Diagnosing Malnutrition: Performing a Nutrition Focused Physical Exam in Renal Patients

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Learning Objectives
• Review the evidence-based consensus for diagnosing malnutrition and the role of inflammation
• Discuss Nutrition Focused Physical Exam techniques to determine severity of fat and muscle wasting
• Review micronutrient deficiency signs and symptoms specific to renal disease

Introduction
Historically, there has been a lack of consensus and evidence-based criteria for defining malnutrition in acutely ill patients. The Center for Medicaid and Medicare Services (CMS) was concerned about the inappropriate and wide variance in the use of malnutrition ICD-9 codes (now ICD-10 codes) and questioned the use of acute phase serum proteins as diagnostic criteria. Based on the CMS request, the American Society of Parental and Enteral Nutrition (ASPEN) and the European Society of Parental and Enteral Nutrition (ESPEN) developed an etiology-based approach to diagnose adult malnutrition in the acute care setting (1,2). Subsequently, the Academy and ASPEN developed standardized characteristics that reflect nutrition status (1).

Renal patients can be difficult to assess for severity of malnutrition. Albumin and pre-albumin levels have been historically used for this purpose, but there is a lack of evidence for utilizing these labs to diagnose malnutrition. However, the new malnutrition guidelines, as described in the consensus guidelines for adults, may help to better characterize the level of malnutrition in this patient population (1).

Etiology-Based Malnutrition Definitions
Three etiology-based malnutrition categories have been developed from the International Consensus Guideline Committee based on the presence and severity of inflammation: acute, chronic, and social/environmental/behavioral (1-3). Inflammation is defined as increased concentrations of inflammatory mediators in which there may be signs of swelling, erythema, hypothermia/hyperthermia and pain (4). During acute inflammation, there may be a marked elevation of C-reactive protein (CRP),...
FROM THE EDITOR

Desiree de Waal MS, RD, CD, FAND
Editor

Happy 40th Anniversary Year for the Renal Practice Group!

With the New Year, we are presenting a new look. With this being the 40th Anniversary year of our practice group, we were asked to share any memories from the early years of dialysis. Though I have not been a dietitian quite as long as this practice group has existed, I did intern during the early years of dialysis. I recall the hemodialysis unit at our hospital only had six chairs for the entire city. Most patients were doing dialysis at home. Later as a new dietitian, I was lucky to be able to participate in a Kidney Camp for young children. The nephrologist and I decided that we would free the children from strict diet and sodium restrictions. This was a radical idea at the time. We provided a balanced diet with access to fruits and vegetables and included a pizza night. Since the kids were so active, their blood pressure and labs improved during their time at camp. During camp, I was amazed at the resilience of these kids, their efficiency with their PD exchanges and their real joy of life. I recall one child in particular on hemodialysis with a body full of scars from multiple surgeries and failed transplants, but he was living his life to the fullest and having so much fun.

With the Academy entering its Second Century, RPG was asked to help chart a new vision for our profession. With a focus on food and nutrition as the basis for good health, we need to find ways to collaborate and help define the future of renal nutrition. As the Academy approaches its centennial year of 2017, we should be committed to continuing this mission as well as creating a new vision for our Second Century — a future that focuses on service, collaboration, and an emphasis on accelerating progress towards solving the biggest food and nutrition challenges of the 21st century. Look for ways to get involved in helping define the future of our profession.

I would like to thank our editorial team (Clarina, Hannah and Julie) for the help with this newsletter. I would like to also give a special thank you to Stacey Phillips who has been a great mentor as I graduate from editor to managing editor.

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leukocytosis, tachycardia and hyperglycemia (in non-diabetic patients). Medical conditions associated with acute inflammation include trauma, acute respiratory distress syndrome, major surgical procedures, and/or sepsis. Chronic inflammation does not present with as significantly high markers as in an acute illness. In chronic illness, an inflammatory response can be identified by a minor or non-existent elevation in CRP, and lack of or mildly depleted serum protein levels. Diagnoses associated with chronic inflammation include obesity, cancer, irritable bowel disease, and End Stage Renal Disease (ESRD). An inflammatory response is not associated with social/environmental/behavioral etiologies, which include patients with a history of eating disorders, dementia, chronic pain, physical and neurological conditions, and/or psychological conditions.

The importance of understanding the effect of inflammation on malnutrition is that it increases the risk for or worsens the severity of malnutrition. In the acute condition, there is a decreased response to nutrition interventions and potentially increased mortality (5). In the presence of inflammation, a patient does not typically respond to feeding interventions. Therefore, inflammatory markers are currently not recommended for use as malnutrition diagnostic criteria. Serum levels of albumin and prealbumin do not consistently or predictably change in response to changes in weight, nutrient intake or nitrogen balance (6,7). Albumin level declines secondary to decreased synthesis, increased catabolism, and leakage out of the vascular compartment with edema (6).

**Characteristics to Support Malnutrition Diagnosis: Academy/ASPEN vs K/DOQI**

The Academy appointed a workgroup with ASPEN representation to identify and standardize markers that reflect nutrition status vs the inflammatory response that is associated with various diseases and/or conditions (2).

**The identification of at least two of the six characteristics is recommended for diagnosis. The six characteristics are: weight loss, energy intake, loss of body fat, loss of muscle mass, fluid accumulation and functional status.**

The Academy/ASPEN guidelines do not include biochemical markers including negative acute-phase reactant proteins (albumin/prealbumin/transferrin). These lab markers are better utilized as support for determining presence of inflammation. Negative acute-phase reactant proteins have been shown to decrease during inflammatory disorders (4). The National Kidney Foundation supports the use of laboratory markers, such as albumin and prealbumin to diagnose malnutrition (8). The KDOQI guideline also differs from the Academy/ASPEN guidelines by utilizing other biochemical markers, body composition measurements defined by NHANES II standards, and lack of use of fluid accumulation and functional capacity (Table 1). However, it should be kept in mind that these KDOQI guidelines were issued in 2000 and are being updated.

### Introduction to Nutrition Focused Physical Exam

Subjective global assessment (SGA) has been known to be a valid and reliable tool for identifying malnourished adults and used around the world in a variety of adult patients (9,10). The SGA includes a limited physical exam as compared to the Nutrition Focused Physical Exam (NFPE) which involves a more in depth exam of the patient’s muscle and fat stores. The physical examination can reveal the presence of several of the diagnostic characteristics of malnutrition such as weight loss or gain, fluid retention, loss of muscle or fat and other signs of specific macronutrient deficiencies.

The NFPE includes an assessment of the patient beginning with a general survey followed by a closer look using touch or palpation to better identify muscle and fat stores (Table 2). One technique for assessment is to simply ask the patient or family about notable changes to better identify muscle and fat stores (Table 2). One technique for assessment is to simply ask the patient or family about notable changes in physical appearance. The NFPE helps to support the diagnostic characteristics when determining if a patient is malnourished.

<table>
<thead>
<tr>
<th>Table 1. ASPEN Academy vs K/DOQI Characteristics Supporting Malnutrition Diagnosis (1,8)</th>
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<tbody>
<tr>
<td><strong>ASPEN/ACADEMY</strong></td>
</tr>
<tr>
<td>Insufficient energy intake</td>
</tr>
<tr>
<td>Unintentional weight loss</td>
</tr>
<tr>
<td>Loss of body fat</td>
</tr>
<tr>
<td>Loss of muscle mass</td>
</tr>
<tr>
<td>Laboratory markers not included as these are better utilized as support for presence of inflammation</td>
</tr>
<tr>
<td>Fluid accumulation</td>
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<tr>
<td>Diminished functional capacity</td>
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<tr>
<th>Table 2. Components of the NFPE (15)</th>
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<tbody>
<tr>
<td><strong>Exam is Systemic: Head to Toe</strong></td>
</tr>
<tr>
<td><strong>General Survey</strong></td>
</tr>
<tr>
<td>• Posture/Stature</td>
</tr>
<tr>
<td>• Body Type</td>
</tr>
<tr>
<td><strong>Vital Signs</strong></td>
</tr>
<tr>
<td><strong>Skin</strong></td>
</tr>
<tr>
<td><strong>Nails</strong></td>
</tr>
<tr>
<td><strong>Hair</strong></td>
</tr>
<tr>
<td><strong>Head and Neck</strong></td>
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</tbody>
</table>

### Physical Assessment: Fat Stores

When developing the SGA, Detsky et al suggested the most influential losses of subcutaneous fat were noted in the evaluation of the triceps and mid-axillary line or ribedge (9). This is in line with the Academy-ASPEN criteria which focuses on the triceps and the mid-axillary line at the iliac crest and below the ribs but in addition, includes the orbital fat pads (1).
To assess a patient for subcutaneous fat in the orbital region, stand directly in front of the patient and touch just above the cheek bone. In a well-nourished patient, the orbital region will have slightly bulging fat pads whereas more severe fat loss may present as a hollow look with dark circles and loose skin (12).

When assessing the upper arm region or triceps, have the patient’s arm bent at a 90 degree angle and roll the skin between the fingers to make sure not to include the muscle in the pinch. In a well-nourished patient, there will be adequate fat tissue between the folds of skin. This would equate to at least 1 inch of tissue between the fingers. In a severely malnourished patient, there will be very little space between the fingers (12).

The last areas to assess for fat stores include the ribs, lower back and mid-axillary line at the iliac crest. Ideally, you want the patient to be able to sit up with hands stretched out in front while pressing hands hard against a solid object (e.g., your own hand or wall). In a well-nourished patient, the chest is full and ribs do not show with slight to no protrusion of the iliac crest. In severely malnourished patients, the ribs will be very apparent and the iliac crest very prominent (12).

