Protein: who needs it anyway?
You do!

Created and presented by Carolyn Feibig, MS, RD, LD
Thanks to our speaker!

Carolyn Feibig, MS, RD, LD

- Kidney Transplant Dietitian at the George Washington University Hospital
- Passionate about educating the general public about the importance of early detection of kidney disease and the importance of a healthy diet for kidney health
Background

• Carolyn has worked as a Registered Dietitian at The George Washington University Hospital Transplant Institute (GWTI) since 2015.

• She is originally from Saint Louis, MO and moved to Washington, DC in 2011. Before working at GWTI she worked for a dialysis company in a suburb of Washington, DC.

• Carolyn first became interested in kidney disease when her nephew was born with only one kidney.
What is Protein

• Protein is one of the three essential building blocks necessary for life

• Protein is a macronutrient

• Protein is one of three macronutrients found in foods
  – The other two are carbohydrates and fat
What is Protein

• Protein most commonly known for building and repairing muscles

• Protein also plays an important role in many of your body’s functions
What is Protein

• Protein is made from long chains of amino acids

• When protein is digested it is broken down into amino acids

• Protein is found in both animal and plant sources
Complete Proteins

• A food that contain all 9 essential amino acids are called **complete proteins**

• The 9 essential amino acids are: histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine
Complete Proteins

Foods that are a complete protein

» Red Meat
» Poultry
» Fish
» Eggs
» Dairy
» Soy and
» Quinoa
Complete Proteins

• Research has shown people on dialysis have an increased benefit from protein that comes from animal

• *When you are on dialysis your protein needs are higher*
  – Dialysis removes some protein during the process
  – The main reason your needs are higher is because your body is under stress and has increased protein needs
Protein

**Recommended protein for dialysis:**
1.2-1.4 g/kg 60-70% high biological value

84-98 g protein/day*

9 oz HBV protein translates to:
6-7 oz meat
2 eggs
½ cup milk
Complementary Proteins

- Plant sources are not complete proteins, meaning they don’t have all 9 essential amino acids

- These are called **complementary proteins**.
  - When paired together they provide all 9 essential amino acids
Complementary Proteins

- Legumes (beans) with grains, nuts, seed, or dairy
- Grains with dairy
- Dairy with nuts or seeds
- Dairy with nuts or seeds and legumes
Protein

- Many plant sources of protein, like beans, are on the *list* of foods not recommended to eat when on dialysis

- If you want to eat a more vegetarian lifestyle follow this simple rule
  - *If your are going to eat beans don’t eat meat in the same meal*
  - And *always* ask your dietitian if this is a good choice for you
<table>
<thead>
<tr>
<th>Animal Protein K+ per 3 ounce serving</th>
<th>Vegetable Protein K+ per ½ cup serving</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food</strong></td>
<td><strong>Beans (lima)</strong></td>
</tr>
<tr>
<td>Beef (roast)</td>
<td>320mg</td>
</tr>
<tr>
<td>Beef (ground)</td>
<td>200mg</td>
</tr>
<tr>
<td>Chicken</td>
<td>220mg</td>
</tr>
<tr>
<td>Clams (canned)</td>
<td>535mg</td>
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<tr>
<td>Crab</td>
<td>225mg</td>
</tr>
<tr>
<td>Fish</td>
<td>300-480mg</td>
</tr>
<tr>
<td>Canned Tuna</td>
<td>200mg</td>
</tr>
<tr>
<td>Pork</td>
<td>350mg</td>
</tr>
<tr>
<td>Turkey</td>
<td>250mg</td>
</tr>
<tr>
<td>Milk (1cup)</td>
<td>350-380mg</td>
</tr>
<tr>
<td></td>
<td><strong>Garbanzo Beans</strong></td>
</tr>
<tr>
<td></td>
<td>206mg</td>
</tr>
<tr>
<td></td>
<td><strong>Beans (white-canned)</strong></td>
</tr>
<tr>
<td></td>
<td>595mg</td>
</tr>
<tr>
<td></td>
<td><strong>Black/Kidney Beans</strong></td>
</tr>
<tr>
<td></td>
<td>300-305mg</td>
</tr>
<tr>
<td></td>
<td><strong>Quinoa</strong></td>
</tr>
<tr>
<td></td>
<td>159mg</td>
</tr>
<tr>
<td></td>
<td><strong>Lentils</strong></td>
</tr>
<tr>
<td></td>
<td>365mg</td>
</tr>
<tr>
<td></td>
<td><strong>Nuts (1oz)</strong></td>
</tr>
<tr>
<td></td>
<td>200mg</td>
</tr>
<tr>
<td></td>
<td><strong>Pistachios (1oz)</strong></td>
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<tr>
<td></td>
<td>295mg</td>
</tr>
<tr>
<td></td>
<td><strong>Walnuts/pecans/macadamia (1oz)</strong></td>
</tr>
<tr>
<td></td>
<td>125mg</td>
</tr>
<tr>
<td></td>
<td><strong>Soy Milk (1cup)</strong></td>
</tr>
<tr>
<td></td>
<td>300mg</td>
</tr>
<tr>
<td></td>
<td><strong>Oatmeal</strong></td>
</tr>
<tr>
<td></td>
<td>80mg</td>
</tr>
<tr>
<td></td>
<td><strong>Rice</strong></td>
</tr>
<tr>
<td></td>
<td>50mg</td>
</tr>
<tr>
<td></td>
<td><strong>Hummus (1tbsp)</strong></td>
</tr>
<tr>
<td></td>
<td>32mg</td>
</tr>
</tbody>
</table>
What is Albumin?

