



### Session Description

It is critically important for PH patients to take an active role in their nutrition and fluid intake. A well-balanced diet, with special attention to salt and fluid restriction, is essential to maintaining health and improving well-being with PH. In this session, we'll begin by discussing the effects of dietary salt, excess calories and fluid intake on the body, as well as why PH patients require greater awareness to these components of their diet. We will then review common dietary pitfalls and myths, foods that are high in sodium, and how to limit fluid intake and potential alternatives for healthy eating. Throughout our discussion, we will emphasize dietary and lifestyle strategies that patients may use to ensure long-term success in achieving their goals.

### Learning Objectives

Attendees will be able to:

- Understand the impact of sodium, fluids and excess calories in PH
- Realize how a balanced diet can improve overall health and help achieve PH treatment goals
- Familiarize themselves with better alternatives to foods that are commonly high in sodium
- Develop real world strategies for healthy eating that fit their lifestyle and budget

### Nutrition: The Basics

- Eat a balanced diet of all 3 sources of calories: carbohydrates, protein and fat.
- Eat plenty of fresh fruits and vegetables.
- Choose fish and chicken over red meat
- Account for the total calories ingested and compare that to your activity level.
  - Men and very active women may burn 2,500 calories a day and less active persons burn somewhere between 1,800 to 2,000 daily.
  - Severe PH may cause you to be sedentary and burn only 1,500 or so calories daily; if your caloric intake is greater than the calories burned, weight gain will occur and vice versa.
  - It takes burning 3,500 calories to lose just one pound!

### Healthy Weight

- Try to achieve a BMI (Body Mass Index = weight in kilograms/height in meters squared) of 18.5 to 25.
- A higher BMI is associated with developing high blood pressure, diabetes and some types of cancers.
- Weight gain can be due to many factors:
  - Lack of physical activity
  - Poor diet
  - Medication
  - Fluid retention



- Tips for weight loss:
  - Consume a diet low in saturated fat and sugar.
  - Exercise as tolerated to burn off calories.
  - Eat many smaller meals throughout the day instead of 2-3 large meals.
  - Try different ways of doing things until they work for you! Eat a healthy, varied diet and enjoy yourself!

### Portion sizes

Eating a large meal can leave you feeling too full and short of breath. Eating 3 smaller meals and 3 snacks each day will make your stomach less full, and having your stomach less full can help your breathing. Here are some tips on portion control:

- Another way to avoid that too-full feeling is to eat less of the foods that cause gas and bloating. If the foods on the gas-producing list bother you, eat less of them.
- Get a variety of food types.
- Read labels to understand serving sizes.
- For portions of meats or nuts, use your fist size as a measure.
- If you eat from the major food groups, especially whole grains, fruits and vegetables, then your diet will have a variety that will include foods in their purest form, with no added sugars, salt and/or fat.

### Healthy snack ideas

Look at an ingredient list for a product. Generally, a smaller list is better. Products with more ingredients include more fillers (with no nutritional benefit), more chemicals, sugars, empty calories and salt. Some examples of healthy snacks with few ingredients are:

- Almonds, walnuts, or peanuts (about ¼ cup)
- Fresh fruits and vegetables
- Unprocessed cheese
- Plain yogurt with fresh fruit

Try not to eat 2-3 hours before going to bed; 4 hours is even better. Remain sitting for at least 60 minutes after eating to aid in proper digestion and decrease acid reflux symptoms. Let your body recover and repair for the night instead of making your heart pump more blood to your digestive system as it works overtime while you try to sleep.

### Salt and Water: The Basics

You may have heard the old adage, “Wherever salt goes, water follows.” Monitoring your sodium intake, and avoiding foods high in sodium is equally important as monitoring how much you drink. Try for no more than 2,000 milligrams (mg) of sodium per day (even less is better).

- The body regulates its fluid balance based on both salt concentration and water content in the blood.
- Normally, any extra water or salt intake can be handled by the kidneys to keep the balance even. Many PH patients however are unable to keep up, and end up retaining water. Salt in any form (table salt, sea salt, Kosher salt, pink Himalayan salt) can cause water retention
- Fluid retention causes weight gain, and can lead to leg swelling and/or abdominal swelling.



Excess fluid puts further strain on your heart and causes you more shortness of breath or fatigue.

- Although we often hear that it is good to drink a lot of fluids, when you have PAH **try to resist quenching your thirst with more water/fluids**, even though you may feel thirsty. At some point, you will begin to retain water and this can lead to an emergency room visit.