Physical Assessment: Muscle Stores

_Sarcopenia is the loss of muscle mass during aging, which effects strength and functional status._

The prevalence of sarcopenia related to kidney failure is not clear due to other confounding factors related to protein catabolism associated with the disease process (13). Muscle wasting can be assessed by palpation, dual-energy X-ray absorptiometry (DXA) or computerized tomography (CT) (10, 14). Muscle atrophy can result from aging, acute or chronic inflammation conditions, neurologic impairment, pure starvation, and lack of physical activity (11). Areas to assess for muscle include the temporalis, pectoralis, trapezius, deltoid, interosseous, quadriceps and gastrocnemius muscles (1).

Starting at the head, the first muscle to assess is the temporalis. In the well-nourished patient you can typically see and feel a well-defined muscle. However, with severe malnutrition the area may appear hollow and you will not feel muscle under the skin. Progressing down to the clavicle bone region, the pectoralis major, deltoid, and trapezius muscles will be assessed. One tip when assessing the pectoralis area is to have the patient sitting upright and not hunched forward. In a well-nourished male patient, the bones will not be visible; however, the bones may be slightly visible in females. In severe malnutrition the muscles will be depleted and the bones will be protruding. When assessing the deltoid, the patient’s arms should be at their sides. In a well-nourished patient, the deltoid will be rounded and curved. The severely malnourished patient will have more squaring of the shoulder and the acromion protrusion will be very prominent. When assessing the scapular region or the trapezius, the patient should extend their hands straight out and push against a solid object. There should not be any significant depression, and bones should not be prominent. With the more malnourished patient, the trapezius muscle will be depleted and the scapular bones more prominent with depression visible between the ribs/scapula or shoulder (12).

Moving down the body, the next muscles to assess are the interosseous muscles in the hand. Look at the pads of the thumb side of the hand while the patient is making the “ok” sign. Normally there will be a muscle bulge in this area. In a severely malnourished patient the interosseous muscle will have a depressed area between the thumb and forefinger (12).

The final areas of muscle to assess are located in the lower body. When assessing these areas, ask the patient to sit with their leg propped up so that the areas of assessment are not resting on a surface. The quadriceps and gastrocnemius muscles will be well developed and well-rounded in the well-nourished. With severe loss of muscle, there will be a concave depression in the quadriceps region and minimal to no muscle bulge in the gastrocnemius muscle (12).

Edema and Ascites

Fluid retention is common among renal failure patients on and off dialysis. A clinician can evaluate localized fluid accumulation primarily in dependent areas such as the ankles and feet. Weight loss is often masked by fluid accumulation; therefore it is important to assess for the presence of edema. Fluid accumulation is useful as supportive evidence for the malnutrition diagnosis. To physically assess for fluid accumulation, apply pressure with your thumb to the dependent area being assessed (ankles/feet) for five seconds. Release pressure than monitor the length of time it takes for the area to rebound. More severe fluid accumulation is evident when the rebound takes longer (Table 3) (15).

<table>
<thead>
<tr>
<th>Degree of Edema (15)</th>
<th>Characteristics</th>
<th>Time</th>
</tr>
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<tbody>
<tr>
<td>Severe: (3-4+ pitting edema)</td>
<td>Depression lasts a short to moderate time</td>
<td>Up to 5 min</td>
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<tr>
<td>Mild-Moderate: (1-2+ pitting edema)</td>
<td>Slight swelling of the extremity, indentation subsides quickly</td>
<td>15-60 sec</td>
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Micronutrient Deficiencies

Micronutrient deficiencies provide supporting evidence for a malnutrition diagnosis. They may be assessed with lab measures and/or medical and diet history. As you perform the NFPE, be aware of the common areas that may exhibit micronutrient deficiencies such as the skin, hair, nails, neck and face. See Table 4 for common micronutrient deficiencies found in patients with patients with ESRD.
Table 4. Common Micronutrient Deficiencies in ESRD (16)

<table>
<thead>
<tr>
<th>Essential Fatty Acids</th>
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<tbody>
<tr>
<td><strong>Skin</strong></td>
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<tr>
<td><strong>Hair</strong></td>
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<tr>
<th>B Vitamins</th>
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<tbody>
<tr>
<td><strong>Skin</strong></td>
</tr>
<tr>
<td><strong>Eyes</strong></td>
</tr>
<tr>
<td><strong>Mouth/Oral Cavity</strong></td>
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<tr>
<th>Vitamin C</th>
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<tr>
<td><strong>Skin</strong></td>
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<tr>
<td><strong>Mouth/Oral Cavity</strong></td>
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<tr>
<td><strong>Nails</strong></td>
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<th>Iron</th>
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<tbody>
<tr>
<td><strong>Skin</strong></td>
</tr>
<tr>
<td><strong>Eyes</strong></td>
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<tr>
<td><strong>Mouth/Oral Cavity</strong></td>
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<tr>
<td><strong>Nails</strong></td>
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Summary

Determination of malnutrition is etiology-based and incorporates the role of inflammation, physical assessment and functional measures. Nutrition status may change as clinical course changes. Therefore, it is important to routinely assess a patient’s diet history, weight history and perform a NFPE to assess for changes in nutrition status and to modify interventions as necessary.

Although the Academy/ASPEN malnutrition guidelines are based on the validated SGA tool, future studies are needed to validate the current characteristics for diagnosing malnutrition, including the frequency of performing NFPE’s.

References

Health and Nutrition Literacy: What Renal RDNs Need to Know

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Key Words: Health Literacy, Nutrition Literacy, Teach-Back Health Literacy and Chronic Kidney Disease

Health literacy, or an “individual’s capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions,” demonstrates important relationships with chronic disease and patient outcomes (1). Sørensen and colleagues developed a helpful conceptual matrix to describe health literacy through their systematic review of definitions and models (2) (Table 1). Health literacy is a complex concept, involving multiple communication factors such as access, understanding, appraising and applying information relevant to health.

A systematic review determined a pooled estimate that 22.7% (nearly 1 in 4) of Chronic Kidney Disease (CKD) patients in the US demonstrate low health literacy (3). It is possible that rates vary by the type of care received by CKD patients. For example, a small study of patients (n=32) receiving peritoneal dialysis identified a similar prevalence of 19% with low health literacy, while only 9% were found to have low health literacy in a sample (n=124) of post-transplant patients (4,5). Consistent with the larger body of health literacy research, low health literacy within CKD is associated with non-white race, lower educational attainment, and lower income (3,6).

Management of CKD often requires adherence to complicated daily medication and restricted diet routines, thus raising the question of whether those with CKD and low health literacy face increased health risks.

Studies within CKD populations demonstrate that low health literacy is associated with poorer knowledge of kidney disease, poorer kidney function as identified by a lower estimated glomerular filtration rate and higher urine protein, and a reduced likelihood of elevated blood pressure (7-9).

Interestingly, mortality risk increased by 54% in a sample of 480 adult hemodialysis patients with low health literacy even though there was no difference between health literacy groups for clinical measures often associated with mortality in dialysis patients, such as dialysis adequacy (Kt/V), anemia (hemoglobin), and bone-mineral metabolism (phosphorus, calcium, calcium-phosphorus product, and intact-parathyroid hormone) (10). Authors felt that higher literacy helps increase knowledge about disease, improve communication with providers and strengthen greater self-efficacy and effective self-care as compared to low literacy clients.

Identification of Health Literacy
Several assessment tools are available to help identify individuals with limited health literacy. Table 2 provides an overview of tools commonly used in research and/or clinic settings.

Nutrition Literacy
Nutrition intervention is often necessary for preventing or slowing the progression of kidney disease, for managing complications of kidney disease, and for treating protein-energy malnutrition common among the CKD population (11). Recommendations for nutrition care necessitate frequent interactions between RDNs and patients with CKD stages 3 and above (12). It is therefore important that RDNs recognize the potential consequences of low health literacy upon diet. For example, those with low health literacy demonstrate poorer knowledge of dietary restrictions involved with CKD, poorer interpretation of food labels, more often overestimate portion sizes, and consume a poorer quality diet (13-17).

Table 1. Sørensen’s Matrix with Four Dimensions of Health Literacy Applied to Three Health Domains

<table>
<thead>
<tr>
<th></th>
<th>Access/obtain information relevant to health</th>
<th>Understand information relevant to health</th>
<th>Process/appraise information relevant to health</th>
<th>Apply/use information relevant to health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health care</td>
<td>Ability to access information on medical or clinical issues</td>
<td>Ability to understand medical information and derive meaning</td>
<td>Ability to interpret and evaluate medical information</td>
<td>Ability to make informed decisions on medical issues</td>
</tr>
<tr>
<td>Disease prevention</td>
<td>Ability to access information on risk factors for health</td>
<td>Ability to understand information on risk factors and derive meaning</td>
<td>Ability to interpret and evaluate information on risk factors for health</td>
<td>Ability to make informed decisions on risk factors for health</td>
</tr>
<tr>
<td>Health promotion</td>
<td>Ability to update oneself on determinants of health in the social and physical environment</td>
<td>Ability to understand information on determinants of health in the social and physical environment and derive meaning</td>
<td>Ability to interpret and evaluate information on health determinants in the social and physical environment</td>
<td>Ability to make informed decisions on health determinants in the social and physical environment</td>
</tr>
</tbody>
</table>

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ADVANCES IN PRACTICE: HEALTH AND NUTRITION LITERACY

Considering the high prevalence of low health literacy among CKD patients, it is important for RDNs to be mindful of the potential for low nutrition literacy among their clientele. Nutrition literacy builds upon the concepts of health literacy, but is more specific to an individual’s capacity with nutrition knowledge and skills that lead to consumption of a healthy diet (18,19).

The Nutrition Literacy Assessment Instrument (NLit) assesses nutrition literacy in six domains (20,21).

