



Creating a Cancer-free World. One Person, One Discovery at a Time.

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Nutrition for Gastroesophageal Cancer Survivors

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May 16, 2020

Objectives

- Know the recommended diet for cancer survivors, which includes choosing a plant-based diet
- Identify the potential long term nutrition related side effects in Gastric or Esophageal Cancers and suggestions for coping
- Learn quick and healthy meals/snacks as well as tips for fruits and vegetables on a budget

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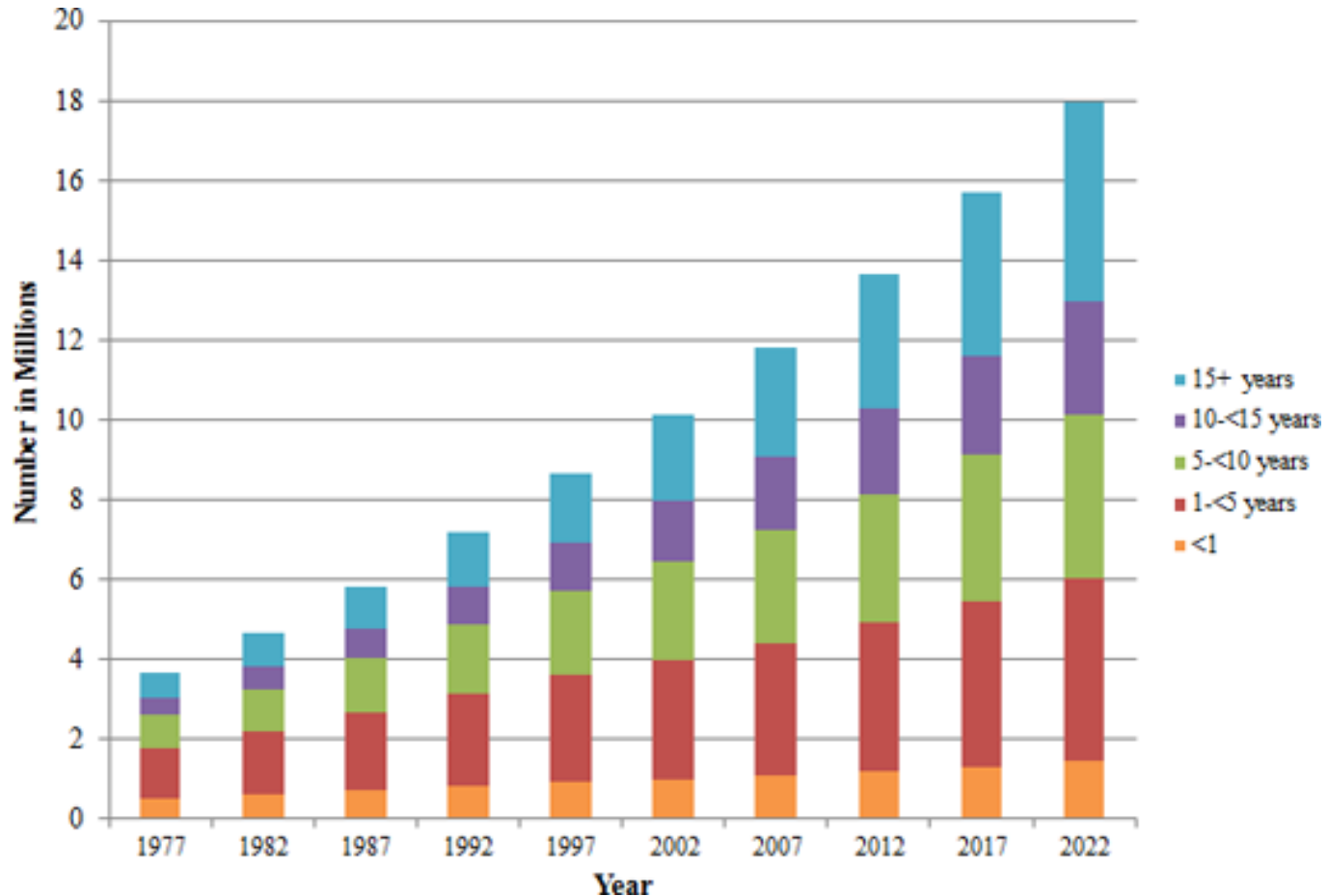
Survivorship

- Defined: “anyone who has been diagnosed with cancer, from the time of diagnosis through the rest of life” –The American Cancer Society
- “As of January 2019, it is estimated that there are 16.9 million cancer survivors in the United States.” – The National Cancer Institute



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Estimated and projected number of cancer survivors in the United States from 1977-2022 by years since diagnosis



de Moor JS, Mariotto AB, Parry C, Alfano CM, Padgett L, Kent EE, Forsythe L, Scoppa S, Hachey M, and Rowland JH. Cancer Survivors in the United States: Prevalence across the Survivorship Trajectory and Implications for Care. *Cancer Epidemiol Biomarkers Prev.* 2013 Apr;22(4):561-70. doi: 10.1158/1055-9965.EPI-12-1356. Epub 2013 Mar 27

