

# What You Want to Know About Nutrition and Bladder Cancer



## Part II | Foods for Enjoyment and Health

*Presented by*

**Jill M. Hamilton-Reeves, PhD, RD, CSO** is an associate professor, dietitian, and certified oncology nutritionist at the University of Kansas. Dr. Hamilton-Reeves works with urologists and medical oncologist to foster the discovery of better diet and exercise approaches to benefit patients with cancer. Her nationally-funded research program is focused on nutrition and cancer prevention, management, and survivorship, with specific attention on bladder cancer. The intent of Dr. Hamilton-Reeves work is to toss aside the fear and anxiety around food and to help patients decipher evidence-based or science-driven approaches to thrive. She hopes that you will eat and discover the great taste of wholesome foods.

On this section of the webinar we'll talk about foods and improved health versus those only for enjoyment. There were a lot of questions from all of you about what's going to harm me? What is going to cause my cancer to come back? What can I do to prevent cancer in the first place? This section really is that broader topic of nutrition and cancer. I'm going to stand on my soapbox a little bit, just the first slide to reiterate that a healthy diet is important. I'll give you some resources that have quantified the attribution of diet to cancer relationship. Generally speaking, it's about 30% diet and physical activity can contribute to about 30% of cancers. For bladder cancer specifically, there's a relatively [new review paper by Al-Zalabani](#) that suggests that even maybe up to 80% of bladder cancer can be attributed to lifestyle choices, which would include occupation, smoking, diet, and exercise. So it is important but I think what's more important is thinking about what you can do right now from today, so as you're listening to the messages, think about what changes you may want to make to improve your health.



NCI Cancer Center THE UNIVERSITY OF KANSAS CANCER CENTER BEST HOSPITAL LEADERSHIP

## Foods that improve health vs. those only for enjoyment

- A healthy diet is important.
- Think about what changes you may want to make to improve your health.
- Remove fear and anxiety around food.
- Eating can be enjoyable and easy without harming your health.

BCAN

I really don't think that fear and anxiety are a part of this, so let that go. Fear and anxiety around food should just go away because eating can be enjoyable and easy without harming your health and today I hope to provide you some tools to help you go down that path with learning how to keep yourself nourished and enjoy the food that you're eating. One of the critical resources that I'd like to point you to is the [American Institute For Cancer Research](#). They're an authority on diet, physical activity, and cancer.

This infographic that I have on here is from them and it essentially just highlights the main messages for diet and cancer. Maintain a healthy weight, try to move more, eat well, try to eat a plant-based diet, reduce red meat, avoid processed meat, cut down on alcohol, eat less salt.

After treatment, cancer survivors should follow the same cancer prevention guidelines and then it says for cancer prevention, don't use supplements. We will touch on that topic again in the last section of today's webinar. A healthy diet means different things to different people so just so we can all get on one page. A healthy diet from my perspective includes a variety of vegetables, fruits, whole grains, nuts, seeds, legumes or beans, poultry, and fish.





Some foods and drinks may be protective, specifically for bladder cancer. This is a relatively newer field of study but some studies show that greater consumption of vegetables and fruit decrease the risk of bladder cancer and some studies show that greater consumption of tea decreases the risk of bladder cancer.

First, we'll talk about tea and bladder cancer. Each cup of tea per day has been associated with 6% decrease risk of bladder cancer, and that's from the Chen study. Animal studies have seen that polyphenol compounds inhibit bladder tumor growth. Coffee and tea have been studied in reducing the risk of other cancers. Green teas contains epigallocatechin-3-gallate which has shown anti-cancer properties. In regards to bladder cancer prevention, really the best type of tea has not yet been determined. The black tea versus oolong or green tea seem to be about equivocal in most studies.

## Tea and Bladder Cancer

- Each cup of tea per day has been associated with a 6% decreased risk of bladder cancer (Qin 2012)
- Animal studies have seen polyphenol compounds inhibit bladder tumor growth (Yang 2011)
- Coffee and tea have been studied in reducing the risk of other cancers. Green tea, through its antioxidant EGCG has shown anti-cancer properties
- In regards to bladder cancer prevention, the best type of tea has not yet been determined

## Vegetables, fruit, and bladder cancer

- Total vegetable and fruit consumption has been associated with a 3% decreased bladder cancer risk per serving (WCRF 2015 CUP Report)
- Citrus fruits, such as oranges, lemons, limes, and grapefruit, may be protective through their antioxidant action.
- Cruciferous vegetables such as broccoli, cauliflower, cabbage, kale, brussels sprouts, and asparagus contain a compound called sulforaphane that may inhibit bladder cancer growth.