1. Assessment of ability to comprehend nutrition and health text,
2. Knowledge of the energy sources in food,
3. Skill with household food measurement,
4. Interpretation of food labels,
5. Ability to categorize foods into similar food groups, and
6. Consumer skills for food selection.

These domains were determined by interviews with experts in nutrition education. It should be noted the NLit has not been tested in the CKD population specifically and may require content modification in some domains in order to be used for this purpose.

Best Practices for Clear Communication

If the situation and setting allows, administering one of the identification tools described above or in Table 2 can provide an objective assessment of patient health literacy skills. This may prove useful in determining how to choose methods for meeting an individual’s educational needs. Alternatively, some have advocated for using a ‘universal precautions’ approach to healthcare communication, which involves standard practices that assume all patients may struggle in their comprehension of health information (22). The Agency for Healthcare Research and Quality maintains an online toolkit for healthcare practices to promote clear communication for all patient encounters (23).

RDNs can choose from multiple teaching strategies and methods to communicate with their patients. Written educational materials can reinforce teaching messages during an educational encounter and can serve as a reference for patients later, so they are often used in nutrition care settings. These materials should be developed using clear communication strategies, such as utilizing plain language instead of medical jargon, focusing upon one message, using instructive visuals to reinforce messages, avoiding prose text (i.e. paragraph text), and focusing on changing behaviors. Tools, such as the Center for Disease Control’s Clear Communication Index, are available to help professionals evaluate their materials for compliance with these strategies (24).

Many of these same concepts can be applied to oral communication as well. One recommended strategy that is also gaining in research support is known as “teach back.” After a healthcare provider instructs a patient on a concept, teach back is used when the provider asks the patient to recall what was learned by asking questions such as “Can you tell me what you are going to do when you get home?” (23). Used effectively, this technique provides opportunity to check for patient understanding and reteach as necessary until the message is jointly understood, leading to improved patient comprehension (25,26). However, be aware that those with low health literacy may require more rounds of teach-back than those with adequate health literacy (27).

Table 2. A Brief List of Commonly Used Health Literacy Assessment Tools

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Author</th>
<th>Format</th>
<th>Reliability</th>
<th>Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid Estimate of Adult Literacy in Medicine (REALM)</td>
<td>Davis, 1993(28)</td>
<td>66 item health care words read aloud; Estimates grade level reading</td>
<td>Not reported</td>
<td>Correlated with 3 reading achievement tests (p&lt;0.001)</td>
</tr>
<tr>
<td>Test of Functional Health Literacy in Adults (TOFHLA)</td>
<td>Parker, 1995(29)</td>
<td>50 item reading comprehension section; 17 item numeracy section; Identifies “inadequate,” “marginal,” and “adequate health literacy”</td>
<td>Internal consistency, Cronbach’s alpha = 0.98; Test-retest, 0.92 Spearman-Brown coefficient</td>
<td>Correlated with WRATa-R and the REALM (p&lt;0.001)</td>
</tr>
<tr>
<td>Shortened TOFHLA</td>
<td>Baker, 1999(30)</td>
<td>36 item reading comprehension section; 4 item numeracy</td>
<td>Internal consistency, Cronbach’s alpha = 0.68 (numeracy); 0.97 (reading)</td>
<td>Correlated with REALM (p&lt;0.001)</td>
</tr>
<tr>
<td>Newest Vital Sign (NVS)</td>
<td>Weiss, 2005(31)</td>
<td>6 item, questions reference the nutrition facts panel of an ice cream label; 3 scoring categories of health literacy</td>
<td>Internal consistency, Cronbach’s alpha = 0.76</td>
<td>Correlated with TOFHLA (p&lt; 0.001)</td>
</tr>
<tr>
<td>Diabetes Numeracy Test (DNT15)</td>
<td>Huizinga, 2008(32)</td>
<td>15 items, 5 diabetes self-care areas</td>
<td>Internal consistency, Kuder-Richardson 20 =0.90</td>
<td>Correlated with education, income, REALM, WRATa, diabetes knowledge (p&lt;0.001)</td>
</tr>
</tbody>
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aWRAT, Wide Range Assessment Technique; and WRAT-R Wide Range Assessment Technique Revised
ADVANCES IN PRACTICE: HEALTH AND NUTRITION LITERACY

Conclusion
Renal RDNs are well-positioned to improve patient quality of life and longevity through their effective delivery of nutrition care. Implementing practices that increase the health and nutrition literacy capabilities of CKD patients is an important strategy for maximizing the outcomes of nutrition education efforts.

References
Telehealth: When Technology Meets Healthcare

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Key Words: Telehealth, Telenutrition, Telemedicine

Abstract
Health care in the United States is undergoing a rapid change that aims to improve care coordination, provide new service models, and expand access to care. As a result of health care reform, telehealth has emerged as an alternative mode of health care delivery. Telehealth encompasses a broad variety of technologies and tactics to deliver virtual medical, health, and education services. Telehealth is not a specific service, but rather a collection of means to enhance care and education delivery.

Background
Health care reform, consumer demands and the availability of technology is shifting the way that business is conducted in the healthcare industry. Traditionally, healthcare, including medical nutrition therapy and other nutrition related services, has been provided through face-to-face communication and interactions. In recent years, there has been an emergence of virtual communication technologies as a way for patients and providers to communicate in the healthcare setting. Telemedicine emerged as an alternative mode of health care delivery (1). The American Telemedicine Association (ATA) defines telemedicine as: “the use of medical information exchanged from one site to another via electronic communication to improve patients’ health status” (2). The World Health Organization (WHO) identified four essential elements of telemedicine (3):

1. Provide clinical support
2. Overcome geographical barriers
3. Incorporate various types of information and communication technologies (ICTs)
4. Improve health outcomes

Definition and Overview of Telenutrition
Telemedicine and telehealth are often used interchangeably but denote slightly varying definitions and practices. According to the Academy of Nutrition and Dietetics (the Academy) telehealth is,

“the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration” (4).

Telehealth supports the entire health continuum with the goal of increasing the overall wellness of the patient. The Academy conducted a survey in 2015 to identify current knowledge and service delivery of nutrition practice related to telehealth. A total of 5087 individuals responded to the survey and thirty percent of the respondents indicated the use of telehealth in their practice location (5).

The practice of telenutrition is a branch of telehealth defined as “medical nutrition therapy (MNT) and nutrition counseling provided by a registered dietitian nutritionist (RDN) at a location different from the patient’s by use of communication technology” (6). A RDN may provide multiple different nutrition related services through the use of telenutrition. “Services provided by RDNs include nutrition screening, nutrition assessment, nutrition diagnosis, patient education and counseling, monitoring, and follow up” (7). These services are all components of the medical nutrition therapy process. The types of communication technologies utilized in telenutrition are similar to those of telehealth including video-conferencing, e-mail, text messaging, and telephone.

A concept or term to consider when exploring telenutrition is nutrition informatics. The Academy provides the following definition of nutrition informatics: “the effective retrieval, organization, storage and optimum use of information, data, and knowledge for food and nutrition related problem solving and decision making” (4). Technology supports and is a part of informatics but it is not the same concept or to be used interchangeably. Generally, informatics within healthcare is to manage health information. Technology may house personal health records used to “record, manage, and share health information” (8). A client and RDN may use this form of record to exchange and obtain information during and in between sessions. This record and the security considerations and concerns of transferring this information securely and safely online are examples of nutrition informatics used within telenutrition.

Technology Platforms Utilized to Deliver Telenutrition
Along with the variety of uses for telehealth, including patient education, diagnosis, and treatment, there is a variety of technology mediums utilized to deliver this form of healthcare. The technology utilized to provide telehealth services and specifically telenutrition are referred to as information and communication technologies (ICTs). These technologies are advancing the way healthcare is provided to patients and clients.
ADVANCES IN PRACTICE: TELEHEALTH

Communication Technology and Telehealth

Synchronous and asynchronous technologies are methods of communication technology used in telehealth. The major difference between these methods of communication technology is the interaction timing between the provider and another provider or the client.

Synchronous Technologies

Synchronous technologies are technologies that allow for ‘real time’ interactions either through audio, visual video, or both (9). These types of technology may include video-conferencing or telephone calls. Studies have found video-conferencing and telephone to be among the most popular forms of synchronous telehealth (10). The ability to be ‘real time’ allows for a closer similarity between telehealth practice and traditional healthcare appointments or interactions with immediate feedback.

Asynchronous Technologies

Asynchronous technology is also referred to as ‘store-and-forward’ telehealth (11). These types of technology do not utilize real-time forms of communication to deliver telehealth. The Internet, smart phones, email, and digital photography are among the leading technologies within asynchronous forms of communication technologies. As these technologies continue to grow and expand, the research on asynchronous technologies to deliver telehealthcare will also likely continue to expand. These technologies have the ability to allow clients and providers to capture clinically important digital samples and relevant data in various formats from any location and send them to providers at distant sites for assessment at a convenient time. This type of telehealth could “reduce wait times, provide opportunities to rethink the way in which high-demand services are organized, optimize the use of limited health resources, and promote equitable access to health professionals and services” (11). Cost may be a major benefit to the utilization of asynchronous technology. Educational lessons and other interactions can be prerecorded and require “lower-bandwidth connection” which results in cheaper technology (12). Another benefit to the use of asynchronous technology may be enhanced comfort level of the patient and willingness to express thoughts and symptoms that may feel uncomfortable to the individual in a traditional setting. This may be of particular benefit in the field of dietetics when counseling individuals who feel discomfort in speaking about weight or food choices. Asynchronous technologies make up the majority of technologies and applications for telehealth used by RDNs as demonstrated by the Academy survey (5).

