

Healthy Eating During Treatment

Your Kellogg Cancer Center Nutrition Team

Healthcare for what's  next.



Meet Your Nutrition Team

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Goals of Treatment

- ✓ **Maintain weight**
- ✓ **Maintain muscle**
- ✓ **Fewer treatment breaks**
- ✓ **Better treatment response**
- ✓ **Less fatigue**
- ✓ **Feel better**
- ✓ **Help prevent recurrence**

Maintaining your Weight

- **Eat adequate calories**
 - Calories = Energy
- **Treatment may increase calories spent**
- **Small frequent meals**

Carbohydrates

Provide energy, vitamins, minerals, fiber

Protein

Builds new tissues, antibodies, enzymes, hormones

Fat

Provides long term energy, insulation and protection



Protein

- **Calories first**

- Adequate calories is equally important as adequate protein

- **Protein is a powerhouse**

- Basic building block of every cell
- Needed for healing
- Needed to maintain muscle mass

- **Protein sources from food:**

- Meat, poultry, fish
- Milk, yogurt, cheese
- Beans, hummus
- Nuts/seeds, nut butters, quinoa
- Eggs



Fluids

• Why

- Prevent dehydration
- Help keep mouth moist
- Thin mucous

• What

- Ice cream, gelatin, popsicles, soups
- Gatorade, G2, PowerAde
- Water
- Coconut water, electrolyte water
- Clear soups, broth, bullion
- Clear fruit juices & fruit drinks

Easy Electrolyte Drink Recipe

Ingredients

- ½ teaspoon salt
- ½ teaspoon salt substitute made from potassium chloride (found in the spice aisle at the grocery store)
- ½ teaspoon baking soda
- 2 tablespoons sugar
- 4 cups water
- 1 tablespoon orange juice, lemon juice, or sugar-free drink mix

Directions

Combine all ingredients. Mix well.

Refrigerate and shake well before serving



SPOTLIGHT

Drink more with Diarrhea/Vomiting: 8oz electrolyte replacement fluid for every loose/watery stool

Fruits and Vegetables

- **Variety is key: Eat the Rainbow!**
- **Phytochemicals - “Fight”-o-Chemicals**
 - **Vitamin A:** Keeps skin and tissues healthy
 - Sweet potatoes, carrots, red peppers, apricots, eggs, fortified foods (milk, cereal)
 - **Vitamin C:** Boosts immunity and antibodies
 - Citrus fruits, watermelon, tomatoes, papaya
 - **Vitamin E:** Antioxidant, neutralizes free radicals
 - Sunflower seeds, almonds, peanut butter, hazelnuts
 - **Zinc:** Helps with immune system function
 - Lean meat, poultry, seafood, milk, whole grains



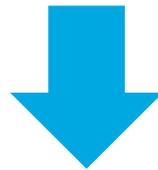
Choose Foods First

- **When choosing foods, consider:**

- What's an appropriate amount? Your dietitian can help!
- More isn't always better

- **Food synergy**

- *“The evidence for health benefit appears stronger when put together in a synergistic dietary pattern than for individual foods or food constituents”*



***Get nutrients from
foods vs. supplements***



Supplements: Use Caution

- Supplements are not regulated by the FDA
- High-dose antioxidants are generally not recommended during treatment
 - Vitamin C, Vitamin E, turmeric
- Could potentially interact with lab values
 - Biotin, fish oil



“natural” ≠ safe



IMPORTANT:

Disclose ALL supplements you're currently taking to your treatment team so that they can review them

Organic: Does it matter?

Potential Benefits

- Reduced personal exposure to pesticides
- Environmental benefits: Reduces pollution, conserves water and soil quality

Potential Disadvantages

- Cost
- More prone to spoilage
- More susceptible to contamination by insects, rodents, mold, fungus

Bottom Line: Eat more fruits and vegetables of any kind!

The benefits of eating more plant foods, conventional or organic, strongly outweigh any potential risks.