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Survivorship

- Cancer Survivors may be at increased risk for:
 - Other cancers
 - Cardiovascular disease
 - Diabetes
 - Osteoporosis

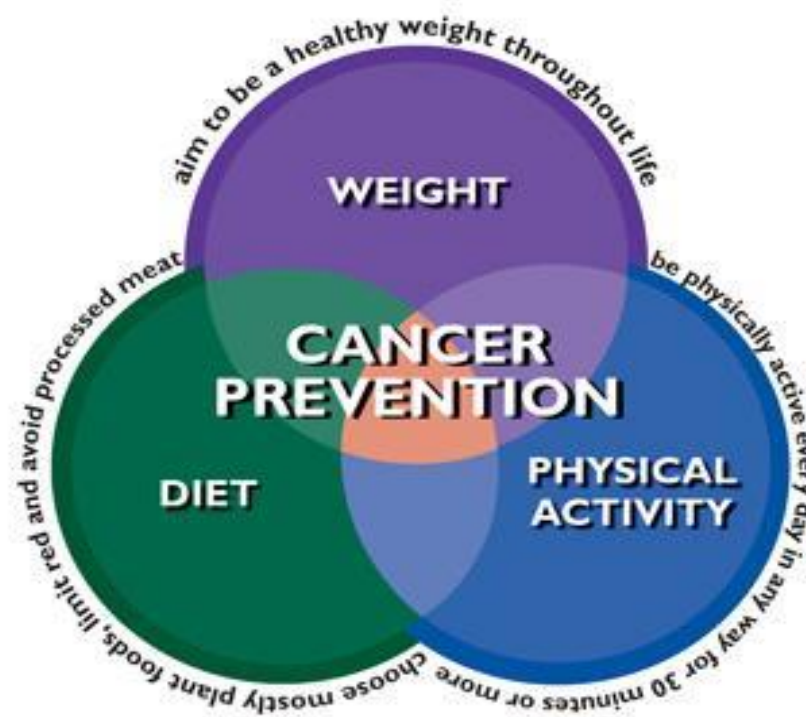


Image from AICR.org

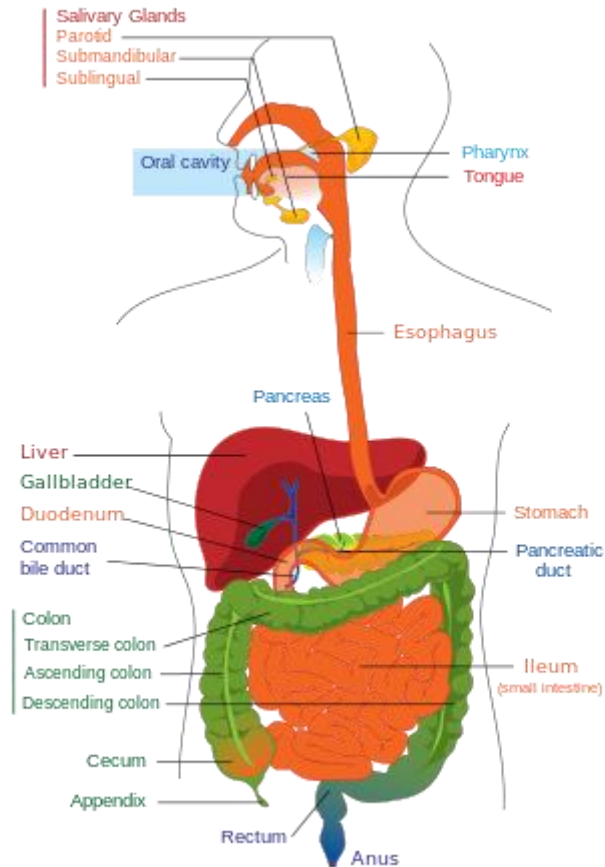
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Work With Your Treatment Team Including Your Oncology Dietitian To Individualize Your Plan

GI Tract



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AICR Recommendations For Survivorship

1. Be a healthy weight.
2. Be physically active.
3. Eat a diet rich in whole grains, vegetables, fruits and beans.
4. Limit Consumption of “Fast Foods” and other processed foods that are high in Fat, Starches, or Sugars

WCRF/AICR Food, Nutrition, Physical Activity, and Prevention of Cancer: A Global Perspective. Washington DC: AICR 2007