Cost Effectiveness

The research on cost effectiveness of telehealth services remains largely inconclusive and more research is indicated (13). Telephones versus some forms of video-conferencing have different associated costs. However, The Evidence Analysis Library (EAL) by the Academy indicates that although very little evidence points to any difference between the costs of telehealthcare services and traditional consultations there is still much to be discovered in regards to cost of telehealth (14). It will also be important to define who telehealth is cost effective for including government payers, third-party payers, health providers, or patients.

Clinical Effectiveness and Outcomes

In 2015, total Medicare costs for ESRD were $30.9 billion and accounted for 7.1% of paid claims costs in the fee-for-service system (15). Based on current research telehealth may have the ability to help control chronic diseases and healthcare costs (16). Research indicates that telehealth has many positive benefits for those individuals with various chronic diseases including reducing preventable hospitalizations, readmissions rates, and length of stay. The Academy’s EAL states the following regarding the effectiveness of telenutrition services produced by a registered dietitian nutritionist: “consistent evidence reports that telenutrition interventions and counseling provided by a registered dietitian resulted in significant improvements in weight, body mass index (BMI), A1C, and/or serum lipid levels” (14). ICTs may provide the tools to support weight loss clients and patients, remote monitoring of patients and improve glycemic control (HbA1c) for patients with diabetes. Cost-effectiveness, feasibility, and reliability have been shown for both synchronous and asynchronous technologies with diabetic patients (17).

Although various interventions using ICT have been developed across a spectrum of chronic diseases with promising results there is limited research regarding telehealth and kidney disease. Blinkhorn (2012) explored the use of telehealth in the context of renal health care (18). He reviewed 10 studies in dialysis units using different applications of ICT involving a combination of teleconferencing, teleconsultation and teledialysis or remotely monitoring dialysis treatments and reported that ICT can be used successfully to treat and manage the care of chronic kidney disease (CKD) patients. Among patients with CKD enrolled in either a teledialysis clinic or a conventional nephrology clinic, compliance with telephrophelogy visits was shown to be equal to or better than conventional care. Gordon and colleagues suggest that innovative approaches are urgently needed to optimize the use of nephrology resources and to improve the coordination of care (19).

Integrating novel health ICT platforms into the routine care of individuals with CKD may enrich current strategies intended to improve the often poor outcomes of these patients.

Possibilities for telehealth interventions are wide-ranging and include the delivery of telephone-based education and video-conference clinical visits or interdisciplinary meetings.

Considerations When Utilizing Telenutrition

Telenutrition has the ability to provide a multitude of benefits, but there are some concerns. Multiple factors should be considered before deciding to utilize telenutrition in practice such as licensure and the practice of telehealth, privacy and security of clients’ data, and scope of practice.
Licensure

Licensure and telehealth requirements come into consideration when the RDN resides in a different state as their clients. The following are common, but not universal, requirements that RDNs need to consider (20):

• If telehealth is provided to a client in the same state that the RDN is licensed and the RDN’s license is in good standing, there should be no significant licensure issues unless a state licensure law includes specific telehealth provisions.
• If care is provided to a client in a different state than the RDN is located, the RDN likely needs to be licensed in each state in which he or she electronically practices and the state in which the RDN is located.

Privacy and Security

The protection of patient information is critical in the delivery of telehealth. Any identifiable information to be transmitted electronically as part of nutrition care should be performed in accordance with the Health Insurance Portability and Accountability Act (HIPAA). The HIPAA Privacy Rule protects all individually identifiable health information, known as protected health information (PHI), held or transmitted by a covered entity, in any form or media, whether electronic, paper, or oral (21). The HIPAA Security Rule establishes “a national set of security standards for protecting certain health information that is held or transferred in electronic form” (22). HIPAA requires RDNs to “adopt and maintain appropriate technical, administrative and physical safeguards to protect the confidentiality, integrity, and security of all individually identifiable health information created, received, maintained or transmitted in an electronic form as part of patient care” (23). The Privacy Rule and Security Rule apply to any form of telehealth including video consultations or remote counseling via smartphones and apps.

Healthcare professionals must be aware that security issues may be a concern, or at least need to be considered, when providing telehealth services. Hacking, viruses, and leaking of patient data and files, are all issues that have the potential to occur with online technologies. Using proven, safe, and recommended technologies will help to protect against this issue. There are now approved technologies being developed, password protectors, and other software that additionally helps to prevent security concerns. HIPAA regulations do apply to communication technologies. Technology, platforms, and software utilized to delivery any form of healthcare, including nutrition related services, through telehealth must follow requirements set by HIPAA. Some commonly used video-conferencing platforms like Skype raise concerns regarding HIPAA compliance. However, HIPAA compliant video-conferencing platforms do exist. Therefore, the healthcare professional should ensure they are using a compliant technology when delivering healthcare through telehealth.

An additional legal concern is insurance, including liability and malpractice insurance. The RDN should make sure their services are covered under their liability and malpractice insurance policies for telehealth services before proceeding (22).

Payment and Monetary Concerns of Telenutrition for the Dietitian

Commercial insurance coverage and reimbursement for MNT varies by insurance plans. Since there is no federal legislation requiring private payer reimbursement for telehealth services, states are left to determine if and how they will regulate telehealth practice and reimbursement. Medicare Part B allows several services provided by RDNs be offered via telehealth. For Medicare payment to occur, interactive audio and video communications must be used, permitting real-time communication between the distant site provider and the Medicare beneficiary. As a condition of payment, the patient must be present and participating in the telehealth visit. While national guidelines for payment for telehealth services under the Medicare program are clearly defined, such is not the case with state level coverage policies. Since there are no federal laws around Medicaid coverage of telehealth services, laws are generated at the state level and vary greatly from state to state (24).

Client Considerations When Utilizing Telenutrition

There are also pros and cons to implementation of telehealth for the client. Increased accessibility and access to specialists, time flexibility, and cost may be some of the potential benefits clients receive. Alternatively, communication technologies are not appealing to all clients, security and privacy may be of concern, and there is also still much research to be done in the field. Communication technologies may cause more anxiety about their condition or meeting with a healthcare professional. To be able to participate in receiving healthcare related services and education through technology the client must have at least some familiarity with technology, or be willing to learn, as well as feel comfortable using communication technologies. In 2013, 84% of households in the United States reported owning a computer, so familiarity with technology and willingness to learn may not be a huge concern for many individuals (25). However, it is still an important factor for the healthcare professional to consider before recommending telehealth to a client. In addition to technology aversions, an individual may simply just prefer to receive care face-to-face, which is also an important factor to consider.

Summary

Telenutrition is an emerging area of practice for RDNs. Studies thus far appear to show a promising future for the use of telenutrition, although more research is needed. Despite the multitude of areas that still need researched within this field, practitioners, healthcare professionals, and clients are utilizing and receiving care through telecommunication technologies.
References
Curbing the Cost of Diabetes Through Prevention

Diabetes is a tremendously costly illness, both in terms of health and our nation’s escalating healthcare costs. Today, 29.1 million people have diabetes; an additional 86 million people are estimated to have prediabetes. The prevalence of diabetes is even more staggering among those eligible for Medicare. In 2012, more than one-quarter of U.S. residents aged 65 years and older (11.2 million people) had diabetes, and over 50 percent of all persons with prediabetes over age 20 were Medicare-eligible. In other words, seven out of 10 people eligible for Medicare are affected by diabetes or prediabetes. For half of these individuals, however, diabetes could be prevented if they had access to a diet and exercise lifestyle intervention.

The stress the rising cost of diabetes treatment places on our healthcare system confirms the continued need for diabetes prevention and management through lifestyle changes and cost effective treatment. A recently released study on healthcare spending for diabetes patients conducted by the Health Cost Institute states that diabetes spending rose 6% compared to 3.2% for people without diabetes and reached a record high in 2014. Compared to other treatment options such as medication, diet and exercise lifestyle modification programs have consistently been shown to be cost-effective and even cost saving methods for preventing and treating diabetes in participants.

What do these statistics tell us? Potentially untapped opportunities exist to provide Medical Nutrition Therapy (MNT) and Diabetes Self-Management Training (DSMT) services provided by registered dietitian nutritionists (RDNs) as cost-effective solutions to help curb costs and improve the health and well-being of these populations. Strong evidence shows MNT provided by an RDN is an effective and essential therapy in the management of diabetes. The Academy has been actively involved in developing and generating support for legislation that would help prevent type 2 diabetes. Included in these efforts is the Preventing Diabetes in Medicare Act (S. 3082, H.R. 1686). The Preventing Diabetes in Medicare Act is intended to help prevent cases of diabetes in the Medicare population by allowing medical nutrition therapy to be provided by a registered dietitian or nutrition professional for individuals with diabetes, prediabetes, renal disease, or an individual at risk for diabetes. RDNs can amplify the Academy of Nutrition and Dietetics’ voice for better food, nutrition and health policies by visiting the Academy’s Advocacy Action Center at: www.eatrightpro.org/resource/advocacy/disease-prevention-and-treatment/diabetes-and-pre-diabetes/diabetes-prevention-legislation.

The Academy is also taking an active role in shaping the language of new and evolving Medicare services by providing comments to the Centers for Medicare and Medicaid Services (CMS) on policy development. On July 7th, 2016, CMS announced a proposal to expand the Diabetes Prevention Program (DPP) to Medicare beneficiaries beginning on January 1, 2018. The DPP is a structured lifestyle intervention that includes dietary coaching, lifestyle intervention, and moderate physical activity, all with the goal of preventing the onset of diabetes in individuals with prediabetes. Program details, including reimbursement policies, eligibility requirements, site of service requirements, and quality measurement reporting, are yet to be finalized by Medicare. The Academy is currently collecting input from members operating a DPP, as well as other sources, and will be submitting comments to CMS related to the DPP expansion on behalf of its members.