This next slide is about vegetables, fruits, and bladder cancer. Total vegetable and fruit consumption have been associated with a 10% decrease in bladder cancer risk per serving and then also citrus fruits such as oranges, lemons, limes, and grape fruit, might be protective through their antioxidant action.

Cruciferous vegetables, which you would know better as broccoli, cauliflower, cabbage, kale, brussel sprouts, and asparagus, contain a compound called sulforaphane and there's some studies suggesting that that may help inhibit bladder cancer growth.



How many vegetables and fruits do I need?

The American Institute of Cancer Research recommends 5 servings of non-starchy vegetables and fruits every day. A serving size is one of those things that dietitians, I think, get a little bit finicky and caught up on. We're like the accountants of the health system. A serving size is somewhere between a half to a cup of fruit, 1-2 cups of raw vegetables, or a half a cup of cooked vegetables.

NCI Cancer Center THE UNIVERSITY OF KANSAS CANCER CENTER BEST HOSPITALS LUNG CANCER NATIONAL

## How many vegetables and fruits do I need?

- The American Institute of Cancer Research recommends 5 servings of non-starchy vegetables and fruits every day.
- A serving size is:
  - ½-1 cup of fruit
  - 1-2 cups of raw vegetables
  - ½ cup of cooked vegetables
- Get a variety of different colors including red, green, white, purple, yellow, and orange.



BCAN

29

It's important to get a variety of different colors of vegetables including red, green, white, purple, yellow, and orange. Those colors are associated with different nutrients in your foods that have the properties that help with cancer prevention so that's why we aim to get a lot of different colors of fruits and vegetables.

THE UNIVERSITY OF KANSAS  
CANCER CENTER

## What about juicing?

- Benefits of juicing:
  - It can increase the amount of nutrients you can consume
  - It can benefit those who have difficulty chewing or digesting food
- Tips and cautions:
  - Juicing takes out the fiber, an important nutrient for gut health. For this reason you should aim for 5 servings of vegetables and fruit before juicing
  - Include more vegetables than fruit
  - Drink what you would normally eat and aim for variety
  - Have your juice with some protein
  - Commercial juices may not have the nutrients you are looking for, and may have a lot of added sugar

There were some questions about juicing and there are some benefits of juicing. It can increase the amount of nutrients that you can consume each day, and still get it from food. It can really benefit those who are having difficulty with chewing or digesting food. I do have some tips though. Juicing itself, when you use a juicer, it takes out the fiber and fiber is an important nutrient for gut health.

For this reason, if you're not having feeding difficulties, you should really aim for your 5 servings of vegetables and fruit before you juice and then add the juicing vegetables and fruits on after that. It would be a good idea to include more vegetables than fruit because they have fewer calories, less sugar, as far as keeping weight stable.

Then drink what you normally would eat, aim for a variety. Some people suggest including some protein with your juice so that if you are a person that has problems keeping your blood sugar at a normal level, the protein will kind of blunt the sugar response and making you hyperglycemic or have high blood sugars. Just a note of caution, not all commercial juices, if you buy them off the shelf, have the nutrients that you're really looking for so you need to become an avid label reader and look at the added sugar content, which is now called out on the food label.

Nutrition Facts	
Serving Size 1 Tbsp	
Amount Per Serving	
Calories 61	
	% Daily Values*
<b>Total Fat</b> 4g	<b>6%</b>
Saturated Fat 3g	<b>15%</b>
Trans Fat 0g	
<b>Cholesterol</b> 11mg	<b>4%</b>
<b>Sodium</b> 8mg	<b>0%</b>
<b>Total Carbohydrate</b> 5g	<b>2%</b>
Dietary Fiber 0g	<b>0%</b>
Sugars 4g	
<b>Protein</b> 0g	<b>0%</b>

\*Percent Daily Values are based on a 2,000 calorie diet.


One other thing about juicing is there is also the option of blending foods, so you would get the fiber if you had a high power blender like a Vitamix and you threw all the fruits and vegetables in there and then blend that up. That's a really great option for those of you that might be going through therapy and having issues with mouth sores or other feeding issues.

Other components of a healthy diet.

