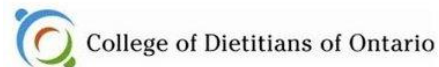


NUTRITION AND CANCER

AYA Webinar Series, September 20, 2024

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DISCLAIMER

This presentation is a general overview. For more specific information about your care, please speak with your healthcare team.

ABOUT US

Megan Morrison

Site specific: Malignant Hematology, Allogeneic Blood and Marrow Transplant Program

Karmen More

Site specific: Gastrointestinal, Genitourinary, Gynecology, and Sarcoma sites

LEARNING OBJECTIVES

- Eating well during your cancer experience
- Discuss and provide evidence on common nutrition topics

EATING WELL DURING TREATMENT

Heal and prevent tissue breakdown

Rebuild immune system

Reduce risk for infections

Energy and strength to withstand treatment

Promote healing and recovery

Quality of life, wellbeing

NUTRITION GOALS



Maintain and optimize nutrition



Help manage treatment related side effects



Post treatment phase

MAINTAIN AND OPTIMIZE NUTRITION

PROTEIN

Why protein?

Build your immune system, maintain and strengthen muscles, help body heal

How much do you need?

- Average healthy individual needs 0.8g per kg body weight each day
- While undergoing cancer treatment you may need between 1.0-1.5g per kg body weight

WHERE CAN YOU FIND PROTEIN?



PROTEIN IN SOME COMMON FOODS

Food Item	Approximate amount of protein/serving
Meat/poultry	3 oz. = 25g
Fish	3 oz. (1/2 can tuna or salmon) = 20g
Beans and legumes	1/2 cup = 8 g
Milk and non - dairy beverages	1 cup milk = 9g 1 cup soy milk = 8g
Eggs	1 large egg = 6g
Nuts and nut butters	1/4 cup = 8g 2 tbsp. peanut butter = 8g

PROTEIN POWDERS

- Are you able to get your protein through whole food?
- Look for quality assurance: does it have a Natural Product Number (NPN) number?
- Short ingredient list
 - Look for ones with 15-30g protein/serving
 - Watch for added ingredients
- Price point

PROTEIN POWDERS

- Consider types and sources
 - Protein concentrate – least broken down, takes longest to digest and absorb, 80% protein and usually contains more carbohydrates and fat, most affordable
 - Protein isolate – moderately broken down, less time to digest and absorb, more than 90% protein, may be less irritating on the GI system if lactose intolerant
 - Protein hydrolysates – most broken down and takes the least time to digest and absorb, may be less irritating on GI system, bitter taste so usually contains added sugars, usually most expensive
- Animal based like whey or casein
- Plant based like soy, pea, rice, hemp – may need a blend to get a complete source

PROTEIN BARS

- Convenient and portable snack
- Way to add more protein if having trouble through food
- Check ingredient list and nutrition label. Look for ones that have:
 - 10-20g protein/bar
 - Shorter ingredient list
 - Watch for sugar alcohols, anything ending in an "ol" may cause gas
- Cliff Bar, KIND protein bar, RX Bar, Pure Protein, Go Macro

RECIPE BREAK – BLUEBERRY QUINOA PROTEIN BARS

Ingredients

1/2 cup	Large Flake Oats
1 cup	Cooked Quinoa
2 cups	Dry Skim Milk Powder
1/2 cup	Pumpkin Seeds or Sunflower Seeds
3/4 cup	Dried Blueberries (any dried fruit will work)
1/4 cup	Dates, roughly chopped
1 cup	Almonds, ground into butter (or use 3/4 cup prepared almond butter)
1/2 cup	Maple Syrup or Honey
1/4 cup	Plain Greek Yogurt
1 tsp	Pure Vanilla Extract

Directions

- Place oats in a food processor and blend until ground. In a large bowl combine the ground oats and skim milk powder. Stir well.
- In a separate bowl, add the almond butter, maple syrup, yogurt, vanilla, quinoa, pumpkin seeds, dried blueberries, and dates. Stir well.
- Slowly add in the dry ingredients and mix until well combined.
- Place mixture on a tray lined with parchment paper. Press mixture down into tray so that it is about 1 inch thick.
- Freeze for 20 minutes to set, remove and cut into 1 ½ inch by 4 inch bars. Store in the fridge or freezer.