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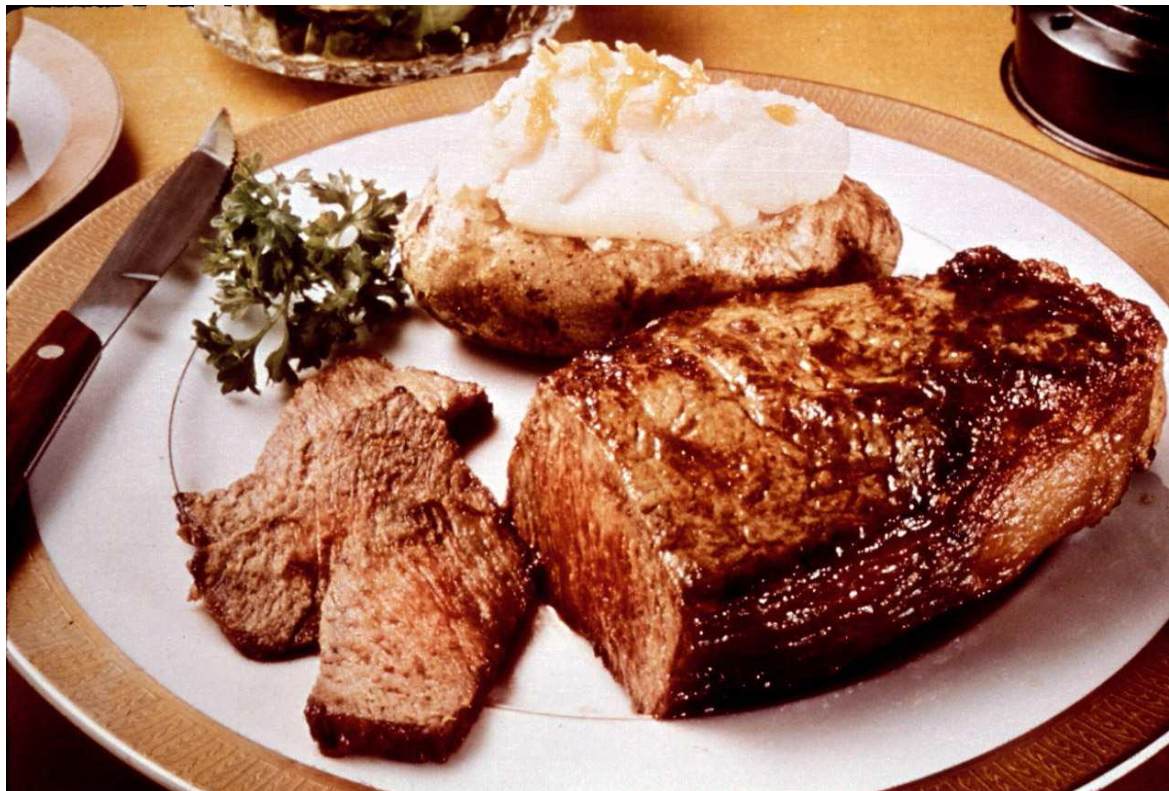
AICR Recommendations For Survivorship

5. Limit consumption of red meats (such as beef, pork and lamb) and processed meats.
6. Limit consumption of sugar sweetened drinks
7. Limit alcohol consumption
8. Don't use supplements for cancer prevention.
9. You can prevent cancer by not smoking
10. Breastfeed if possible
11. Follow AICR recommendations after cancer diagnosis if possible

WCRF/AICR Food, Nutrition, Physical Activity, and Prevention of Cancer: A Global Perspective. Washington DC: AICR 2007

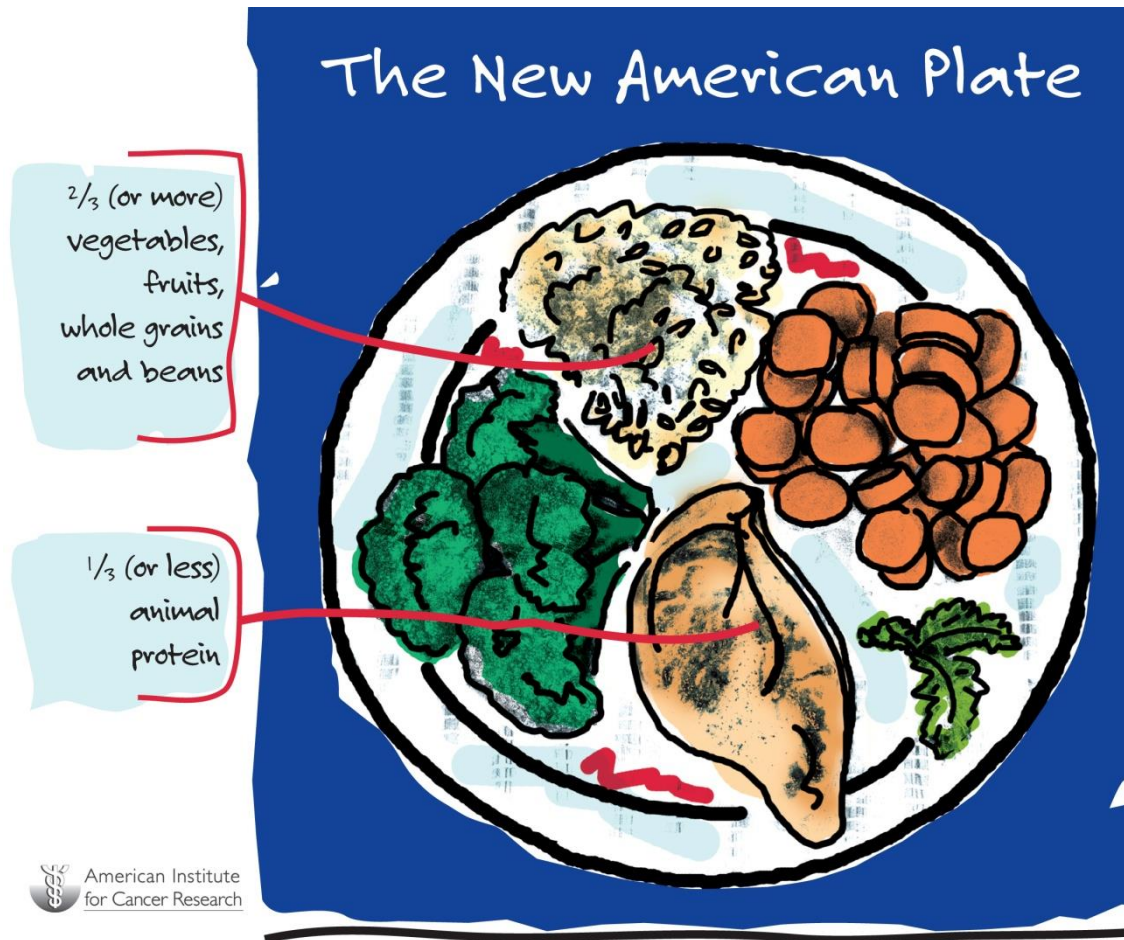
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We Want You To Stop Eating Like This...