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The Way it Was – Remembrances of Renal Dietitian Pioneers

Mary Kay Hensley, MS, RD, CSR
Email: marykayhensleyrd@netscape.net

Margaret (Peggy) Harum, RD, LD, is a 52 year member of the Academy and a 40 year member of the Renal Practice Group (RPG). She initially lived and worked in Florida, then moved to North Carolina and is now working full time as a renal diettian in Fort Worth, Texas.

Peggy writes, “I was working as an Assistant Administrative Dietitian in 1968. The first person to dialyze in Miami was assigned to me. He was 13 years old and he dialyzed 13 hours at a time on a Travenol Chronocoil machine. He could have anything he wanted to eat, so he had potato chips, pickles, cheesesburgers, and chocolate bars.”

“I started working with Chronic Kidney Disease (CKD) patients in 1975, when the nephrologist offered me a part-time consulting position, in addition to my regular hospital job. By 1984, I was working in 3 dialysis clinics and was also regularly consulting with CKD patients to help them stay off of dialysis. One of the nephrologists referred me to a teenage girl, whose parents forced her to come and see me. She was sullen and angry, her serum creatinine was 10 mg/dl, and her typical diet history was fast food and pizza. I talked to her at length and gave her a 3 ring binder with my card taped on the front. It was full of ideas, information about kidney disease, sample menus, tips, etc. I told the referring nephrologist, I didn’t think anything would help keep her off of dialysis. About a year later, I was working at night with 3rd shift patients, when I got a call from a High Risk Obstetrics Department at another hospital telling me one of my patients was there and that she was about 12 weeks pregnant. I told them I had no patients at their hospital and they said: “Well, she has your 3 ring binder with your card on it”. So, I collaborated with the high risk OB, the nephrologist and the RD. The patient followed a 25 gram protein, low salt, and high carbohydrate diet during the remainder of her pregnancy. She was prescribed appropriate vitamins and minerals as well as Keto Acid Analogues. She delivered a full term healthy baby without going on dialysis. Six weeks later she started dialysis and subsequently got a kidney transplant with her father as the donor. I presented this case at the European Dialysis and Transplant Nurses Association (EDTNA) meeting in Berlin in 1986 and it was published in 1987 in Aspects of Renal Care 2.”

“I have written eight books—six in English and two in Spanish. The Spanish ones are in Cuba, Puerto Rico and Brazil. The last one, in 2014, is an ebook through Barnes and Noble, “Healthy Eating for Chronic Kidney Disease”. In 1984, I was invited to give a presentation at the EDTNA meeting in Florence, Italy on the Feasibility of Urea Kinetic Modeling. Nobody, especially in Europe, knew what it was then. I was trained by Kathy Bricker Frederico, RD who was working with Edmund Lowrie, the principal investigator, of the National Cooperative Dialysis Study (NCDS). I was impressed by how willing they were to share their knowledge. I was using a Texas Instruments hand held computer and a method that required 3 blood urea nitrogen (BUN) measurements. The terminology was TAC (Time Averaged Concentration). So, there was a BUN that showed how much urea was removed during the treatment and a BUN that showed how much urea accumulated between two treatments. This paper was published in Europe and then reprinted in the CRN Quarterly. Over the years, I have spoken in many countries and at many meetings in the United States on various issues related to CKD.”

Jo Ann Airaghi, MEd, RD, LD, joined the Academy in 1965 and is a 51 year member. She continues to be a member of the Renal Practice Group. JoAnn practiced in Illinois and later in Cincinnati, Ohio. She recently retired after moving to another part of Ohio, but she hopes to return to work again in dialysis and transplantation once she is settled in her new home.

Jo Ann writes “I started in renal nutrition in 1968 at Memorial Hospital in Springfield, Illinois. At that time Illinois and California were the only states to have state funds to pay for dialysis. I wanted a change from hospital dietetics and was informed by a salesman that the dialysis unit was looking for a dietitian, so I interviewed and accepted the position. In the beginning, I covered the dialysis unit which had only 13 patients and also covered another patient area. As our unit grew, I only followed dialysis patients.”

“The biggest hurdle to overcome, and it is still a problem today, was to get the patient to accept the responsibility for their own health—doing their treatments, taking their medications, following dietary limits, etc. If they had accepted that responsibility, they may not have needed dialysis.”

“My greatest contribution to my renal patients was developing, with their assistance, a cookbook, grocery list, teaching some of them how to cook and how to prepare recipes the whole family could enjoy. We shared weekly grocery store fliers—indicating which items were acceptable on the renal diet and shared recipes using those food items. When I recently retired, the patients were still looking forward to those weekly lists and recipes. Another contribution to my patients, was sharing with them that giving up or limiting salt was not the end of the world by introducing them to herbs and spices. We put spices together and made an Italian Seasoning blend and Sassy Seasoning blend. Using spices in the recipes made the food taste better and the whole family could enjoy the recipe.”

“I have enjoyed all 50 years working as a dietitian and especially enjoyed working in dialysis and transplantation the most.”

Jacquelyn S. Cost, RD, was the Nephrology Dietitian at Veterans Administration Hospital in West Haven, Connecticut in 1975 when she published “Dietary Management of Renal Disease”. Her book contained Exchange Lists, sample menus, and more than 200 recipes. It was one of the first, of many, cookbooks published by various authors and organizations to educate the growing number of CKD patients. We have included a recipe, Danish Dessert with Frozen Strawberries which appeared in the cookbook.
THROWBACK RECIPE

Danish Dessert with Frozen Strawberries

1 package Danish Dessert*
1 cup frozen strawberries
¼ cup sugar
2 ½ cups cold water

Thaw strawberries. Mix all ingredients together in a saucepan and bring to a boil, stirring constantly. Pour into a bowl or 8 dessert dishes. 8 servings- each serving contains 105 calories, 0 g protein, 0 mg sodium and 33 mg potassium.

(*Danish dessert contains tapioca starch and is manufactured by Junket, Little Falls, NY 13365. It is no longer available in stores but can be ordered online. Please verify current nutrient content on package.)

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FROM THE ACADEMY

Evidence Mounts on Effectiveness of Medical Nutrition Therapy

Evidence for the effectiveness of Medical Nutrition Therapy (MNT) provided by registered dietitian nutritionists (RDN) continues to mount. Recently published updated recommendations on the Academy of Nutrition and Dietetics Evidence Analysis Library (EAL®) include strong evidence to support the effectiveness of nutrition intervention and counseling provided by a nutrition professional. RDNs are the best qualified health care professionals to deliver nutrition education and MNT services for prevention, wellness and disease management. In fact, nutrition services provided by RDNs applying the Academy of Nutrition and Dietetics’ Evidence-based Nutrition Practice Guidelines can improve a consumer’s health and increase productivity and satisfaction levels through decreased doctor visits, hospitalizations and reduced prescription drug coverage.

In order to meet the needs of the changing healthcare environment, dietetic professionals need to show that MNT positively affects patient outcomes. The information and resources available in the EAL speak to the benefits associated with RDN-provided nutrition services. Key findings of the Medical Nutrition Therapy Effectiveness Systematic Review, completed in 2015, include the following:

• Strong evidence to support the effectiveness of MNT provided by a nutrition professional (registered dietitian nutritionist or equivalent) on health outcomes in overweight and obese adult.

• Strong evidence to support the effectiveness of MNT provided by an RDN to improve disorders of lipid metabolism outcomes.

RDNs can use the MNT effectiveness and cost-effectiveness information contained in the EAL during meetings and presentations to local third party payers, employer groups, and hospital finance and billing departments to support and expand coverage for MNT services. Additionally, the Academy will soon be updating the Medical Nutrition Therapy MNTWorks® Kit to include these research findings and effectiveness data.

The EAL is a synthesis of the best, most relevant nutritional research on important dietetic practice questions housed within an accessible, online, user-friendly library. The Academy’s Evidence Analysis Process is a rigorous and systematic process for searching, analyzing and summarizing research on a specific nutrition topic. EAL updates to nutrition topics include MNT with a diagnosis of diabetes, heart disease, pediatric obesity and more. Members and subscribers can log into the EAL to access the content. Non-members can purchase a subscription to the EAL. For more information, visit: www.andeal.org/mnt. To read the January 2013, Managed Care Magazine article, The Incremental Value of Medical Nutrition Therapy in Weight Management, visit: www.eatrightpro.org/resource/practice/getting-paid/expanding-payment-and-coverage/effectiveness-data.

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Why You Should Become A Medicare Provider: From the Perspective of A Primary Care Physician

Dr. Debbie Feiner
Primary Care Physician

As a registered dietitian nutritionist (RDN), you provide valuable and often life-changing advice and support to patients. When I see my patients with diabetes, hypertension, obesity, and chronic kidney disease, they are often woefully uninformed about nutrition and unable to set appropriate goals based on evidence-based guidelines without professional help. Luckily I have access to a team of dietitians whose visits improve patient engagement and outcomes. I have seen powerful evidence of lives being transformed when patients are able to connect with a RDN who can skillfully educate them and follow them over time, taking into account each’s unique needs, culture, values and preferences.

In order to provide excellent, safe, and individualized care to every patient, primary care physicians and their patients must have access to a team of professionals, and that includes the RDN. The support of the RDN in managing diabetes and other medical conditions as well as through transitions of care from inpatient to outpatient cannot be overemphasized. This collaboration undoubtedly delivers improved outcomes for patients and leads to lasting fruitful relationships and program innovations. However, primary care needs more RDNs who are Medicare providers.