**Important Considerations**

- Sodium restriction of 2,000 mg per day:
  - Table salt is the most common source of sodium in our diet. Most table salts are a combination of sodium and chloride. One teaspoon of salt has 2,000 mg of sodium.
  - Sodium occurs *naturally* in foods. Unsalted, unprocessed foods such as fresh fruits, vegetables, meats and rice often have low sodium content. Most foods in your diet should come from this group.
  - Processed foods have large amounts of sodium - including frozen dinners, lunch meats and many canned items. Soups, vegetables, pork and beans and tomato products are a few examples. Other processed foods like ready-to-eat cereals, breads and baked goods also can be high in sodium.
  - Some medicines include added sodium, such as Alka-Seltzer, and other forms of dissolvable tablets.
- **Read and compare food labels carefully to understand how much salt is in each serving.**

Nutrition Facts	
8 servings per container	
<b>Serving size</b>	<b>2/3 cup (55g)</b>
Amount per serving	
<b>Calories</b>	<b>230</b>
% Daily Value*	
<b>Total Fat</b> 8g	<b>10%</b>
Saturated Fat 1g	<b>5%</b>
Trans Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 160mg	<b>7%</b>
<b>Total Carbohydrate</b> 37g	<b>13%</b>
Dietary Fiber 4g	<b>14%</b>
Total Sugars 12g	
Includes 10g Added Sugars	<b>20%</b>
<b>Protein</b> 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

\* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

**How to Manage Your Fluid Intake**

- If you are retaining water, your doctor may instruct you to cut back on your fluid intake. This means less liquid of all kinds: water, juice, coffee, etc.
- Your doctor may also tell you to cut back on sodium. This means no added salt. You can consider trying salt substitutes, but beware as they contain potassium. If you have high potassium and/or kidney failure, these problems can worsen with salt substitutes.
- Diuretics (a.k.a. “water pills” or “fluid pills”) such as furosemide (Lasix) are a mainstay in the management of fluid retention. Water pills can make you thirsty. However, drinking too much will put the water that we are trying to get out of you right back into your system. Try: ice chips, sugarless gum, mints, etc.
- The things to remember when taking diuretics are:
  - **Weigh yourself and record your weight every morning** after emptying your bladder **using the same scale each time**. If your weight changes more than two pounds up or down per day, or 3 to 4 pounds per week, then you should contact your PH clinic.
  - Bring your recorded daily weights with you to your doctor’s and/or nurse’s visits.
  - Fluid retention can show up anywhere, not only in your arms or legs. Some people accumulate fluid in their abdomen causing them to feel bloated, nauseous, loss of



usual appetite or feel full sooner when eating.

- You may need to take potassium pills because water pills can deplete potassium from your body. This can cause muscle cramps, irregular heartbeats, and if your potassium gets severely low it can cause you to be hospitalized and can even be life threatening.
- If you get sick and stop eating or drinking, you may need to temporarily lower your water pill dose or even stop taking it until you recover. But do not do this until talking with your physician.

### **When in doubt, ask!**

- **Fluid Restriction between 1.5 to 2 liters per day (~50 to 60 ounces = ~1.5 to 2 quarts = ~6 to 7 eight ounce glasses)**
  - This includes any liquids: water, coffee, soda, soup, milk, etc.  
If the item is sold as a liquid measure such as a gallon or in ounces consider it a liquid, [i.e. ice cream].

### **Take-away Messages**

- Good eating habits and proper fluid balance are important for keeping your heart healthy.
- Take responsibility for your nutrition. Get into the habit of reading food labels, weighing yourself every day and recording your weight.
- Minimize processed foods and if you don't know how much sodium and/or calories are in a meal you buy at a restaurant, then you probably should not be eating it.
- If you are prescribed water pills, be careful about becoming dehydrated, but DON'T assume that you are dehydrated just because you are thirsty.
- Know when to call your PH doctor to report early signs of weight gain.

### **Additional Resources**

- [PHA Classroom: 2016 International PH Conference Recording: Nutrition and Diuretics](#)
- <http://www.webmd.com/lung/features/pah-best-self#1>
- [www.PHAssociation.org/Patients/SurvivalGuide](http://www.PHAssociation.org/Patients/SurvivalGuide)
- <https://phassociation.org/patients/living-with-ph/diet-nutrition/>