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And Choose a Plant Based Diet



*The New American Plate® is available from the AICR by calling 800/843-8114 or through the Web site <http://www.aicr.org>.

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Protein

- Recommendations:
 - Legumes and lentils
 - Nuts and seeds
 - Soy foods
 - Fish, poultry, meat, or low fat dairy
 - No more than 18 oz. red meat per week
 - Avoid processed meats completely (cured and smoked meats)
 - Avoid charring meats on grill
 - Try a meat-free meal 1 time per week



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Limit consumption of red meats (such as beef, pork and lamb) and avoid processed meats.

- **High red meat may increase risk:**
 - Colorectal, esophagus, lung, pancreas, endometrium
- **Processed meat may increase risk:**
 - Esophagus, lung, stomach, prostate
- **Grilled/Charbroiled meat may increase risk:**
 - Stomach
- **No substantial evidence for poultry and fish**

Source: AICR

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Did You Know?

- Grilling and other high heat cooking methods can result in the formation of cancer causing substances
- For safer grilling:
 - Marinate and/or pre-cook meats before grilling
 - Use lean meats
 - Remove charred meat portions
 - Grill vegetables and fruits

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Carbohydrates

- Simple Carbohydrate: Simple carbohydrates are sugars that can be easily digested. Milk is a healthy simple sugar, but most simple carbohydrates are not.
 - Ex. Soda, candy, white rice, cakes, cookies, fruit drinks, sweetened cereals (white flour and sugar)

Choose
Less



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Carbohydrates

- Complex Carbohydrate: Complex carbohydrates are starchy foods that have many vitamins, minerals, antioxidants and fiber. Complex carbohydrates take longer to digest. **Most carbohydrates eaten should be complex instead of simple.**
 - Ex. Whole Grain or whole wheat bread, cereals made from whole grains, brown or wild rice, wheat pasta, (wheat, oats, barley, rye, corn)

Choose
More



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Fat

- Current evidence suggests that total fat intake is not related to risk of recurrence or survival from cancer (nor is total fat related to development of cancer).
- Some studies suggest omega-3 fatty acids may be beneficial for survivors, but more research is needed. Omega 3 fatty acids in fatty fish, nuts and flaxseed can also lower risk of cardiovascular disease and diabetes complications.
- Limit intake of saturated fat; saturated fat increases the risk of prostate and colorectal cancers, as well as heart disease.
 - Saturated Fats mainly come from animal foods. (ex. Red meat, cheese, full fat dairy)
- Limit or avoid trans fat (hydrogenated oil) intake.
 - Common foods with trans fats: store bought baked goods, non dairy whipped toppings, cream substitutes, some crackers and cookies, and many deep fried foods



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Fruits and Vegetables

- Goal to eat 5+ servings daily
- Research suggests eating at least 5 servings of vegetables and fruits per day can prevent at least 20% of all cancers (AICR)
- Variety of color
 - Phytochemicals & Antioxidants
 - “Naturally occurring compounds found in food that help the body defend itself against damage and may help protect the body from carcinogens.”
Source: ACS
- Fruit Serving Size: 1 medium, ½ cup fresh, frozen, or canned fruit, ¼ cup dried fruit, ½ cup 100% fruit juice
- Vegetable Serving Size: 1 cup raw, ½ cup cooked, ½ cup low-sodium vegetable juice