Important Tip: Wash all produce well before eating

Fiber: Soluble vs. Insoluble

Soluble Fiber

- Helps constipation and diarrhea
- Creates bulk in the intestines that “gels” loose stool
- Gives a “full” feeling
- Examples: Oatmeal, lentils, ground flaxseed, barley, nuts, peas, avocado, flesh of fruits/vegetables

Insoluble Fiber

- Helps constipation
- Moves bulk through the intestines
- Gives laxative effect
- Examples: Bran, cruciferous vegetables (broccoli, cabbage, cauliflower), skins of fruits/vegetables



Ready-to-Drink Oral Protein Supplements

- Easy nutrition when food isn't appealing
- Get calories and protein in between meals
- Helps meet higher demands of cancer and cancer treatment
- Considerations:
 - Protein & calorie needs
 - Pre-existing conditions (diabetes, IBS, etc)
- Lots of options...ask your dietitian for customized recommendations!



S P O T L I G H T

Protein Powders

- ✓ Can customize homemade smoothies
- ✓ Unflavored protein can be added to savory dishes
- ✓ Whey protein is a good choice to start with
- ✓ Ask your dietitian/nutritionist for recommendations

Comparison of Ready-to-Drink Oral Protein Supplements

Product Name	Calories	Protein (g)	Sugar (g)	Fiber (g)	Contains Lactose	Contains Gluten	Contains Soy
Boost Glucose Control (11oz)	190	16	4	3	N	N	Y
Boost Original (8oz)	240	10	28	3	N	N	Y
Boost Plus (8oz)	360	14	24	3	N	N	Y
Ensure Compact (4oz)	220	9	9	<1	N	N	Y
Ensure Max Protein (11 oz)	150	30	1	2	N	N	Y
Ensure Original (8oz)	250	9	18	1	N	N	Y
Ensure Plus (8oz)	350	13	18	1	N	N	Y
Glucerna (10oz)	180	10	4	3	N	N	Y
Kate Farms Standard (11 oz)	325	18	18	5	N	N	N
Orgain (11 oz)	255	16	13	2	Y	N	N
Orgain-Vegan(11 oz)	220	16	9	2	N	N	N
Premier Protein (11 oz)	160	30	1	3	Y	N	N
Unjury (8.5oz)	110	20	2	0	N	N	N

Smoothies vs. Juicing

- **Smoothies have the benefits of juicing, PLUS:**
 - Fiber, protein, and fat
- **Try to incorporate protein in smoothies:**
 - Milk/Yogurt
 - Peanut Butter
 - Protein Powder
- **Wash all ingredients thoroughly**
- **Avoid unpasteurized juices**



Remember variety... **eat the rainbow**

Food Safety

Quick Tips

- ✓ Always wash your hands!
- ✓ Eat hot foods hot and cold foods cold
- ✓ Use separate cutting boards for raw meats and to avoid cross-contamination
- ✓ Thoroughly wash fruits/vegetables
- ✓ Use a meat thermometer
- ✓ “When in doubt, throw it out!”

What to Avoid

- × Buffets
- × Self service salad bars
- × Raw or undercooked foods such as sushi or rare meats
- × Unpasteurized foods

Safe Cooking Temperatures



S P O T L I G H T

	STEAK	REST TIME: AND ALLOW TO REST FOR AT LEAST 3 MINUTES	145 °F
	POULTRY	(BREASTS, WHOLE BIRD, LEGS, THIGHS, AND WINGS, GROUND POULTRY, AND STUFFING)	165 °F
	PORK		145 °F
	GROUND MEAT		160 °F
	FISH AND SHELLFISH		145 °F
	FULLY COOKED HAM		165 °F
	LEFTOVERS		165 °F
	CASSEROLES		165 °F

What about Meat and Cancer?

- Good source of protein and iron
- Choose lean meats if possible
- Limit red meat consumption
- Limit “processed” meats
 - *“Meat preserved by smoking, curing or salting, or addition of chemical preservatives.” – AICR*
- Plant based diet
 - Work your way to 1/3 animal protein and 2/3 fruits, veggies, beans and whole grains

Processed Deli Meat Alternatives



S P O T L I G H T

Try one of these alternatives instead of deli meat:

- ✓ Recycle leftovers from dinner...add last night's chicken to today's sandwich
- ✓ Try canned wild salmon or canned tuna
- ✓ Make a batch of egg salad
- ✓ Choose a chicken-based soup instead of a sandwich
- ✓ Use a plant-based spread like hummus

What About Sugar?