The Medicare population is growing at a rapid pace. The Social Security Administration’s FY2012 Annual Performance Plan noted roughly 10,000 Baby Boomers will turn 65 every day until 2030. As the baby-boom generation ages, the Medicare population is estimated to grow to over 80 million beneficiaries, according to a Medicare Payment Advisory Commission report titled, The next generation of Medicare beneficiaries. Nearly 30% of this demographic has diabetes. These patients are desperately in need of evidence-based nutritional guidance from RDNs, as the pharmacologic treatment of diabetes is made that much easier when patients are eating right. In many cases, patients are not only able to minimize or even stop medications, but they are empowered in their own care as well.

Our aging population with increasing incidence of chronic diseases such as cardiac disease, diabetes, or hypertension, adds to already high health care costs and raises a dilemma in relation to public health policy: how to reverse this trend? Alternative healthcare models, with the emphasis on a team approach, focusing on value not volume, have changed the way healthcare is organized, delivered and paid in an attempt to control costs. Models, such as the Patient Centered Medical Home (PCMH), places the patient and their families at the heart of care and focuses on relationships between all the members of the PCMH team. If this approach to delivery and payment is to be truly effective in driving value and innovation and in creating closer connections between primary care providers, patients and the medical neighborhood, these models must facilitate integration of care by non-physician clinical care providers, including RDNs.

Working with the Medicare population can also help the RDN secure a role for him or herself as a valuable member of the interdisciplinary, patient-centered health care team as new models of delivery and payment develop. The Centers for Medicare and Medicaid Services (CMS), the government agency that oversees Medicare, has emerged as an important force in health transformation. CMS and other health care stakeholders will look to the results of pilot models to assess the ability of the RDN workforce to meet the needs of populations. In other words, by becoming a Medicare provider, you will have a much greater impact on the ability to advocate for the integration of RDNs into new models of delivery, such as the PCMH, and to demonstrate the value of RDNs within alternative payment models (APMs). Whether you become a Medicare provider to support your healthcare team, to drive better patient outcomes or secure your future in healthcare, becoming a Medicare provider is simply good business.

Benefits of Becoming a Medicare Provider

When you become a Medicare provider you do several things:

• Expand your client base and referral base exponentially, thereby increasing revenue.
• Align yourself with primary care providers who are more than happy to refer their patients for the advice they may not have the time nor the education to deliver.
• Increase RDN visibility with key stakeholders: Medicare, private payers, state Medicaid agencies, large employer groups and other stakeholders who use Medicare provider information to understand workforce availability and inform decisions. (Who will payers turn to if they are unable to identify enough RDNs?)
• Enable payers to identify RDNs for their networks.
• Become eligible to participate in CMS Innovation Models that often give providers more flexibility to deliver care.
• Improve the Academy’s ability to advocate for policies and legislation that simultaneously improve consumer access and payment for services provided by RDNs, and demonstrate the existence of a viable workforce to meet the needs of populations.

Medicare Resources from the Academy


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**Partnering with Providers and Payers to Meet the Needs of Kidney Patients**

Thirty-one million Americans are currently living with chronic kidney disease (CKD). Of these, more than 600,000 Americans have End-Stage Renal Disease (ESRD) and require life-sustaining dialysis treatments several times per week. In 2012, ESRD beneficiaries comprised 1.1% of the Medicare population and accounted for over $8.6 billion in Medicare spending. These high costs are often the result of underlying disease complications and multiple comorbidities, which can lead to high rates of hospital admission and readmissions, as well as a mortality rate that is much higher than the general Medicare population. The prevalence of kidney disease in the US, while unfortunate, presents an excellent opportunity for registered dietitian nutritionists (RDNs) to become Medicare providers and promote their services to better meet the needs of Medicare beneficiaries.

It’s not only RDNs who appreciate the important role they can play in improving the understanding, detection, and management of kidney disease. The National Kidney Disease Education Program (NKDEP) of the National Institutes of Health encourages collaborative management and communication between primary care providers (PCPs) and RDNs to help improve patient outcomes.

The Centers for Medicare & Medicaid Services (CMS) also recognizes the role medical nutrition therapy (MNT) provided by an RDN plays in disease prevention and health promotion. For beneficiaries who have been diagnosed with diabetes or kidney disease (except for those receiving dialysis), or who have had a kidney transplant in the past 36 months, Medicare covers three hours of one-on-one or group MNT services the first year of diagnosis, and two hours each year after that. Additionally, if the beneficiary’s condition, treatment, or diagnosis changes, additional hours of MNT may be available with an additional physician’s referral.

The changing world of health care service delivery and payment opens new doors for marketing RDN services to physicians and decision makers managing new models of care. The CMS Innovation Center is currently evaluating a new payment and service delivery model for Medicare beneficiaries with kidney disease. The Comprehensive ESRD Care Model is designed to identify, test, and evaluate new ways to improve care for Medicare beneficiaries with ESRD. The complex health needs of Medicare beneficiaries with multiple comorbidities, as often found in ESRD patients, frequently require visits to multiple providers with multiple care plans, which can be challenging for beneficiaries if care is not coordinated. Through enhanced care coordination, Medicare beneficiaries participating in the Comprehensive ESRD Care Model will have a more patient-centered, coordinated care experience designed to improve health outcomes. Thirteen ESRD Seamless Care Organizations (ESCOs) are participating in the Comprehensive ESRD Care Model across the US. With support resources from the Academy, RDNs can market themselves and their services to renal physicians and practices as an integral component of quality patient care. For more information about the Comprehensive ESRD Care Model, visit: https://innovation.cms.gov/initiatives/comprehensive-esrd-care/.

The Academy supports members in renal practice with multiple resources and networking groups. Free diabetes and renal resources can be found on the Academy webpages at: www.eatrightpro.org/resource/practice/getting-paid/nuts-and-bolts-of-getting-paid/diabetes-and-renal-disease-resources. Additional CKD resources, including the Chronic Kidney Disease Toolkit and the CKD Guideline Presentation, are available for purchase at www.eatrightstore.org. Also available for purchase is the recently updated Online Certificate of Training program for chronic kidney disease. The program consists of separate modules that build on each other and cover topics from basic CKD information and management, including dietary reference intakes and MNT benefits, to national trends in intakes of sodium, protein, phosphorus, and potassium. Patient care from CKD to kidney failure disease is also addressed. The modules are available for purchase at: www.eatrightstore.org/collections/chronic-kidney-disease-nutrition-management

The Academy’s Renal Dietitians Practice Group (RPG) also works to empower members to be the nation’s leaders in nephrology nutrition. Through direction and leadership, RPG members strive to advance the nephrology nutrition clinical practice, education, and research while promoting continuing education programs for dietitians and other health-care professionals. Additionally, RPG strives to be on the forefront of legislative and policy initiatives affecting the nephrology community.

RDNs should market the benefits of MNT to patients, referring providers, and other health care stakeholders. Use the Academy tools to enhance skills in this area of practice and facilitate referrals for nutrition services.

For more information about RPG, visit: www.renalnutrition.org. For more information about National Kidney Month, visit: www.kidney.org/.

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**RPG Volunteer Opportunity**

Interested in reading new articles and sharing your expertise with our membership? RPG is recruiting for 2017 Handout and RNF reviewers.

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rpgforumeditor@renalnutrition.org

for more information.
With technology improving and smart phones updating every couple of months, the development of fitness apps is on the rise. Exercise seems to be the new trend among many populations and smartphone companies along with app developers are responding to this trend. Physical activity is important for everyone, especially for those who are considering a kidney transplant and need to lose weight to meet BMI criteria. Some people may be unsure of where to start or may need assistance with designing an exercise regimen that caters to their exact needs. Fortunately, Pacer Health, Inc has designed an app that can help individuals reach their fitness goals.

The ‘Pacer- Pedometer plus Weight Loss and BMI Tracker’ app is a free app designed to track your steps. The app begins with asking users to enter information such as their current weight and height to calculate their BMI. Once that information has been entered users will be given a goal of 10,000 steps a day. Keep in mind the user has the ability to decrease or increase this goal at any time. The main screen is a snapshot of the user’s progress of a given day and includes information such as the amount of calories burned, length of time the user has been active, miles accumulated, and the total number of steps the user has accrued. Additional features of this app include a section to join a group with similar goals and a ‘trend’ section, which shows a user’s weight trends and the average number of steps walked.

Another great section of this app is titled ‘Me’. This feature stores information such as weight and allows users to update their weight as needed. As a result, the app calculates the amount of weight lost or gained and shows weight trends in the form of a line graph. A convenient component of this app is the ability to sync steps tracked from the ‘Health’ app found on iPhones to the ‘Pacer’ app. Unique features include the ability to view the app in 11 different languages including Spanish and the ability to enter and track blood pressure.

Although named ‘Pacer’, this app does not track the pace or speed of how fast a user is walking or running. This feature may be important to some users and could potentially be added in a future update. Other areas of improvement or updating would be an additional section to add blood glucose levels and remove sections of the app that the user must pay to view. Another downfall is the user must remember to keep their phone on them at all times so the app can accurately measure the number of steps taken throughout the day. This could be a challenge for some individuals.

Ultimately, the ‘Pacer’ app is a useful tool that should be recommended to anyone who wants to monitor his/her activity and weight and could be particularly helpful for potential transplant recipients needing to lose weight. This app is a fun and easy way to initiate physical activity in these patients. Exercise can be fun and does not have to involve spending money on personal trainers, going to the gym, or starting an extensive exercise program. For more information visit: http://www.pacer.cc/

**Apple Health App**

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Email: sofis@udel.edu

Calling all iPhone users! If you have an iPhone 4s or iPod Touch 5th generation or later and recently downloaded the iOS 10 software, you should re-explore the free and revamped Apple Health app. The app allows storage of emergency medical information, health records, vitals and body measurements. It includes an Organ Donation Registry link.