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Phytochemicals

- Findings from laboratory studies have shown that phytochemicals have the potential to:
 - Stimulate the immune system
 - Block substances we eat, drink and breathe from becoming carcinogens
 - Reduce the kind of inflammation that makes cancer growth more likely
 - Prevent DNA damage and help with DNA repair
 - Reduce the kind of oxidative damage to cells that can spark cancer
 - Slow the growth rate of cancer cells
 - Trigger damaged cells to commit suicide before they can reproduce
 - Help to regulate hormones
 - AICR http://www.aicr.org/reduce-your-cancer-risk/diet/elements_phytochemicals.html

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Fruits and Vegetables on a Budget

- Shop for produce that is in season:
 - Spring- Turnips, Rhubarb, Asparagus, Artichokes, Strawberries
 - Summer- Apricots, Bell Peppers, Berries, Melons, Corn, Peaches, Tomatoes, Zucchini & Summer Squash
 - Fall- Apples, Arugula, Broccoli, Brussel Sprouts, Cranberries, Kale, Pears, Pumpkins, Squash
 - Winter- Beets, Oranges, Grapefruit, Cauliflower

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Fruits and Vegetables on a Budget

- Buy frozen fruits and vegetables when fresh cost more or are not in season.
- If buying canned foods, choose those that are packed in their own juice and low sodium.
- Buy apples, oranges, grapefruit, potatoes, onions, etc., by the bag to save money.
- Check out fresh produce at a farmer's market. Prices can often be cheaper
- Learn how to grow your own vegetables!



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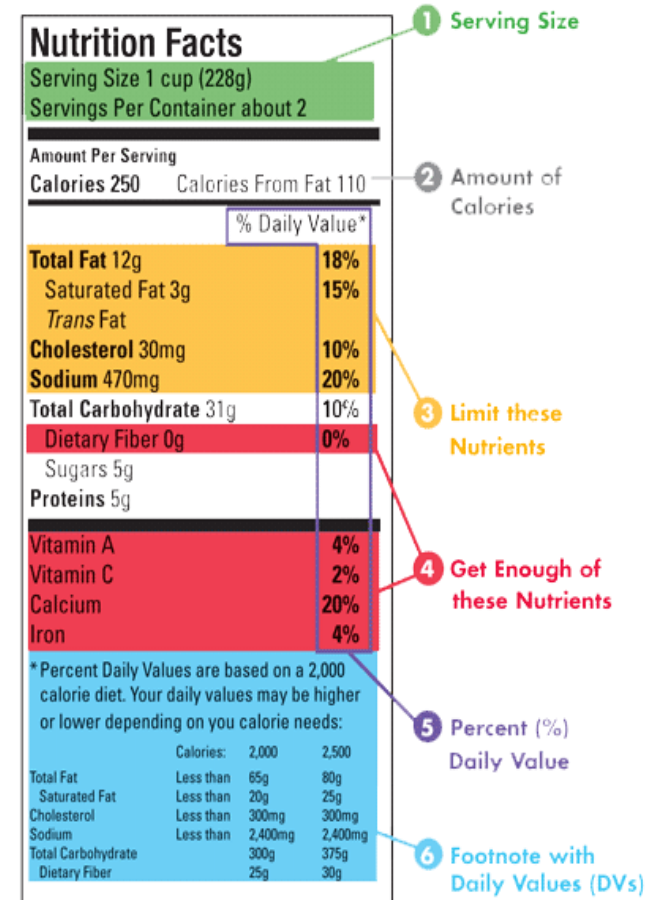
Quick Entrees

- Whole Wheat English muffin pizzas using pizza sauce and mozzarella cheese. Top with favorite vegetables!
- Top Parmesan-flavored couscous with cooked, chopped chicken and vegetables.
- Microwave a potato and top with broccoli, cauliflower and cheese.
- Stuff whole-wheat tortillas with canned black beans, lettuce, salsa, shredded cheese and sour cream.
- Top pasta with marinara sauce, vegetables of your choice and chicken breast.
- Break out the crock pot.
- Quick skillet meal with mixed items from freezer: ex: stir-fry with frozen vegetables and protein served over brown rice.
- Breakfast for dinner: ex: scrambled eggs with vegetables, eggs, cheese. Add whole grain toast and a piece of fruit to complete the meal.
- Cook ahead and freeze leftovers. Ex. Soups, casseroles, stews
- Frozen Meal

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Tips for Choosing a Frozen Meal