- **Misconception based on PET scans used to detect tumor activity**
 - All carbohydrate foods metabolize into sugar (glucose)
 - All cells use glucose for fuel
 - Tumor cells can make and use their own glucose
- **Do not avoid all carbohydrates**
 - Carbs can give us fiber, micronutrients, phytochemicals
 - Glucose feeds all cells and gives us energy
- **Choose carbs wisely**
 - Whole grains when possible
 - Pair with protein or fat
- **Limit “empty” calories from added sugars**
 - Candy, soda, sweets

American Heart Association Sugar Intake Guidelines:

- **Women** - no more than ~6 tsp or 100 calories per day
- **Men** - no more than ~9 tsp or 150 cals per day for men

Carbohydrate Comparison

Whole Grains

- Quinoa
- Spelt
- Kamut
- Amaranth
- Teff
- Millet
- Freekah
- Whole Wheat/Rye
- Chia
- Sorghum
- Barley
- Buckwheat

Refined Grains

Bread products made with white enriched flour

- White bread
- Pizza
- French bread
- Crackers
- White Rice
- White Pasta
- Bakery items such as pastries, cookies, cake, and pie



Health Benefits of Whole Grains:

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Aid your digestion and prevent constipation



Add bulk to the diet and help you feel full, reducing the risk of overeating



Prevent damage of blood vessels and decrease cholesterol levels, hence reduce the risk of heart disease



Reduce the risk of diabetes and certain types of cancer

What about Keto, Paleo, Vegan, etc?

Please discuss any therapeutic dietary changes with your dietitian and medical team to determine what is appropriate based on your treatment plan

Physical Activity

- **Check with your team**
 - Walking is usually safe!
- **Fights fatigue**
- **Decreases constipation**
- **Helps maintain muscle**
- **Increases/maintains appetite**



Explore safe exercise with these physical activity guidelines:

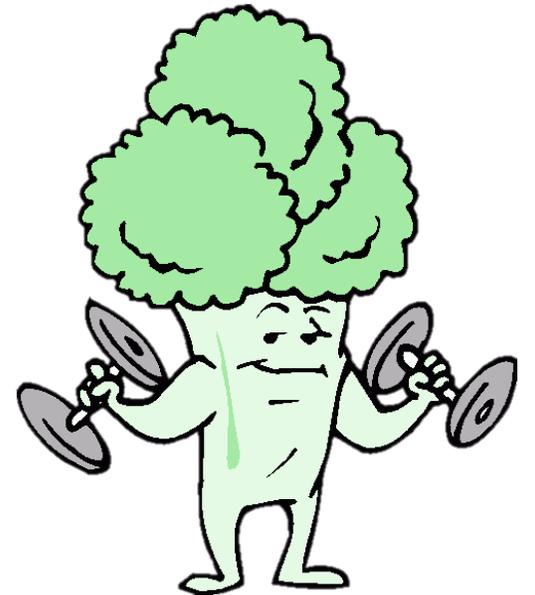
- <https://health.gov/paguidelines/second-edition/>
- <https://www.cancer.gov/about-cancer/causes-prevention/risk/obesity/physical-activity-fact-sheet>

Symptom Management During Treatment

- ✓ **Poor appetite**
- ✓ **Nausea/Vomiting**
- ✓ **Diarrhea**
- ✓ **Constipation**
- ✓ **Altered taste & smell**
- ✓ **Mucositis**
- ✓ **Dry Mouth**
- ✓ **Swallowing problems**

Preventing Unintentional Weight Loss

- **Extreme or rapid weight loss may cause malnutrition**
 - Characterized by loss of muscle, lean body tissue
- **Avoiding unintentional weight loss can help optimize tissue healing and recovery**
- **Ready-to-drink oral protein supplements or protein powders may be helpful**
 - Ask your dietitian for recommendations
- **Intentional/gradual weight loss may be okay during treatment**
 - Check with oncologist first, and work with dietitian!