- Albumin is a protein made by the liver from the foods you eat

- I like to think of albumin as your body’s mailman delivering nutrients and other necessary items to your cells

- Albumin also keeps fluid from leaking out of blood vessels, and helps fight infection
Why Albumin is Important

Your albumin levels can be negatively affected by:

› infection,
› inflammation,
› edema (swelling)
› fluid around your lungs
› or a recent hospitalization
Why Albumin is Important

• Albumin levels are checked monthly when you are on dialysis

• Your goal is a level of 4.0 or higher
  — Research has shown that people on dialysis with an albumin level of 4.0 or higher have
    • fewer hospitalizations
    • lower risk of death
**Albumin and Fluid**

- It is important to follow your fluid restriction so the fluid does not leak out of your blood vessels.

- If this happens the fluid moves into your 3rd space, the space between your cells and blood vessels.

- Albumin helps hold the fluid in your blood vessels making it easier for the dialysis machine to remove.
Fluid

• Too much fluid can cause a lot of problems
• Swelling around your feet and ankles
• Can cause fluid around your lungs making it hard to breathe and could lead to pneumonia
• Can stretch out your heart making it weak and could cause heart failure
• Extra stress put on your body because the machine has to “pull” harder to remove the fluid
• Low albumin
Tips for Boosting Your Albumin

• Drink 32oz or less of fluid a day

• Eat a protein source at every meal

• Have a bedtime snack
  – Our livers store extra energy that is used when we haven’t eaten in a while
  – If we don’t have enough energy stored, your body uses our protein
Tips for Boosting Your Albumin

• Eat ONE Brazil nut daily
  – Brazil nuts are high in an antioxidant called selenium. Selenium helps lower the inflammation that can lower albumin

• Only 1 Brazil nut – more will raise your potassium and phosphorus levels

**Brazil Nuts**

1 Brazil nut (5g) contains:
- 96 mcg Selenium
- 36 mg Phosphorus
- 34 mg Potassium
Tips for Boosting Your Albumin

• When you don’t have much of an appetite try having a teaspoon of chicken, tuna, or egg salad on a cracker every time you walk by the fridge

• Try a protein supplement like a protein bar or powder
Protein Supplements

• When choosing a protein supplement make sure to READ the label first!

• You are looking for a protein supplement that has at least 10gm of protein per serving and is lower in potassium.
  – Goal is less than 200mg of potassium
Protein Supplements

- Zone Perfect
- Lara Bars
- Luna Bars
- Kind Bars
- Clif Bars
- Clif Builder’s Protein Bars
- EAS Protein Powder
- Muscle Milk Protein Powder*
- Muscle Milk Low Cal Protein Powder
- Market Pantry Protein Powder
- Atkins Protein Drinks*
- AdvantEDGE Protein Drinks*
- Glucerna*
- Ensure*
- Nepro

*Over 300mg in Potassium
# High Protein Snacks

<table>
<thead>
<tr>
<th>Product</th>
<th>Protein (in grams)</th>
<th>Potassium (in mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special K Protein Cereal</td>
<td>14gm</td>
<td>125mg</td>
</tr>
<tr>
<td>Kashi Go Lean: Toasted Berry Crisp</td>
<td>9gm</td>
<td>210mg</td>
</tr>
<tr>
<td>Kashi Oat Cereal</td>
<td>5gm</td>
<td>115mg</td>
</tr>
<tr>
<td>Canned Tuna</td>
<td>10mg</td>
<td>100mg</td>
</tr>
<tr>
<td>Kashi Go Lean: Original Cereal</td>
<td>12gm</td>
<td>390mg* High in Potassium</td>
</tr>
</tbody>
</table>
Protein Supplements

• Beware of protein supplements that do not list the potassium content

• Remember potassium controls your muscle contractions including your heart

• If your potassium is too high if can affect your heart function and possibly cause a heart attack
Protein Supplements

Supplements that DO NOT list potassium on the label

- Think Thin
- Special K Protein Bites
- Oatmega
- Aloha
- Pure Protein
- Olly - Nourishing Smoothie Powder
Protein Supplements

Some drinks and bars have less protein than you might think

- Quaker Chew Protein Bars : 1 gram
- Nature Valley Crunchy Granola Bars : 3 grams
- Almond Breeze (Milk Substitute) : 1 gram
- Coconut Milk (Milk Substitute) : 0 grams
- Rice Dream (Milk Substitute) : 1 gram
Protein Supplements

• Some dialysis facilities may give you a protein supplement if your albumin is low.

• If you albumin is less than 3.5mg/dL for more than 3 months you could get a form of protein through an IV during your dialysis treatment
  – Talk to your dietitian about this type of treatment to see if it is right for you
Conclusion

• Protein is a very important part of your diet
• Your protein needs are higher if you are on dialysis
• Albumin helps hold the fluid in your blood vessels, helps fight infection, etc.
• Take your binder whenever you are eating - even when having a snack, especially if your snack is a protein supplement
• When looking to change your diet habits talk with your dietitian and your nephrologist
Questions?
Join us for next month’s webinar!
Thursday, July 27, 2-3 p.m. (ET)

Laughter therapy in dialysis: exercise, activity and wellness

Join us to learn about:
• How laughter therapy is used during dialysis
• The benefits of laughter therapy
• Existing laughter therapy programs, and how to use these in your own life

Dr. Paul Bennett
Director of Medical & Clinical Affairs at Satellite Healthcare

Go to www.KidneyFund.org/webinars to learn more and register!