1 bar (100g)= 330calories, 15 g protein

HYDRATION

- All cells need water to function
- If you do not drink enough or lose fluids through vomiting or diarrhea your body may not have as much as it should
- This may make you feel dizzy, tired, nausea
- Most people need about **8 cups fluid/day**
- You may need more if you have fever, vomiting, diarrhea and not eating enough

HYDRATION

- Fluids without calories or protein: water/ice chips, carbonated water, broth, tea, G2
- Fluids with calories: cow's milk, coconut, soy, pea, oat, hemp milk, juice, fruit nectar, Gatorade, Bolthouse smoothies
- Fluids with protein and calories: milk, milkshakes, soy or pea milk, storebought Eggnog, oral nutritional supplements (i.e. Ensure®, Glucerna®, Sperry), smoothies with added protein, cream soups

**Caffeinated drinks: up to 400mg/day limit. This is about 3, 8-ounce cups of coffee

RECIPE BREAK - BLUEBERRY SPINACH SMOOTHIE AND PANCAKES

Ingredients

1 cup	Fresh Spinach or 2 cubes frozen
1 cup	Frozen Blueberries
1 cup	Water or Milk/Milk Alternative
1/2 cup	Greek yogurt
1/2 tsp	Cinnamon
3	Dates

Directions

1. Combine all ingredients in blender, blend until smooth.
2. Adjust sweetness by adding additional dried fruit inside or on top.
3. Optional: If you're only drinking one serving, use the other serving to make pancakes!
4. Blend one cup of smoothie with 1 egg, $\frac{3}{4}$ cup flour, and 1 tsp of baking powder.
5. Cook on a griddle or safe non-stick pan over medium heat, about 60 seconds per side or until lightly golden. Serve topped with more blueberries and/or maple syrup.

- **11 ounces= 160caloires, 8gram protein**

CALORIES

- Calories from the foods you eat give your body **energy**
- Food is your **fuel**
- Energy is important to help keep up your **strength and weight stable**



CALORIES

Tips if appetite is low

- Make every mouthful count
- Have smaller more frequent "mini meals"
- Eat the foods you like- it is okay to eat the same foods every day
- Make eating more enjoyable and eat with a friend or family member
- Carry a snack with you when you're out of the house

CALORIES

- Make cooking easier
 - Order take out
 - Have some prepared foods on hand
 - Accept offers from family and friends
 - Make large batches when you feel up to it and freeze
- Consider meal kit delivery services like Hello Fresh© or Chef's Plate©

RECIPE BREAK - SWEET POTATO FRITTATA BITES

Ingredients

8 to 10	Eggs
1 cup	Sweet Potato, cooked
1/2 cup	Sharp Cheddar, grated
1/2 cup	Plain Yogurt
2 tbsp	Any Herbs (Rosemary/Oregano/Thyme etc.)
1 tbsp	Olive Oil
1/2 tsp	Sea Salt & Black Pepper

- Directions
- Preheat the oven to 375 F.
- Whisk eggs with yogurt, and season. In a skillet over medium high heat, add oil, once hot, add egg mixture and use a spatula to gently stir through the eggs until curds start to form.
- Sprinkle in the rest of your toppings
- Bake for about 15 - 20 minutes or until the middles is set and golden brown on top.
- To store for later, chill in the fridge for about 1 hour. Then slice into small squares, place on a baking sheet and freeze until solid. Wrap individually in parchment and freeze in a freezer bag. Enjoy as you need, toast up in the oven or microwave.
- Leftovers in the fridge should be consumed within 2 – 3 days, or freeze the rest for later use.

MANAGE TREATMENT RELATED SIDE EFFECTS

- Resources will be shared at the end of the webinar
- Group classes or one on one
- Talk to your healthcare team about a referral to a dietitian

POST TREATMENT PHASE

AICR RECOMMENDATIONS FOR CANCER PREVENTION

A Blueprint to Beat Cancer

To prevent cancer, people should aim to follow as many of the 10 Cancer Prevention Recommendations as possible. However, any change you make that works toward meeting the goals set out in the Recommendations will go some way to reducing your cancer risk.