I mention legumes or beans, so it's an example of lentils, black beans, split peas, garbanzo beans, soy beans, peanuts, navy beans, also whole grains like oatmeal, quinoa, barley, 100% whole grain products are really a beneficial part of the diet. Nuts, seeds, and health fats, like walnut, chia seeds, flax seed, pecans, almonds, cashews, olive oil, avocados, dairy such as yogurt, milk, cheese, and kefir, kefir is fermented milk products, so it's kind of like liquid yogurt, and then proteins such as fish, eggs, and poultry.

NCI Cancer Center  
THE UNIVERSITY OF KANSAS  
CANCER CENTER  
BEST HOSPITAL  
US NEWS

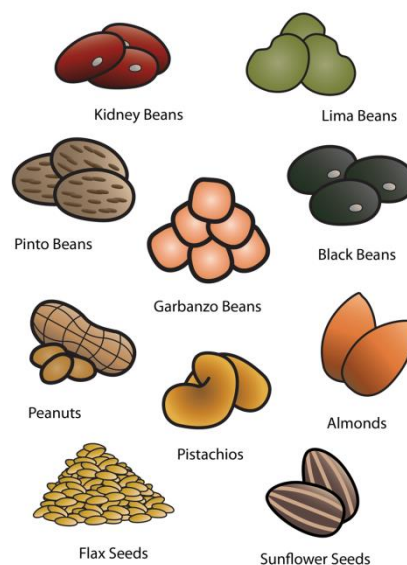
## Other components of a healthy diet



- Legumes like lentils, black beans, split peas, garbanzo beans, soybeans, peanuts, and navy beans
- Unprocessed (whole) grains like oatmeal, wild/brown rice, quinoa, barley, 100% whole grain products

- Nuts, seeds, and healthy fats like walnuts, chia seeds, flaxseeds, pecans, almonds, cashews, olive oil, and avocados
- Dairy such as yogurt, milk, cheese, and kefir
- Proteins such as fish, eggs, and poultry

BCAN  
Bladder Cancer Action Network  
31





THE UNIVERSITY OF KANSAS  
CANCER CENTER



## Some foods should be limited

- Red meat (beef, pork, lamb, and goat) has been associated with increased risk of certain cancers, although the data are inconsistent for bladder. Cancer prevention recommendations include limiting red meat to 18 oz per week
- Processed meat, or anything that has been preserved by smoking, curing, salting, or the addition of chemicals, should be limited. These foods include bacon, sausage, hot dogs, and luncheon meats



There are some foods that have data behind them suggesting a link with cancer so red meat has been associated with an increased risk of certain cancers but the data are inconsistent for bladder cancer. Still, the recommendation for cancer prevention includes limiting red meat to 18 ounces per week. I live in Kansas City and so that's a tough one to sell to our patients, but it is what it is.

The other one is actually more relevant to bladder cancer. There are data showing that processed meats, so any kind of meat that has been preserved by smoking, curing, salting, or the addition of chemicals such as nitrate, should be avoided. Examples of these foods include bacon, sausage, hotdogs, and luncheon meats. I often get the question if the naturally preserved hotdogs and bacon and things like that are any better or if they come from turkey instead of red meat, is that any better?



Sadly, they still use nitrates to preserve those foods. It's usually just a nitrate that is derived from celery but the body doesn't distinguish between that. We don't really have any solid data saying that those are either better or worse for you and so the recommendation is simply just to *limit the amount of processed meats* that you consume.



THE UNIVERSITY OF KANSAS  
CANCER CENTER

## Some foods should be limited

- Sugary drinks, though they do not cause cancer, do not add benefit to our health
- Energy-dense foods such as processed foods high in added sugar or low in fiber (chips, fries, candies, pastries) can contribute to unwanted weight gain and take the place of nutrient-rich foods in our diet
- Alcohol, if consumed at all, should be in moderation at two drinks a day for men, one for women
- Foods processed with salt should be limited

Sugary drinks. We talked about that in the myth part (see [Nutrition and Bladder Cancer Part I](#)) of the webinar. They do not cause cancer but they really do not add much benefit to our health so we talk about limiting those.



Energy-dense foods such as processed foods that are high in added sugar or low in fiber, like chips, fries, candy, pastries, those could contribute to unwanted weight gain and take the place of nutrient-rich foods in our diet.


Alcohol, if consumed at all, should be consumed in moderation, two drinks or less for men per day, or one drink per day or less for women, and then food processed with salt should be limited. Again, those are more general diet and cancer kind of relationships.



