | <ul style="list-style-type: none"><li>• Renal → Kidney</li><li>• Palm-sized protein portions</li><li>• No high vs low protein lists</li><li>• Merge vegetarian proteins into protein section</li><li>• Incorporated whole grains</li><li>• Low and high K food lists</li><li>• All foods kept within food groups</li></ul> |

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# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice

## NKD Revisions

Inclusion of *Summary of Changes* at the end of each chapter, e.g.:

- In cases of hyperkalemia, fruits, vegetables, intact and whole grains, and plant-based proteins should **not** be discouraged
- There is little benefit to soaking potatoes or legumes; instead, they should be peeled, cut into small pieces and boiled in a large volume of water (or double-boiled)
- Emphasis on limiting foods with phos additives; it is no longer recommended to replace intact or whole grains with refined alternatives

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## NKD Revisions

*Summary of Changes* (continued):

- It is no longer recommended to avoid consumption of nuts, seeds, beans and legumes
- Research does not support the need for 50% of protein to come from high biological value protein sources
- Replace red and processed meat intake with poultry, fish, eggs, and plant-based protein sources

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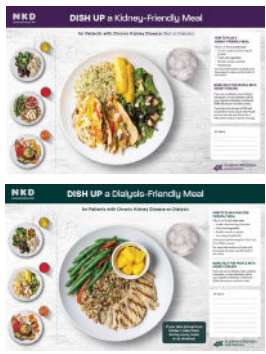
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## NKD Revisions

- Patient Education Updates (2019)
- Dish Up a Kidney-Friendly Meal
- Dish Up a Dialysis-Friendly Meal



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# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice



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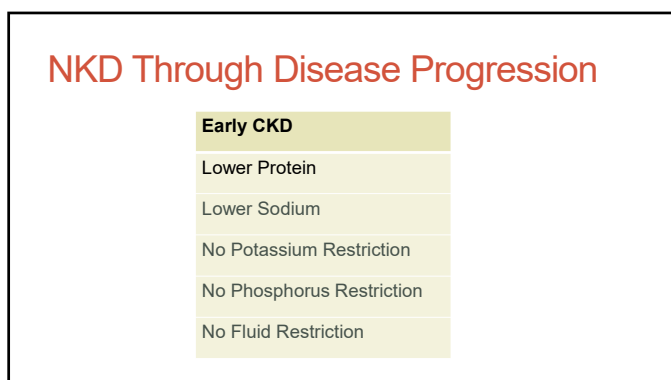
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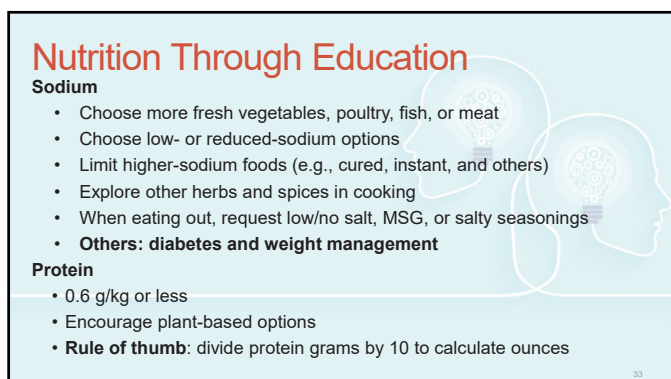
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# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice

## Calculating Protein Needs

Consider the 'rule of 10' when in a crunch

Example: 65 kg female x 0.6 g/kg/day = 39 g/day

39 g/day ÷ 10 g/ounce = ~4 ounces/day



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## Case Example

**CKD Patient:**

- GFR 42 mL/min
- Weight: 75 kg (within goal range)
- Medical Hx: HTN, mildly overweight
- Labs: WNL
- No edema

**RD Intervention:**

- 45 g protein, low Na, moderate portions, increase physical activity
- 1 year later:
  - Controlled BP
  - Weight loss of 10 pounds
  - GFR improved to 50+

US Dept of Health and Human Services

### Mediterranean diet: A heart-healthy eating plan

Ready to switch to a more healthy diet? Here's started with the lean diet.

Staff

or a heart-healthy eating plan, n diet might be right for you. an diet blends the basics of h the traditional flavors and of the Mediterranean.

reanean diet?

iterranean diet began in the...



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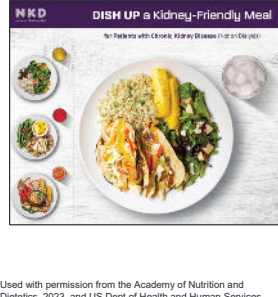
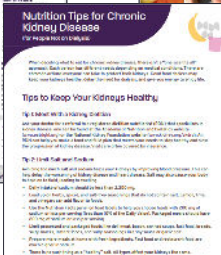
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## Nutrition Education

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# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice

## NKD Through Disease Progression

| Early CKD                 | Later CKD                       |
|---------------------------|---------------------------------|
| Lower Protein             | Lower Protein                   |
| Lower Sodium              | Lower Sodium                    |
| No Potassium Restriction  | Possible Potassium Restriction  |
| No Phosphorus Restriction | Possible Phosphorus Restriction |
| No Fluid Restriction      | No Fluid Restriction            |

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## Nutrition Through Education

Same protein, sodium, diabetes, and weight management goals

### Potassium

- Review recent intake and **provide alternatives** to higher K foods
- 5-a-Day, emphasizing what patients **CAN** have
- Stress importance of **portion control** or moderation of all foods
- **Avoid use of salt substitutes** and sodium-free foods
- **Monitor** for use of ACE-Inhibitors
- Diabetics: use **alternatives** to OJ for hypoglycemia treatment
- There is **no benefit** to soaking potatoes!