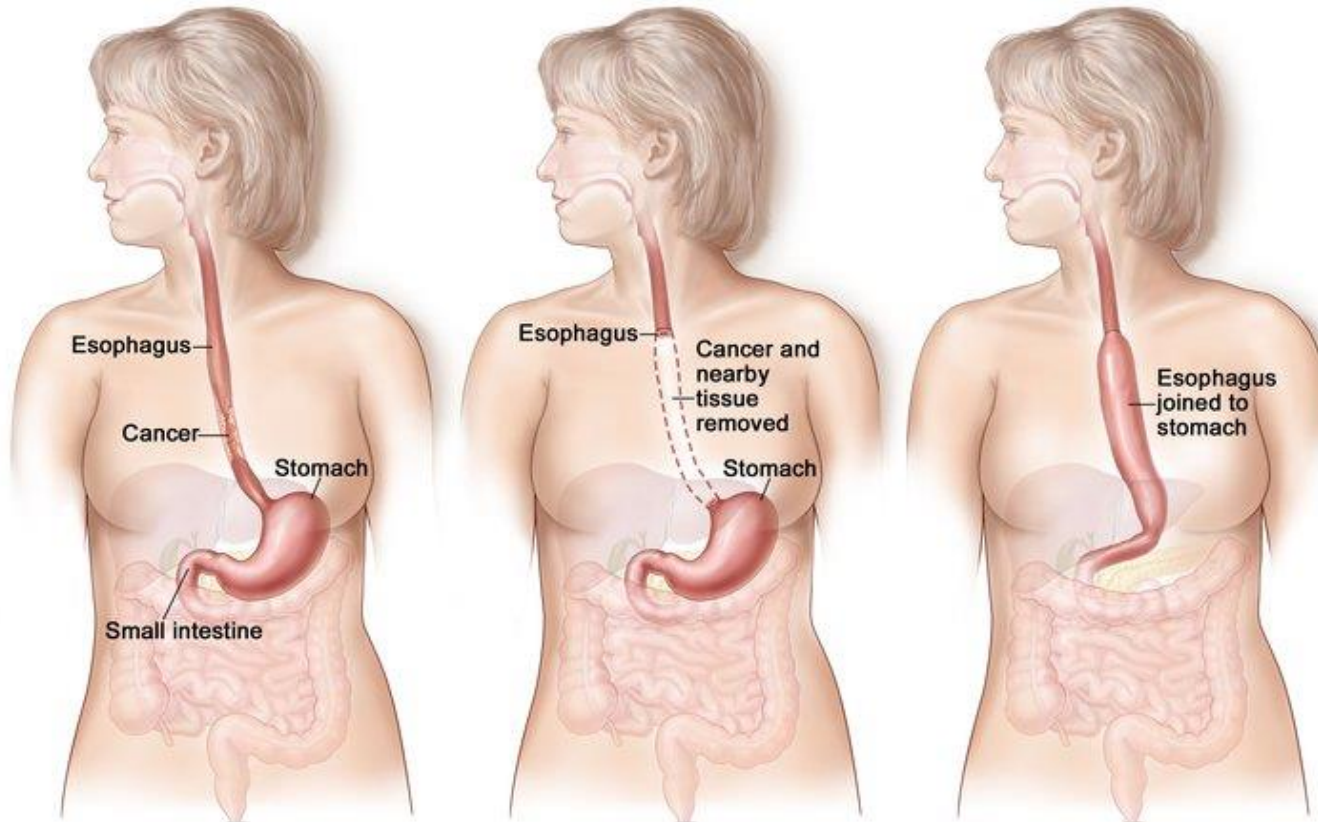
- Skip frozen dinners with cream sauces, gravies, or fried foods. And although dessert may look like a bonus, experts suggest having a piece of fresh fruit instead, for more fiber, nutrition, and fewer calories.
- Look for a meal with:
 - 300-500 calories
 - 10-18 grams of total fat, or less than 30% of total calories
 - Less than 4 grams of saturated fat
 - Less than 600 milligrams of sodium
 - 3-5 grams of fiber
 - 10% of the Recommended Daily Value of vitamins or minerals
 - 10-20 grams of protein



