

allycon 2022

"welcome home"
Nutrition in Colorectal Cancer
Treatment & Survivorship

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Why Does Nutrition Matter?

- Adequate nutrition can help a person to
 - Feel better
 - Keep up strength and energy
 - Maintain weight and nutrient stores
 - Better tolerate treatment-related side effects
 - Lower infection risk
 - Heal and recover faster



Goals During Cancer Treatment

- Consume essential nutrients to support the body
- Maintain strength and energy
- Keep weight consistent
- Slow or stop the rate of weight loss
- Adjust diet choices for disease and symptom-related side effects and to promote diet tolerance
 - Effects including
 - New ostomy
 - Changes in bowel movements
 - Cold-sensitivity
 - Increased protein needs

Starting with the Basics

Do not underestimate the challenge and benefit of meeting your basic nutrition needs



Calories

- Sources: protein, carbohydrate and fat in foods
- Provide energy to support all functions of the body
- Needs may be increased for some people
- Inadequate calorie intake leads to weight loss



Protein

- The “building blocks” of cells, helps to ensure growth and repair of tissue and maintain a healthy immune system
- Needs are higher during cancer treatment
- Inadequate protein intake leads to slower recovery and lower resistance to infection



Fluids

- General recommendation is 8-10 cups a day
- May be higher based on weight and condition
- All liquids count toward fluid intake
- Consume foods with high water content, such as watermelon, cucumbers, grapes and lettuce
- Consider oral rehydration solutions as needed

Common Challenges: Low Appetite



Consume small, frequent meals on a schedule & maximize intake at time of day when appetite is best



Choose high-calorie, high protein food choices



Use easy-to-prepare and convenience foods to promote intake and preserve energy



If eating is difficult, drink oral nutrition supplements or high calorie liquids



Manage symptoms, like nausea or constipation, to promote appetite and intake



If low appetite continues, talk to your oncologist about medications that may help to increase appetite



Caregiver Tips: Try providing 6-8 small meals a day and offering starchy and high protein foods that are easy to tolerate
Be encouraging but try not to nag or fight about food and do not blame yourself if the patient cannot eat

Common Challenges: Taste Changes



For bland taste, choose fruity or salty flavors & use marinades, herbs, spices, citrus, vinegar, pickles & sauces



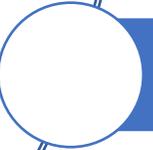
For bitter or metallic taste, eat sweet fruits, strongly flavored foods and drink sweet or sour beverages



For metallic taste, use bamboo or plastic utensils and avoid drinking out of cans to reduce sense of metal in the mouth



Maintain good oral hygiene & use baking soda and saltwater rinses as directed



When smells are bothersome, eat cold or room temperature foods, avoid cooking areas & use cup with straw & lid



Caregiver Tips: Consider preparing dishes that incorporate high protein foods into the recipe, such as lasagna or chicken pot pie, rather than serving meat by itself

Think outside the box and provide a variety of food choices and flavors rather than only a patient's favorite foods

Common Challenges: Diarrhea



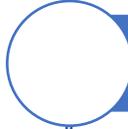
Consume small, frequent meals to promote absorption



Eat a low-fat, low fiber diet while experiencing diarrhea



Limit caffeine, alcohol and highly-spiced foods as they can stimulate the bowels



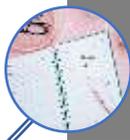
Limit lactose-containing foods if they make diarrhea worse



Consume adequate fluid intake & increase intake when experiencing diarrhea (1 additional cup of liquid for each loose bowel movement)



Add electrolyte-containing fluids such as broth, sports drinks and oral rehydration solutions



Caregiver Tips: See that the patient drinks adequate fluids

Keep a record of bowel movements to help determine severity of the issue in order to report to the oncology team

Common Challenges: Constipation



Consume adequate fluid intake



If appropriate, increase dietary fiber intake (not appropriate for all) and incorporate probiotic-containing foods like yogurt



Consume a hot beverage or hot cereal daily as part of your routine



Engage in light physical activity



Be proactive and use bowel medications as recommended

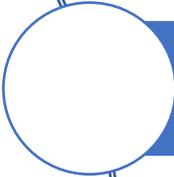


Caregiver Tips: Encourage the patient to drink adequate fluids including prune juice or warm beverages
Keep a record of bowel movements to help determine severity of the issue in order to report to the oncology team
Participate in physical activity with the patient such as going for a walk

Common Challenges: Ostomy Management



Diet after surgery: low fiber, high protein, bland diet for 4-6 weeks after surgery or until approved for diet advancement by your surgeon

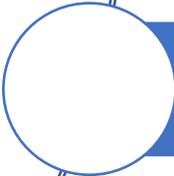


Diet advancement: gradually add high-fiber foods to your diet, adding 1 new food a day to evaluate your tolerance