This app focuses on four key areas that affect health: activity, nutrition, mindfulness, and sleep.

- **The activity** category automatically tracks your steps, distance, and flights of stairs as long as you have your phone on you. It has the capacity of displaying your data on a daily, weekly, monthly, and yearly basis. You can look back and see your highest step record or compare your steps week to week. It also allows you to sync exercise data from your Apple Watch or third-party apps, such as Nike+, to consolidate your activity data.

- **The nutrition** section provides a brief background on important nutrients. While it does not allow you to actually input food intake, it does allow you to sync it to third-party apps, such as MyFitnessPal. Using that data, the Health app provides a breakdown of your overall nutrient intake.

- The app now encourages living in the present moment through the **mindfulness** category. While it does not provide meditation tools, it does allow you to sync data from third-party mindfulness apps, such as Headspace, to record your meditation minutes in one place.

- The last category focuses on **sleep**. While it is not able to track your sleep cycle, it does allow you to sync it to third-party apps, such as Pillow, that follow your sleep patterns. The Health app combines this data to help you analyze your sleep cycle and make changes to optimize your health.

This app could be used efficiently for an overview of your health. It is, however, more of a storage center rather than a useful daily health app. The limitation is that it requires selected third party apps to gather health information data. Overall, Apple Health gives you a one stop place to review all of your health data collected by your iPhone, Apple Watch, and selected third-party apps.
What’s New and Available on the Website

The Renal Dietitians Practice Group offers great resources for its members on our website www.renalnutrition.org. Our most popular resources are the Professional Resource Library, Patient Education Handouts, webinars, and current or archived Renal Nutrition Forum issues. You are just a click away from all these great resources!

Website Highlights:

Find an RDN: Add your name to this searchable Renal RDN referral service tool.

E-Library: Includes the Professional Resource Center (PRC), Patient Education Handouts, RPG Produced Materials in the Academy Product Marketplace, and much more.

RNF Issues & Archives: Did you know we have archived issues of the RNF from 2003 to now?

E-Learning: Includes on demand CPEU offerings and recorded educational webinars.

Professional & Student Resource Center:
  • CSR: Information on becoming a Board Certified Specialist in Renal Nutrition
  • Student Website
  • Grants and Scholarships
  • Career Development
  • SOP/SOPP

Event Calendar and Announcements: Includes nephrology & renal-related conferences held in the US or across the globe plus information on current happenings for our practice group.

RPG Resources: This page has links to resources, nutrition information for professionals and consumers, plus links to Renal/Kidney Apps.

Areas of Expertise: This is a new section which will help you with your specialties from AKI, in-center or home hemodialysis, peritoneal dialysis, transplant, and pediatrics.

Cannot Find a Resource? Have Suggestions or Ideas for the Website?

We want to hear from you!
Melissa Prest, MS, RD, CSR, LDN
RPG Electronic Media Manager
mediamgr@renalnutrition.org
On behalf of the National Kidney Foundation (NKF)/Council on Renal Nutrition (CRN) Executive Committee (EC), Committee, I would like to wish you all a Happy and Healthy New Year. Before I communicate updates from NKF/CRN, let’s start by marking your calendars for the 2017 NKF Spring Clinical Meetings, April 18-22, 2017 in Orlando, Florida.

Some recent activities include the CRN Rules and Regulations update. In August/September we updated the 2016 Rules and Regulations, previously amended in 2011. This was finalized with CRN membership input and any local NKF/CRN council may adapt it for use in its chapter. Affiliation of local CRNs was completed in October. This is a process that is done every 2 years to collect demographic information about local councils so the NKF can better understand and serve the needs of the regional and local membership. Local CRNs can have a website through the NKF for their chapter and the NKF will link to a local CRN Facebook account; maintenance of the Facebook account will be the local chapter’s responsibility. A list of regions is located on the NKF website along with region representatives and alternate representatives if you have any questions regarding CRN councils. I was excited to see all the nominations for our annual CRN Awards. The award selections were for: Outstanding Service Award, Recognized Renal Dietitian, Recognized Regional Renal Dietitian, Susan Knapp Award and Joel Kopple Award. All awardees were selected and notified in September. Announcements and award presentation will be at the Spring Clinical Meeting in Orlando.

Project updates include Low Cost Meal Planning, National Renal Diet, KDOQI guidelines update and the Research Grant. The Low Cost Meal Planning project began its conference call planning in August. Thank you to all the membership volunteers on this committee. We look forward to this new resource for our patients. The National Renal Diet project began meeting in January 2015. This is a comprehensive joint CRN/RPG project rewriting both the professional and patient guides which were last written in 2002. The draft of the professional guide was completed this September and forwarded for review. The patient guide revision is next and both are expected to be completed in 2017. The KDOQI guidelines project is still in progress and the recommendations will be incorporated into the new National Renal Diet. Careful consideration is being given to coordinating the education so whether a professional or patient seeks information from the Academy of Nutrition and Dietetics, the National Kidney Foundation, or KDOQI, he or she will find consistency. A $70,000 Research Grant funded by Keryx is being awarded through NKF to a dietitian; we were pleased to receive wonderful applications. The Research Grant Committee was formed this July and we will update you in a future Chair message.

Remember that the NKF offers free CEUs to members through its Professional Education Resource Center (PERC); these CEUs are also offered to non-members at a fee. Check the NKF website frequently for offerings. As always, feel free to contact me with any questions or concerns. Thank you to all the volunteers working with our projects and remember a variety of opportunities with different time commitments exist. The product update is a great example of a short time commitment and editor, Sharon Stall, is always looking for features to publish in the online journal. The Patient Education feature is another terrific opportunity to get involved. The feature editor, Stacey Phillips, will welcome your ideas.

The Patient Education Team of the Renal Practice Group is proud to share our 2016/2017 production goals. As a team of four, we each collaborate on pieces that members like you have told us are much needed and are of great benefit.

In addition to the most recent piece, Vegetarian Protein Options, offered in both English (EN) and Spanish (SP) on our renalnutrition.org website, here is a list of projects you can look forward to in the remaining 2016/2017 year (titles to be determined):

- **Potassium Guide for Fruits and Veggies, Revised Again! For CKD & ESRD patients**, printable piece, EN/SP
- **Vegetarian Protein Choices for CKD & ESRD patients**, printable piece, EN/SP
- **Hidden Sources of Phosphorus for CKD & ESRD**, printable piece, EN/SP
- **Eating Simply, Revised! For CKD & ESRD patients**, printable piece, EN/SP
- **Cookbooks, Websites, and Nutrition Resources for Those with CKD & ESRD**, printable piece, EN/SP
- **Cooking Demonstration & Grocery Store Tour for CKD & ESRD Patients**, Digital video release, EN
- **Find a Renal RDN via RenalNutrition.org for CKD & ESRD Providers**, Digital and print release, EN

Thank you for your on-going feedback and allowing us to look forward to another great year of developing materials for you and your patients!

Jennifer Parker, RDN, LDN
Patient Education Chair
Renal Practice Group
rpgprojectschair@renalnutrition.org
JoAnn Randazzo, MS, RD, CDN
RPG, Chairperson

“Notice that the stiffest tree is most easily cracked, while the willow survives by bending with the wind.”
– Bruce Lee

Those of you who have had the opportunity to attend the Academy’s Food & Nutrition Conference and Expo (FNCE), you know how the speakers can inspire you to reach further and aim higher in your career. At this year’s FNCE held in Boston, MA, Academy President, Lucille Beseler, did just this in her opening session speech! One of her take home messages was to remind us to remain flexible in our daily work. Being flexible permits us to be more responsive to change. Embracing change rather than resisting it, allows us to expand our opportunities. Broadening our horizons opens us up to a world of new prospects. I hope everyone can apply Ms. Beseler’s advice and take a chance on a new career experience, you never know where the road can lead you.

It was great to meet all the RPG members who attended the Networking reception or stopped by our booth during the DPG Showcase. It was especially nice to get a personal thank-you from the grateful students who were recipients of scholarships to attend FNCE. Congratulations to the 2 winners of the Fit Bits during the DPG showcase and to the 3 winners of tickets to attend the Academy’s Foundation Gala, which was held on Monday night. A big thank you to our Member’s Services Chair, Nilima Desai, for providing all the materials to make the DPG Showcase such a success.

Tremendous gratitude is extended to Stacey Phillips for all her behind-the-scenes work in validating our applicants for the Outstanding Service Award winner as RPG’s Awards & Scholarships chair. This year’s winner was Dr. Haewook Han, who was presented with the award during our annual EC dinner.

RPGs Executive Committee is proud to have been able to have one of our own members, Pamela Kent, House of Delegates Representative as a speaker at our Spotlight Session. The session was presented jointly with the HEN DPG. A special thank you to HEN member, Jenna Umbriac, for the excellent job she did as co-presenter.

The Executive Committee has been working toward meeting our members’ needs. We are excited to announce that RPG now has both a Facebook page and Twitter, thanks to our new Social Media Chair, Kyle Lamprecht and Media Account Manager, Melissa Prest. Be sure to “like” us on Facebook, Renal Dietitian - RPG and follow us on Twitter @RenalRDNs.

The Patient Education team, chaired by Jennifer Parker, continues to develop new material and update existing material. RPG has recently signed with a new translating company that will allow us to develop education pieces in more languages to better serve our diverse patient population. Thank you to Rachael Majorowicz, Val Hannahs, and Rita Milam for your dedication to the team.

Our P.A.L., Lois Hill and Reimbursement Chair, Donna Gjesvold, are both busy working to keep our voices heard locally and in Washington. The entire RPG Executive Committee urges each of you to get involved in grass-roots efforts that impact our nutrition practices and to respond to “Action Alerts”, it only takes a minute.