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Procedures

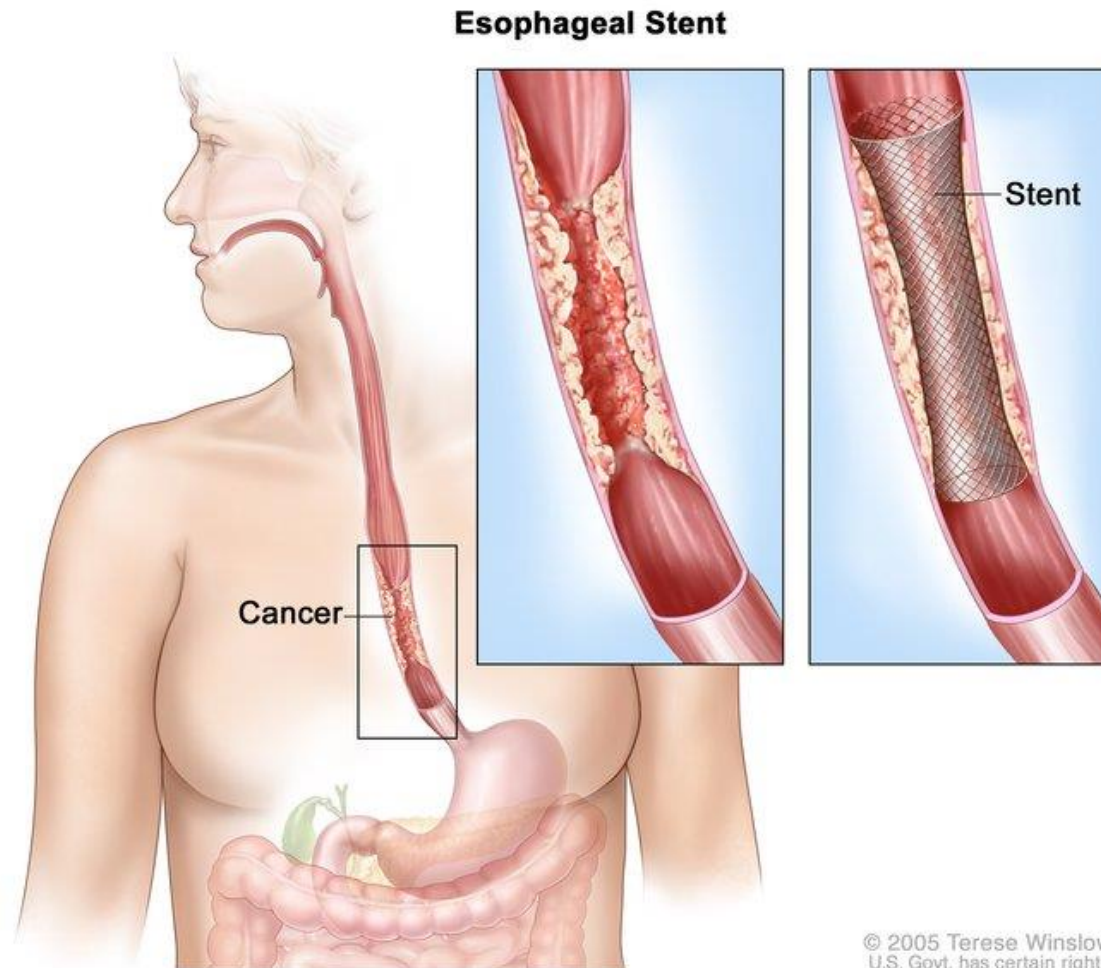
Esophagectomy



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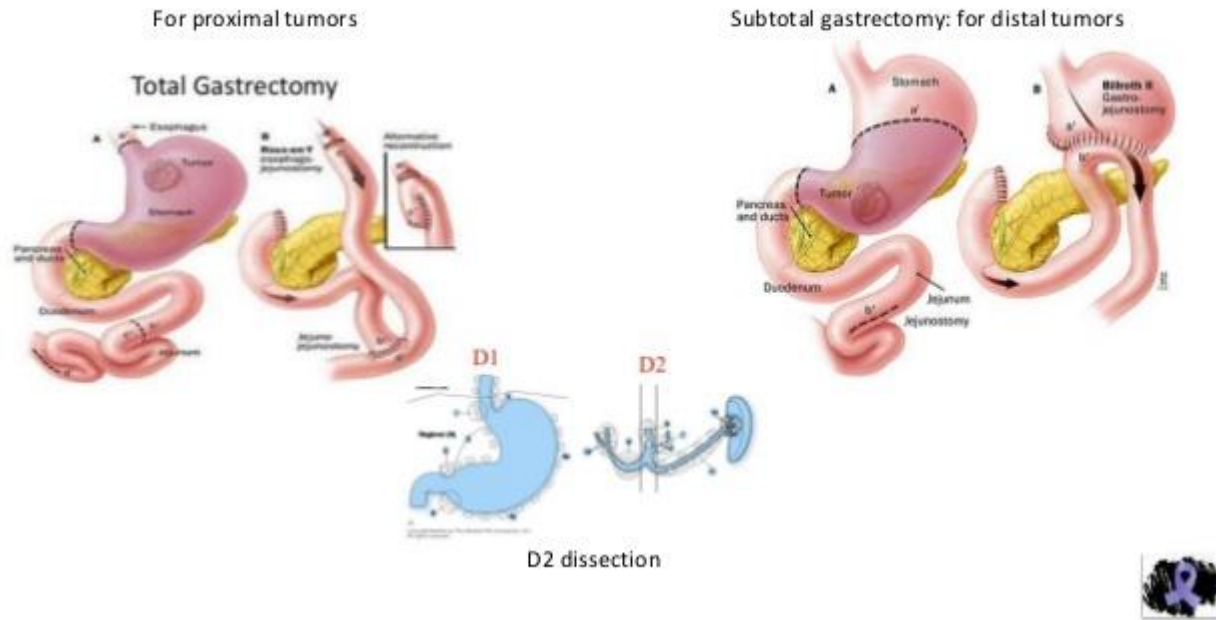
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Procedures



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Procedures



<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.slideshare.net%2FMauricioLema%2Fcse-2016-02-gastric-cancer-64652907&psig=AOvVaw2ICl5mDdUPSPa8mMYpnwle&ust=1588950748492000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCNjipYyFoukCFQAAAAAdAAAAABAD>

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Long Term Complications?