Poor Appetite

- **Make each bite and sip count**
- **Small, frequent meals**
- **Eat what sounds good**
- **Keep an open mind**
- **Set a timer or have family gently remind you to eat**
- **Leave snacks available for visual reminder**

Snack Time Staples



S P O T L I G H T

Stock up on the following healthy snacks before & during treatment:

- ✓ Hard boiled eggs
- ✓ Greek yogurt cups
- ✓ Cottage cheese
- ✓ Peanut butter (or other nut butter)
- ✓ String cheese and Baby Bell cheese
- ✓ Trail mix
- ✓ Granola bar/Lara Bar/Kind Bar

Nausea and Vomiting

- **Small, frequent, scheduled meals**
 - Protein at each meal
- **Try dry foods first thing in the morning and throughout the day**
- **Cool or room temperature foods may be better tolerated**
 - Be wary of greasy, spicy, and rich foods
- **When feeling well prepare foods in large batch cooking**
- **Drink enough fluids between meals/snacks**
- **Settle your stomach with mint or ginger**



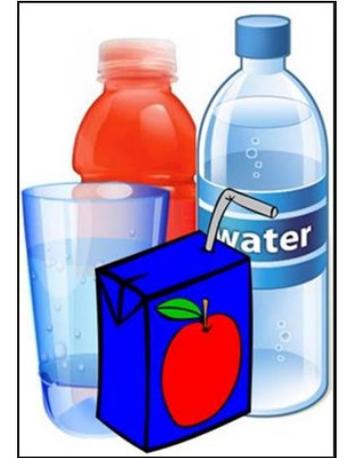
Diarrhea

- **Bland diet**
 - Plain meats, eggs, low-fiber grains, cheese, white pasta, etc
 - BRAT: Bananas, Rice, Applesauce, Toast
- **Limit sweets and greasy/fried foods**
- **Drink plenty of fluids**
 - Water, broth, juice, sports drinks, DECAF teas
- **Soluble fiber**
 - Bananas, apple sauce, oatmeal
- **Probiotics from food sources**
 - Yogurt, kefir



Constipation

- **Causes:** Pain medication, anti-nausea medication, treatment, anxiety, lack of activity
- **Prevention:** The *3 F's* (or FFPh):
Fluids, Fiber, F(Ph)ysical Activity
- **Treatment:** The medical Bowel Regimen is the primary treatment!



Altered Taste/Smell

If things taste...

Then...

Like cardboard

Add sea salt or a squeeze of fresh lemon juice, vinegar, or pickled foods

Like metal

Avoid using metal utensils. Add maple syrup or agave. Add extra flavor to foods with onion, garlic, chili powder, basil, oregano, rosemary, etc

Too bitter, salty, or sour

Try adding sweetening agents like maple syrup or honey

Too sweet

Add 6 drops of lemon juice, then more until sweetness is muted

Mucositis

- **What is it?**

- Inflammation or ulceration of the mucous membranes lining the digestive tract

- **How to treat it?**

- No acidic foods: tomatoes, chili, citrus
 - Fruit juices may burn
- Cool foods/drinks may be soothing
- Use straws to avert liquids from sores
- Choose soft foods
 - Ask your dietitian for ideas
- Align timing of pain medication with meals
- Team may prescribe medications to help



Dry Mouth

- **Drink adequate fluids**
- **Stimulate saliva production by chewing something crisp like cucumbers or carrots**
- **Modify food prep to include moist options**
 - Crockpot meals, casseroles, Okra soup
- **Cool foods like popsicles or frozen grapes**
- **Use homemade mouth rinse**
 - Avoid mouthwashes with alcohol as they can be irritating for a sore mouth
- **Over the counter products (Biotene, Xylimelts)**



S P O T L I G H T

Easy Mouth Rinse Recipe

Ingredients

- 1 qt water
- $\frac{3}{4}$ teaspoon salt
- 1 teaspoon baking soda

Directions

Combine all ingredients and mix well. Shake before each use to keep your mouth clean and more comfortable.