BE A HEALTHY WEIGHT

Keep your weight within the healthy range and avoid weight gain in adult life



BE PHYSICALLY ACTIVE

Be physically active as part of everyday life – walk more and sit less



EAT A DIET RICH IN WHOLE GRAINS, VEGETABLES, FRUITS AND BEANS

Make whole grains, vegetables, fruits and pulses (legumes) such as beans and lentils a major part of your usual daily diet



LIMIT CONSUMPTION OF RED AND PROCESSED MEAT

Eat no more than moderate amounts of red meat, such as beef, pork and lamb. Eat little, if any, processed meat



LIMIT CONSUMPTION OF SUGAR-SWEETENED DRINKS

Drink mostly water and unsweetened drinks



LIMIT CONSUMPTION OF "FAST FOODS" AND OTHER PROCESSED FOODS HIGH IN FAT, STARCHES OR SUGARS

Limiting these foods helps control calorie intake and maintain a healthy weight



LIMIT ALCOHOL CONSUMPTION

For cancer prevention, it's best not to drink alcohol



DO NOT USE SUPPLEMENTS FOR CANCER PREVENTION

Aim to meet nutritional needs through diet alone



FOR MOTHERS: BREASTFEED YOUR BABY, IF YOU CAN

Breastfeeding is good for both mother and baby



AFTER A CANCER DIAGNOSIS: FOLLOW OUR RECOMMENDATIONS, IF YOU CAN

Check with your health professional about what is right for you



Not smoking and avoiding other exposure to tobacco and excess sun are also important in reducing cancer risk.

Following these Recommendations is likely to reduce intakes of salt, saturated and trans fats, which together will help prevent other non-communicable diseases.

COMMON NUTRITION TOPICS

DOES SUGAR CAUSE CANCER TO GROW FASTER AND SHOULD IT BE AVOIDED?

Facts:

- Our cells use glucose (sugar) for energy
- Sugar is a natural part of our diets
- Risk of missing essential nutrients and adequate calories by avoiding all foods that contain sugar
- Lack evidence that added dietary sugars directly feed cancer cells
- Lack evidence that removing sugars can starve cancer cells and change outcomes

CAN I EAT MEAT AND DAIRY?

Facts:

- Meat and dairy are sources of protein and other nutrients, and can be part of a healthy diet
- Limit consumption of red meat to *12-18 ounces cooked/week* (multiple portions per week)
- Limit processed meat to special occasions
- Dairy may be limited if not tolerated (e.g. allergy, GI upset)



CAN I HAVE SOY FOODS?

Facts:

- Soy foods are safe to eat
- A source of plant-based protein and can be part of a healthy diet
- E.g. tofu, tempeh*, edamame, miso*, and soymilk
- Have 1 to 2 standard servings per day (e.g. 1 cup soymilk, ½ cup edamame, 1/3 cup tofu, ¼ cup soy nuts)
- The safety of soy-based *supplements*, like those in pill or powder form, has not been determined

**Discuss eating fermented foods with your team if you are at risk of being immunocompromised*

RECIPE BREAK - SESAME GINGER BBQ TOFU

Ingredients

1 block	Extra Firm Tofu
1 cup	Green Onions
1/4 cup	Cashews
2 cups	Cabbage, shredded
1	Lime

Directions

1. Combine all the glaze ingredients and set aside.
2. Cut tofu into 1 cm blocks. Brush with a little oil, and grill over medium heat for about 3 minutes per side. Keep brushing with the glaze as it cooks.
3. Dress the cabbage with the juice of one lime. Serve with the grilled tofu, top with extra cashews and green onion.

Sesame Ginger Glaze

2 tbsp	Ginger, grated
2 tbsp	Soy Sauce
2 tbsp	Maple Syrup
1 tbsp	Rice Wine Vinegar or Lime Juice
1 tbsp	Lime
1 tbsp	Sesame Oil

164 g (1/4 recipe) = 220 calories, 12g protein



CAN I DRINK ALCOHOL?

Facts:

- No alcohol = no risk
- Less than 2 standard drinks per week = reduced risk
- A standard drink = 12 oz beer/cider/cooler, 5 oz wine, 1.5 oz spirit (whisky, vodka, gin)
- Maintain hydration when drinking
- During treatment, discuss with your health care team about contraindications to alcohol use

CAN I USE CANNABIS?

Facts:

- Ongoing research needed into cancer and cannabis, symptom management
- Harmful to smoke weed due to damage to the lungs
- During treatment, discuss with your health care team about contraindications to cannabis (THC, CBD, edibles, inhaled, oils, etc.) use.