- **Dumping Syndrome:** “If you eat a large meal or eat too much sugar, the food may be dumped too quickly into your small intestine. This is called dumping syndrome. It can cause cramping, pain, nausea and diarrhea. It can also make you feel weak, dizzy and flushed. These signs often occur within 30 minutes of eating. After lying down for 30 to 60 minutes, these signs usually begin to go away.” (OSUWMC Patient Education GI Modified Diet For Post Gastrectomy)
 - Eat small frequent meals.
 - Avoid concentrated sweets/simple sugars
 - Eat slowly and chew foods thoroughly.
 - Avoid very hot or cold foods as these might aggravate symptoms.
 - When having symptoms, lie down and rest.
 - Restrict fluids to between meals or keep meals dry

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Long Term Complications?

- Reflux
 - Eat several small meals throughout the day
 - Wait 3 hours before lying down after eating
 - Use a wedge pillow or stack pillows
 - Avoid chocolate, peppermint, caffeine, alcohol, fatty foods and pepper
- Vitamins and Minerals Needed?
 - Multivitamin
 - B12
 - Calcium
 - Vit D
 - Iron

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Long Term Complications?

- Dysphagia or difficulty swallowing
 - Chew thoroughly
 - Small bites
 - Choose foods that are soft and moist
- Delayed Gastric Emptying: may feel nausea, bloating, early fullness, abdominal pain, vomit undigested food
 - Small, frequent meals
 - Chew foods well
 - Liquids may work better than solids
 - Choose lower fat and fiber foods
 - Team may suggest medication to help stomach empty faster

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Long Term Complications?

- Hypertension:
 - Higher risk if you had treatment with Avastin, Sorafenib, or Sunitinib
- What can you do?
 - Follow Dr. recommendations
 - Low sodium diet
 - 2,000 mg sodium per day
 - Foods with no more than 300 mg of sodium per serving
 - Do not keep salt shaker at table
 - Physical Activity
 - Weight Loss to Normal BMI

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Long Term Complications?

- Chronic diarrhea that continues 6 months or more after treatment?
 - Food intolerance?
 - Have you tried a soluble fiber supplement?
 - Eat smaller meals/snack vs. 3 larger meals
 - Eat foods high in pectin to firm up stool
 - Applesauce
 - Banana
 - Avoid foods that are greasy, fatty, fried or spicy
 - Could be fat malabsorption
 - Trial pancreatic enzyme supplementation
 - Trial a low-fiber diet (insoluble fiber)

Long Term Complications?

- Cancer-Related Fatigue
 - Good nutrition can fight fatigue
 - What Can I do?
 - Limit caffeine-containing beverages
 - Stock kitchen with easy to prepare food items
 - Use disposable plates, napkins and cups
 - Ask friends or family for help

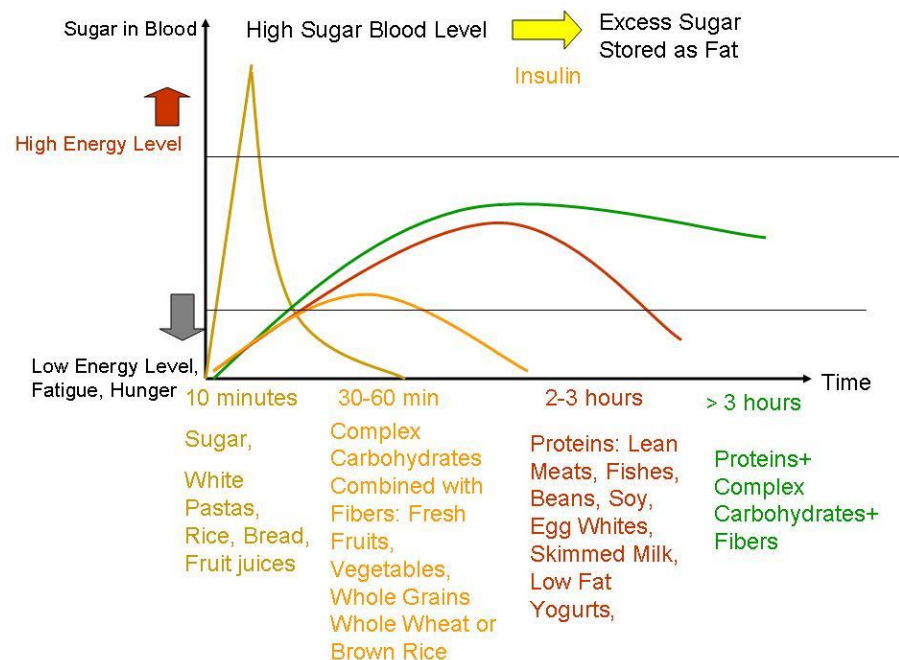
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What should I do?

- Eat protein, fat and fiber in combination with a carbohydrate to make less of a spike in blood sugar.
 - Healthy balanced snacks:
 - 1 apple (C) + 1 string cheese (P)
 - 1 banana (C) + 20 almonds (P)



What should I do?

- Reduce your sugary drink intake
 - Substitutions include: sparkling waters, no-calorie soda, unsweetened or lightly sweetened tea or coffee, water.
- Manage your sweet tooth
 - Portion control
 - Choose fruit for dessert
 - Limit “treats” to a couple times per week

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Thank You

To learn more about Ohio State's cancer program, please visit **cancer.osu.edu** or follow us in social media:



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