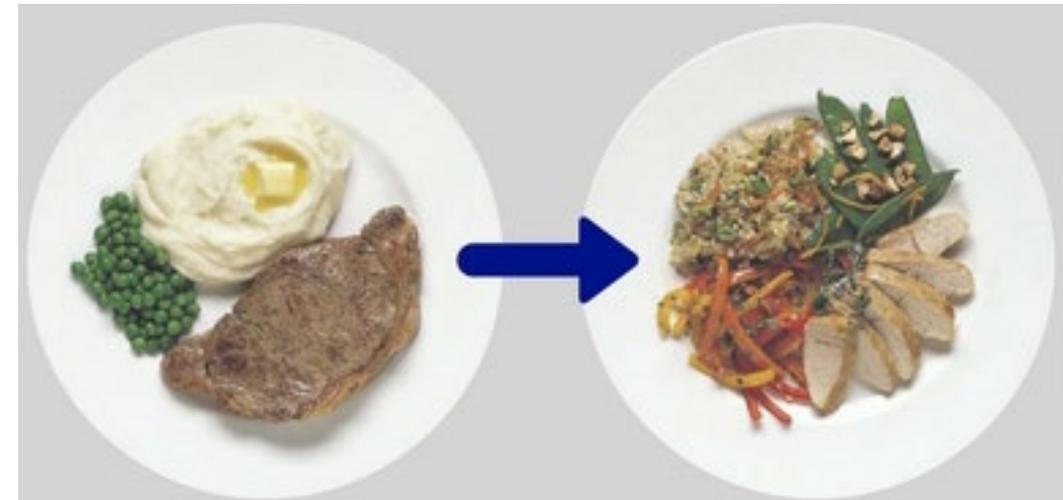
Swallowing Difficulty

- **If you are safe to swallow foods, dietitian will guide you with 1-1 counseling & recommendations**
 - Modified textures
 - Blenderized foods
 - Adding extra gravy/sauce
 - Thickened liquids if needed
- **Speech Therapist – Swallow Study**
 - If needed, medical team will make referral