NCI Cancer Center THE UNIVERSITY OF KANSAS CANCER CENTER BEST HOSPITALS

## Bladder cancer and blood sugar control

- Patients with non-muscle invasive bladder cancer and uncontrolled diabetes ( $\text{HbA1c} \geq 7.0\%$ ) had a higher rate of progression. Better blood sugar control before and after surgery has been associated with longer progression-free survival (Ahn 2016)
- Patients with diabetes should aim to manage blood sugars with exercise and a carbohydrate-controlled diet



BCAN

I just want to take a note to talk about bladder cancer and blood sugar control. There's some work from Ahn and colleagues that was just published this year, showing that patients that had non-muscle invasive bladder cancer and uncontrolled diabetes had a higher rate of progression. I noticed quite a few of you on the call who are undergoing BCG treatment and TURBT and so this might be relevant to you if you have diabetes or you're at risk. Maybe your blood sugars run a little bit high and you're pre-diabetic. Keeping a tight blood sugar control before and after surgery has been associated with longer progression free survival. The take home message here is that patients with diabetes should aim to manage their blood sugars with exercise and a carbohydrate-controlled diet. We actually have a small feasibility study here at the University of Kansas where we are trying a low carbohydrate diet in patients on BCG so hopefully some of those participants are on the call, so thanks for joining us if you are on the call.

NCI Cancer Center THE UNIVERSITY OF KANSAS CANCER CENTER BEST HOSPITALS

## What's the best diet for BC prevention?

### The New American Plate



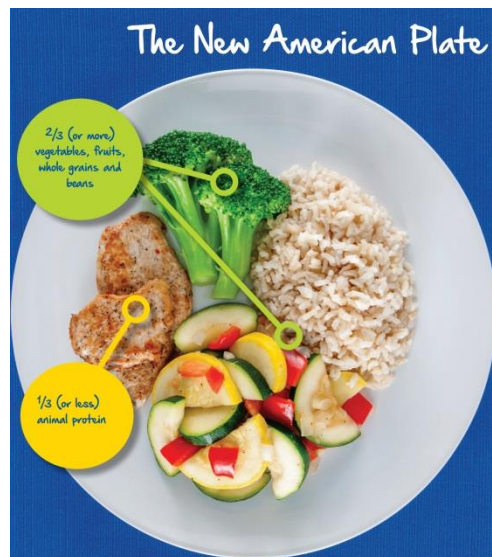
- A balanced one!
- Begin to transition your plate to the New American Plate!
- Fill 2/3 or more with vegetables, fruits, whole grains, and beans
- Limit animal protein to 1/3, and choose fish and lean poultry more often

BCAN

People that asked, tell me the good and the bad, and now just tell me what to eat. Love how candid all of your questions were. It was just really good to keep me grounded on what's important to all of you. The best diet for bladder cancer prevention is a balanced one so hopefully that message has come through.

The American Institute for Cancer Research has several guidelines on how you would build this kind of diet and they call their program the

[New American Plate](#) and the picture here shows you what the new American Plate could look like. Some things to know on this plate is that there's two servings of vegetables here and there's a smaller amount of animal protein and then a kind of carb-controlled amount of rice on the plate. The recommendation is to fill two-thirds or more of your plate with vegetables, fruits, whole grains, and beans and limit the animal protein to a third of the plate to fish and lean poultry more often. The New American Plate does have several recipes. People were asking for some recipes so when you go to your handout again it's the AICR handout and you can find those resources there.



Some take home messages for this section is to make the majority of your diet vegetables, fruits, whole grains, legumes, nuts, seeds, fish, and lean poultry, and limit processed meats, red meats, refined, starchy foods, and sugars to special occasions. Again, I'm not demonizing any food. I really want that message to come through nice and clear, but just to recognize that some foods are really not just for enjoyment and others have more of a capacity for nourishment.

NCI Cancer Center  
THE UNIVERSITY OF KANSAS  
CANCER CENTER  
BEST HOSPITALS  
NATIONAL CANCER INSTITUTE

### Which foods improve my health?



- TAKE HOME MESSAGE:
  - Make the majority of your diet vegetables, fruit, whole grains, legumes, nuts, seeds, fish, and lean poultry
  - Limit processed meats, red meat, refined starchy foods/sugars to special occasions

BCAN  
Bladder Cancer Action Network

BCAN would like to thank  
**Genentech** & **MERCK**  
*A Member of the Roche Group* *Be well*  
for their support of the 2016