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## Case Example

**EXAMPLE**

### Late CKD

- Weight: 65 kg
- GFR: 32 mL/min (stage 3)
- Medical Hx: Controlled BP on metoprolol and torsemide
- Labs: K 5.2 (RR 5.2), P 3.7 (RR 4.5), Albumin 4.4 (RR 3.5-5)
- No edema
- Intake: 60-80 g protein, NAS, 4 servings F/V (including potatoes), 3 servings dairy per day, uses salt sparingly; most foods are homemade

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# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice

## NKD Through Disease Progression

| Early CKD                 | Later CKD                       | HD/PD             |
|---------------------------|---------------------------------|-------------------|
| Lower Protein             | Lower Protein                   | High Protein      |
| Lower Sodium              | Lower Sodium                    | Lower Sodium      |
| No Potassium Restriction  | Possible Potassium Restriction  | Lower Potassium   |
| No Phosphorus Restriction | Possible Phosphorus Restriction | Lower Phosphorus  |
| No Fluid Restriction      | No Fluid Restriction            | Fluid Restriction |

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**NKD** **DISH UP a Dialysis-Friendly Meal**  
for Patients with Chronic Kidney Disease on Dialysis

**Nutrition for Dialysis**

**Taking Control of Phosphorus**

1. Choose lower-phosphorus foods.

2. Read ingredient lists.

Used with permission of the Academy of Nutrition and Dietetics, 2023.

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## Case Example

- Started HD in hospital due to hyperkalemia
  - K: 7.6 mmol/L (RR < 5.5)
  - Phos: 6.1-7.2 mg/dL (RR < 5.5)
  - Hospital education: ???
- Outpatient labs: WNL
  - K: 4.8 on 2K bath and avoidance of most fruits and vegetables
  - Phos: 4.1 on 1 Renvela per meal
  - Albumin: 4.2 (goal > 4), but inadequate intake for long-term HD
  - Urine output: "A lot"
  - Patient Quality of Life: Very low due to restrictive diet, having "nothing left to eat," and ending up on dialysis despite following low sodium diet for years

**EXAMPLE**

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# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice

**“Don’t” and “Avoid”**

- Avoid **“Avoid”** statements
- Emphasize the Positive
  - No foods need to be completely avoided; moderation is key
  - A small amount of anything can be ok

**Newer renal education materials do this**



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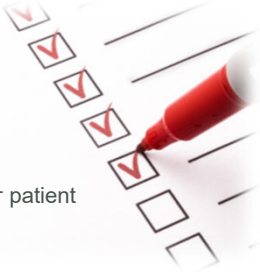
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**Summary**

1. Individualize
2. Choose 1-2 main points
3. Emphasize the positive
4. Restrict diet as a last-resort or per patient preference

If the renal diet is too complex for health care providers to figure out, patients certainly won't



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**Resources**

- Academy of Nutrition and Dietetics: [www.eatright.org](http://www.eatright.org)
  - National Kidney Diet ([www.eatrightSTORE.org](http://www.eatrightSTORE.org))
    - Dish Up a Dialysis-Friendly Meal
    - Updated Dish up a Kidney-Friendly Meal
    - Professional Guide and the other patient handouts
  - Nutrition Care Manual – 2020 update!
  - Renal Practice Group: [www.renalnutrition.org](http://www.renalnutrition.org) and Renal Nutrition Forum

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# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice

## Resources

- NKF and the Council on Renal Nutrition: [www.kidney.org](http://www.kidney.org) and Journal of Renal Nutrition
- Afternoon Rounds: [www.afternoonrounds.com](http://www.afternoonrounds.com)

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We now have the opportunity to help patients with kidney disease not only survive, but also live well!



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## Questions



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# The National Kidney Diet: Putting the New Renal Nutrition Guidelines into Practice

## Thank you!



- **Credit Hours:** Please watch for a follow up email with detailed information on how to obtain your certificate (instructions are also on the next slide).
- **Upcoming programs:** Watch our emails for details.
- **Free membership:** Sign up at [www.beckydorner.com](http://www.beckydorner.com) for free resources, discounts on CPE courses, webinars, publications, and valuable practice tips and tools.

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**References from The National Kidney Diet: Putting the  
New Renal Nutrition Guidelines into Practice with  
Rachael Majorowicz, RDN, CSR, LD, FNKF  
Thursday September 14, 2023**



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