IS IT SAFE TO TAKE NATURAL HEALTH PRODUCTS OR HERBAL SUPPLEMENTS?

- There is limited evidence on the safety of herbal supplements during cancer treatment
- Avoid taking during treatment
- Can use fresh/dried herbs in your cooking

Memorial Sloan Kettering has a database of herbal supplements.

<https://www.mskcc.org/cancer-care/diagnosis-treatment/symptom-management/integrative-medicine/herbs/search>

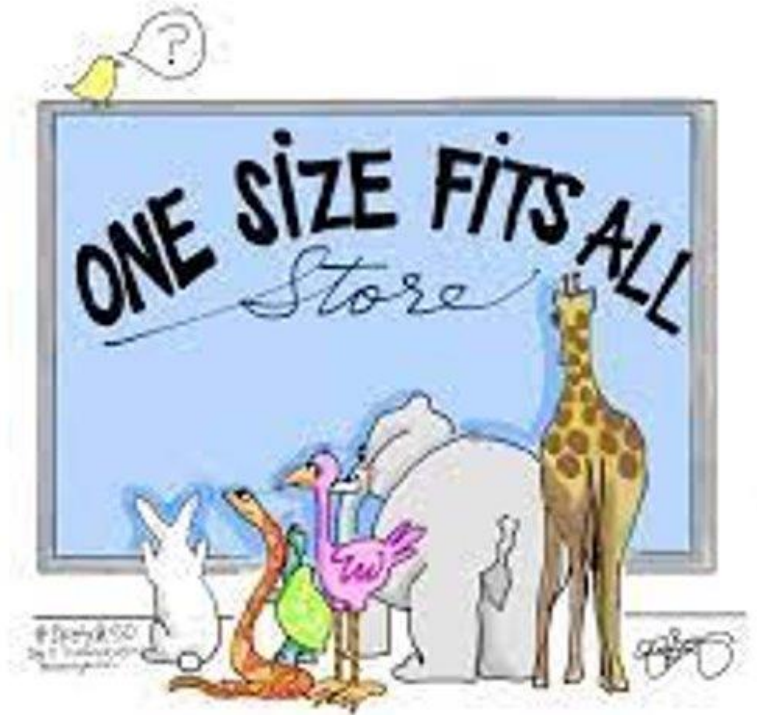
DO I NEED TO EAT ALL ORGANIC FOOD?

- No proven health benefit over non-organic food
- Grown conventionally or organically, fruits and vegetables are important part of diet which helps to lower overall cancer risk
- Pollutants may be found on both organic and non-organic foods, so all vegetables and fruit should be washed well.



ARE THERE BENEFITS TO FASTING?

- Emerging and ongoing research into fasting diets
- Risk of malnutrition, weight loss, fatigue, stress, and slower healing
- An individualized approach



PM NUTRITION CLASSES

Group Classes

- [Eating Well Throughout Cancer Treatment class](#) »
- [Cooking for Vitality - Nutrition and Culinary Education for Managing Cancer-Related Fatigue class](#) »
- [ELLICSR Kitchen Cooking and Nutrition Demonstration class](#) »
- [Healthy Eating During Breast Cancer Treatment class](#) »

RESOURCES

- UHN Patient Education https://www.uhn.ca/PatientsFamilies/Health_Information/Patient_Family_Education
- ELLICSR/ELLICSR Kitchen https://www.ellicsr.ca/en/clinics_programs/ellicsr_kitchen
- American Institute for Cancer Research <https://www.aicr.org/>
- BC Cancer Agency Nutrition Education <http://www.bccancer.bc.ca/>
- Academy of Nutrition and Dietetics- <https://www.eatright.org/>
- Nourish- Advice from Registered Dietitians and recipes <https://www.nourishonline.ca/>
- Cook for your Life – Fred Hutch <https://www.cookforyourlife.org/>
- Unlock Food <https://www.unlockfood.ca/en/default.aspx>
- “Goes Down Easy: Recipes to help you cope with the challenge of eating during cancer treatment “cookbook (abridged version here https://www.uhn.ca/PrincessMargaret/PatientsFamilies/Patient_Family_Library/diet_nutrition/Documents/PMCF_GoesDownEasyRecipeEBook.pdf

THANK YOU!

QUESTIONS?