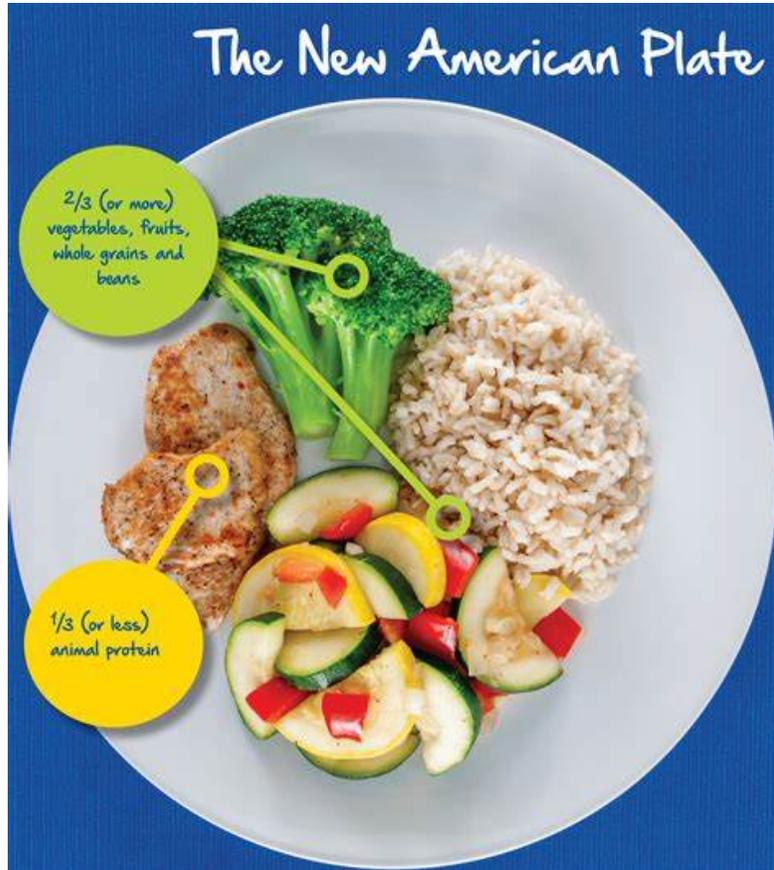


Preventing Unintentional Weight Gain

- **New American Plate is your blueprint for a healthful diet**
- **Strive to get a source of protein at each meal**
- **Reduce quantities of foods with high caloric density and low nutritional value**
 - Pastries, fried foods, refined grains, sugar-sweetened beverages
- **Get physical**
 - Check with your team to see what's safe during your treatment, and keep moving!



Post-Treatment: Your New Plate



• How it Works:

- Aim for meals made up of 2/3 (or more) vegetables, fruits whole grains or beans and 1/3 (or less) animal protein

1. Eat mostly plant-based foods
2. Be physically active
3. Maintain a healthy weight

Alcohol and Cancer

- **For cancer prevention, the American Institute for Cancer Research recommends not to drink alcohol**
 - If you do drink alcohol, limit your consumption to no more than 2 drinks/day for men and 1 drink/day for women
 - If you do not drink alcohol, do not begin

If you are in cancer treatment, check with your oncologist



Soy and Cancer

- **Soy is a protein-rich food in the legume family**
 - Natural sources of soy include tofu, tempeh, soymilk, edamame, miso
 - if you currently eat these foods, you may continue to do so.
- **High doses of concentrated soy, such as those found in soy powders and isoflavone supplements, are not recommended due to lack of safety data**



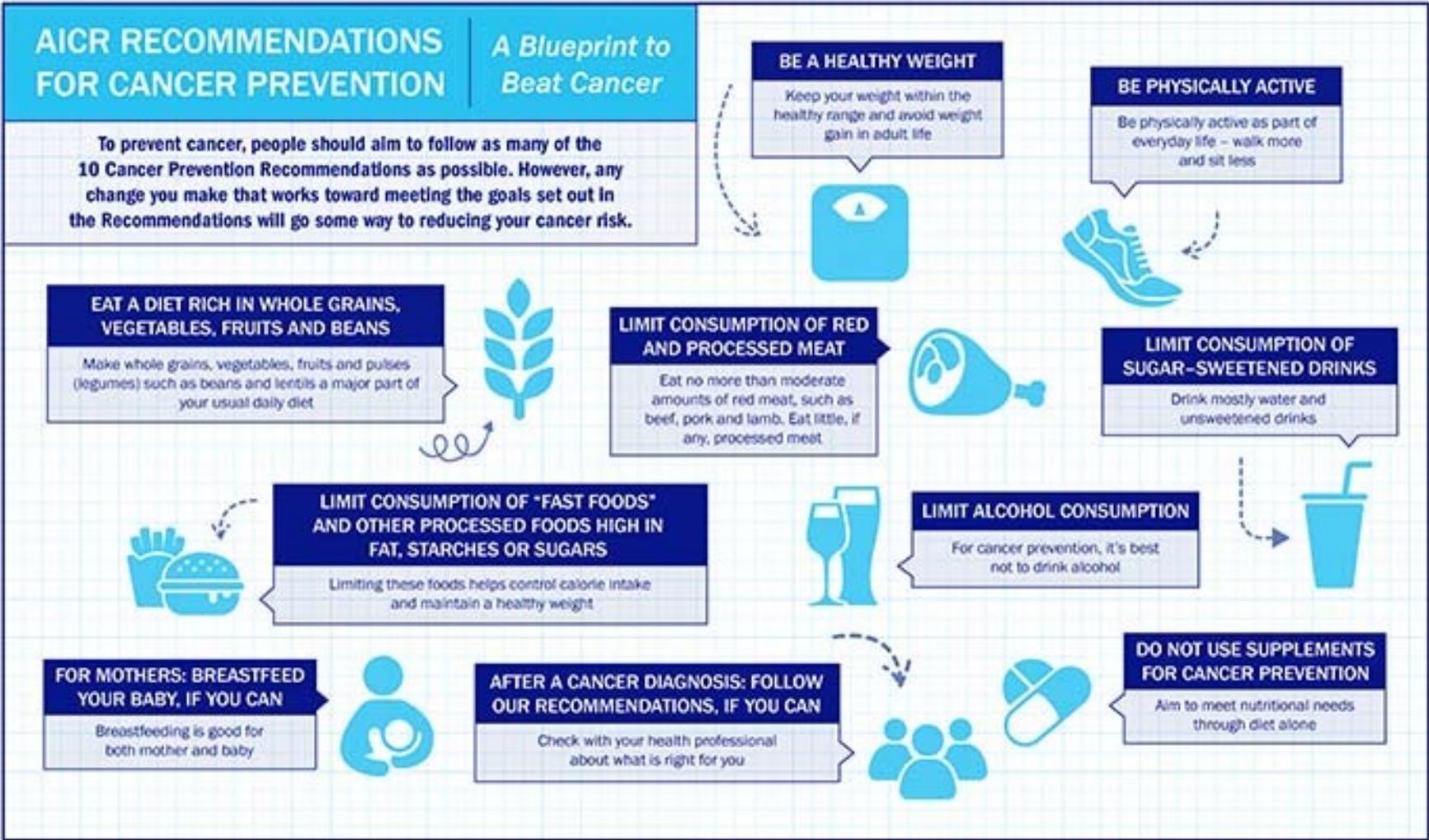
***Bottom Line:** At the present time, most experts agree that it is probably safe, and possibly beneficial, for cancer patients to eat 1-3 servings of natural soy foods per day*