The Nominating Chair, Judith Heath, has done a great job recruiting members to get more involved with the EC and run for open offices. New Advertising & Renal Nutrition Forum (RNF) Editor, Clarina Kennedy was busy making contacts for both possible future authors and advertisers. The RNF’s editorial team including Hannah Sobol, Julie Colvin, Clarina Kennedy, Stacey Phillips and Desiree de Waal always produces a robust edition of the Forum filled with invaluable information. Check it out!

Before we even left Boston for home our Chair-elect, Anna Marie Rodriguez, was already busy planning RPG events for FNCE 2017! Next year’s FNCE will be held in Chicago and will mark the 100th anniversary of the Academy and the 40th birthday of RPG. We hope to see you there to join in the celebration! Our Second Century Liaison, Mary Kay Hensley, has been searching through the archives to ultimately take us on a journey through time, look for her column in the Forum.

Just a reminder of one of the RPG’s best kept secrets, our Professional Resource Center, chaired by Nadiya Lakhani, includes a collection of over 100 titles of books/DVDs available for lending, with many resources available in 2 copies, allowing more than one member to request the same resource at the same time. Our Webinar Chair, Cathi Martin, is working on updating some of our previously recorded material as well as producing new webinars for our members.

Last, but certainly not least, I want to thank our treasurer, Sara Erickson, RPGs secretary, Rose Johnson, and our DPG Manager, Susan DuPraw, for all lending a helpful hand, keeping our numbers in order and making my work a lot easier.

Please keep in mind the Executive Committee is always looking for new ideas and volunteers to help with the many projects that are in the works. I encourage you to take a new path and join this enthusiastic group of dietitians.

JoAnn Randazzo, MS, RD, CDN
RPG, Chairperson
2016 RPG Outstanding Service Award

Haewook Han, PHD, RD, CSR, LDN
Renal Nutrition Specialist at Department of Nephrology at Harvard Vanguard Medical Associate and Division of Nephrology at Tufts Medical Center, Boston MA
Clinical Nutrition Instructor, Tufts University Friedman School of Nutrition Science and Policy

Dr. Han is a 1981 graduate of Hanyang University in Seoul Korea, completed her Master’s in Nutrition Biochemistry at Tufts University in Boston, and earned her Master's of Medical Science at Emory University in Atlanta with clinical nutrition training. She completed her Doctorate degree at Tufts University Friedman School of Nutrition with specialization in renal nutrition- specifically B-vitamins and CVD risks among post-renal transplant patients.

Her work background involves practicing as a renal dietitian in various dialysis units for many years. Dr. Han’s experiences include a NIH Hemodialysis Study and working as a nutrition research manager and assistant professor of medicine at Tufts University School of Medicine and at Tufts Medical Center (TMC) until 2008. Currently, she works as a renal nutrition specialist at the Department of Nephrology at Harvard Vanguard Medical Associates for CKD and kidney stone patients as well as at the TMC Division of Nephrology. Throughout her career, Dr. Han has developed various nutritional education materials geared for CKD patients. In addition, she has published nutrition research and education papers on CKD and kidney stones. Other projects in which Dr. Han has been involved include: being a member of the NKF Journal of Renal Nutrition editorial board, acting as a consultant in dialysis clinics to develop standardized practice for the renal dietitians and being a member of QA committee, occasionally working with pharmaceutical companies for development of nutritional QA projects as a consultant, and participation in a community based CKD screening project with Dr. Li-Li Hsiao at Harvard Medical School and Brigham Women's Hospital in Boston.

We wish a sincere congratulations to Dr. Han for receiving the 2016 RPG Outstanding Service Award and would like to thank her for her continued work in advancing the field of nephrology nutrition.

Renal Practice Group: Awards and Scholarship

Each year RPG offers members the opportunity to recognize colleagues, support for research projects and funds to attend professional conferences. Do you know a hard-working dietitian, helping to advance the field of nephrology nutrition? Are you starting a new research or a quality improvement project for which funding would be beneficial? Is further education and pursuing an advanced degree in your near future? Have you planned to attend a nutrition-related conference in the next year and could use financial support? If you said yes to any of these questions, consider applying for one of the RPG opportunities below.

**Outstanding Service Award**
A peer recognized RPG Award given to an innovative dietitian working hard to further and strengthen nephrology nutrition.

**Research Grant**
An RPG research grant for a member conducting an original project in an area related to or benefiting those with chronic kidney disease.

**Scholarship**
A scholarship opportunity for an RPG member pursuing a post-baccalaureate degree in a field related to renal nutrition.

**Conference Stipends**
The conference stipend awards are open to active RPG members who have not received an award in the last two years and can be used for meeting expenses or registration. Last year’s award winners received funding to several different conferences including FNCE, NKF Spring Clinicals and the Annual Dialysis Conference.

More information and the award/scholarship application can be found at:
https://renalnutrition.org/content/awardsstipends.html

Stacey Phillips, MS, RD
Awards and Scholarship Chair
Email: rpgawardschair@renalnutrition.org
Delicious Protein Choices, Meat-Free!
For people on dialysis

Healthy Tips
✓ Include high protein choices at every meal.
✓ Check ingredient lists and limit added phosphates and salt.
✓ Work with your registered dietitian nutritionist (RDN) to find the best choices for you.

More meat-free options can include high protein supplement drinks, bars, and cereals.

Meatless Recipe Resources
✓ Vegan Health www.veganhealth.org/articles/kidney
✓ Vegetarian Nutrition Practice Group http://vegetariannutrition.net/recipes/
✓ The Vegetarian Resource Group www.vrg.org
Proteína deliciosa ¡Opciones sin carne!
Para personas en diálisis

Consejos saludables
✓ Incluya opciones con alto contenido proteico en cada comida.
✓ Verifique las listas de ingredientes y limite los fosfatos y la sal agregados.
✓ Trabaje con un dietista registrado (RDN, por sus siglas en inglés) para averiguar cuáles son las mejores opciones para usted.

Más opciones sin carne pueden incluir suplementos para beber, barras y cereales.

Recursos para recetas sin carne
✓ Vegan Health (Salud vegana) www.veganhealth.org/articles/kidney
✓ Vegetarian Nutrition Practice Group (Grupo de prácticas de nutrición vegetariana) http://vegetariannutrition.net/recipes/
✓ The Vegetarian Resource Group (El grupo de recursos vegetarianos) www.vrg.org
Insufficient time to check out recently published articles in nephrology nutrition? In an effort to help keep our RPG members current, we reviewed the following articles from a variety of publications. We hope you find this list helpful and, as always, would appreciate your feedback and suggestions!


The tool developed in this study proved helpful in evaluating renal inpatients for risk of undernutrition. More work needs to be done to have these screenings incorporated for all renal patients who are hospitalized.


This study, which looked at over 500,000 adults aged 51-70, evaluated the relationship between diet quality, potassium and sodium intake, and major renal outcomes. A positive association was found.


This study looked at 56 CKD patients, not on dialysis. It was found that low Mg may effect iPTH levels and worsen osteoporosis in CKD patients. The effect was greater in diabetic patients.


Pre-kidney transplant patients were included in this study and underwent cardiac evaluation as part of their pre-transplant work up. It was found that the coronary artery calcium score (CACS) was better at predicting obstructive coronary artery disease (CAD) than cardiovascular risk factor assessment.
Renal Practice Group: Social Media

Renal Dietitians (RPG) continues to explore the realm of social media and is now on Facebook and Twitter platforms. “Like” our Facebook page, Renal Dietitians-RPG (www.facebook.com/renaldietitians), and “follow” Renal Dietitians-RPG (@RenalRDNs) on Twitter for instant access to the most current information and resources in the field of Renal Nutrition including the following:

- Upcoming Conferences and Meetings
- Recent Findings in Kidney Disease and Nutrition Related Research
- Kidney-Friendly Recipes and Demonstrations
- Continuing Education Opportunities
- Renal Nutrition Topics in Current News
- Volunteer and Career Opportunities
- …and much more!

Have any suggestions for our social media platforms? E-mail rpgsocialmediachair@renalnutrition.org with your ideas and/or if you would like to volunteer.

Renal Nutrition Forum Submission

RNF Guidelines for Authors

We are always looking for articles about successful programs, research interventions, evaluations and treatment strategies and educational materials. Please forward information to: Stacey Phillips, MS, RD rpgforumeditor@renalnutrition.org.

Article Length:
Article length is determined by the Editor for each specific issue. The feature and advances in practice article (including abstract) is approximately 2500 words. Other supportive articles are 1000-1500 words; member highlights and reports are approximately 400-500 words.

Text Format:
Times New Roman font, 12 point, double space.

Tables/Illustrations:
Tables should be self-explanatory. All diagrams, charts and figures should be camera-ready. Each should be accompanied by a title and brief explanatory caption.

References:
References should be cited in the text in consecutive order parenthetically. At the end of the text, each reference should be listed in order of citation. The format should be the same as the Journal of the Academy of Nutrition and Dietetics.

Reference Citation Examples:
- Article in Periodical:

- Book:

- Chapter in a Book:

- Web site:

- Author Information:
  List author with first name, middle initial (if any), last name, professional suffix and affiliation below the title of the article. Also include the primary author’s complete contact information including affiliation, city, state and email address.

All submissions for publication should be submitted to the editor as an email attachment (MS Word file). Articles from the Renal Nutrition Forum will be posted on the Members Only Section of the RPG website. Thus, please include a brief introduction and 2-3 key words with article submissions.
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Mission: Empowering members to be the nation’s leaders in nephrology nutrition

Vision: RPG members are a valued source of expertise in nephrology nutrition

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