Recap: What to do

- ✓ Have small, frequent, scheduled meals
- ✓ Eat a variety of foods
- ✓ Aim for adequate calories and protein
- ✓ Aim for adequate fluids
- ✓ Consider a plant-based diet



AICR Recommendations for Cancer Prevention



Individual Nutrition Consult

- **KCC internal referral process**

- Your oncologist may request the dietitian visit you during your treatment or contact you if you are at risk for losing weight or are not eating well

- **Request an appointment**

- Ask your treatment team
- Call KCC and ask to be connected with the dietitian/nutritionist

Resources

• Trusted Websites

- American Institute For Cancer Research: www.aicr.org
- American Cancer Society: www.cancer.org
- National Cancer Institute: www.cancer.gov
- Oncology Nutrition dietetic practice group of the Academy of Nutrition and Dietetics: www.oncologynutrition.org

• Recommended Cookbooks

- *“The Cancer-Fighting Kitchen”* – 2nd edition by Rebecca Katz with Mat Edelson
- *“The Cancer Wellness Cookbook”* – by Kimberly Mathai (2014)
- *“What to Eat During Cancer Treatment”* – 2nd edition by Jeanne Besser & Barbara Grant

• Nutrient & Herbal Supplements

- Office of Dietary Supplements
 - Part of the National Institutes of Health, offers fact sheets on a variety of supplements: <http://ods.od.nih.gov/factsheets/list-all>
- Memorial Sloan-Kettering Cancer Center
 - <http://www.mskcc.org/cancer-care/integrative-medicine/about-herbs-botanicals-other-products>

Resources

- **Complementary & Alternative Medicine**

- NorthShore's Integrative Medicine Program offers cancer patients and cancer survivors integrative medicine physician consultations, acupuncture, and integrative bodywork, including various forms of massage:
 - <https://www.northshore.org/integrative-medicine> or 847-657-3540
- What Is Complementary and Alternative Medicine (CAM)?
 - Overview of CAM approaches, including guides for cancer patients and health providers, and expert-reviewed summaries on CAM therapies:
<http://www.cancer.gov/cancertopics/cam>
- National Center for Complementary and Alternative Medicine (NCCAM)
 - Thinking About CAM: A Guide for People with Cancer <http://nccam.nih.gov/health/cancer>