Hydration: aim for at least 8-10 cups (64-80 ounces) of fluids daily, sip on fluids throughout the day and drink a glass of fluid every time ostomy pouch is emptied

Patient with an ileostomy is more likely to become dehydrated as large intestine not available to absorb water and fluids



Electrolytes: Electrolyte levels in your blood, including sodium, magnesium and potassium, can be low due to ostomy losses or low intake from your diet

Patient with an ileostomy loses sodium through their ostomy output and should increase dietary salt intake



Caregiver Tips: Encourage adequate fluid intake and sipping on fluids throughout the day

Keep a record of ostomy output when emptied as well as note ostomy output consistency to help with reporting to the medical team

Common Challenges: Ostomy Management



Goal Ileostomy output of <1200 ml/day, ideally 600-900 ml/day with liquid or porridge consistency & colostomy output 200-600 ml/day with mushy to formed consistency

High output ostomy: limit foods that are high in insoluble (roughage) fiber including raw fruits and vegetables

Increase intake of stool-thickening foods including applesauce, bananas, white rice or pasta, creamy peanut butter, hot cereal, peeled potatoes, soda crackers, white bread and yogurt

Eat small, frequent meals and consume majority of fluids between meals

Increase fluid intake including fluids with electrolytes and use anti-diarrheal medications, if prescribed



Blockage: higher risk of stoma blockage for several weeks after ostomy, especially with ileostomy

Follow low-fiber diet, including avoiding produce with skins, for 4-6 weeks after surgery and chew food well

Odor: Eat smaller, more frequent meals to aid in digestion

The following foods may increase odor: asparagus, broccoli, Brussel sprouts, cabbage, cauliflower, eggs, high fat foods, garlic, beans, onion, strong cheese

Talk with your provider about pouch odor eliminators



Gas: Avoid drinking from a straw or chewing gum and eat slowly

The following foods may increase gas: beer, carbonated beverages, cauliflower, cucumbers, dairy, eggs, beans, melon, nuts, onion, pickles, radish, soy, spicy foods

Nutrition

What are some common intestinal reactions to food?

Common intestinal reactions by food type.

Gas Producing	Asparagus, beans, beer, broccoli, Brussels sprouts, cabbage, carbonated beverages, cauliflower, chewing gum, cucumbers, dairy products (eggs, milk), legumes (lentils), melons, nuts, onions, peas, pickles, radishes, soy products, spicy foods
Incomplete digestion*	Apple peels, cabbage, celery, Chinese vegetables, coconut, corn, dried fruit, leafy green vegetables, mushrooms, nuts, pineapple, pith from citrus (white fibrous coverings of oranges), popcorn, raw/crunchy vegetables, raw/undercooked meat (sushi, rare steaks), seeds, skins from fruits, skins from vegetables
Thickened stool	Applesauce, bananas, cheese, creamy peanut butter, hot cereals (Cream of Wheat, oatmeal, rice), marshmallows, pasta, pudding, potato (without skin), rice, tapioca, unseasoned crackers, white bread/toast, yogurt
Thinned stool	Alcoholic beverages, apple juice, baked beans, chocolate, fresh/raw fruits, fresh/raw vegetables, fried foods, grape juice, high-sugar foods, leafy green vegetables, milk, prune juice, spicy foods
Increased odor	Alcohol, asparagus, broccoli, brussel sprouts, cabbage, cauliflower, dried beans, eggs, fatty foods, fish, garlic, legumes, onions, peas, radishes, smoked foods, strong cheese, some medications, some vitamins
Reduced odor	Buttermilk, cranberry juice, parsley, probiotics (e.g. yogurt), smaller/more frequent meals, staying well hydrated, odor eliminators (drops, gels, sprays, tablets, essential oils, sachets that can be placed in the ostomy pouch)
Constipation Relief**	Bran products, coffee (warm/hot), fruit (fresh, raw, or cooked), oatmeal, prunes, raisins, vegetables (fresh, raw, or cooked), water, warm beverages, warm soups, whole grains
Color Changes	Asparagus, beets, food colorings, iron pills, licorice, red jello, strawberries, tomato sauce

*Mainly applies to ileostomy. People with an ileostomy are at greater risk for stoma blockage/obstruction. These food types should be eaten with caution and not introduced into the diet until 4-6 weeks after surgery. Introduce them slowly, one at a time, and chew well.

**Mainly applies to colostomy. Increasing the amount of fiber in your diet will help you avoid becoming constipated. Discuss options with your MD.

ccalliance.org | Helpline: (877) 422-2030

The Colorectal Cancer Alliance is a national organization committed to ending colorectal cancer within our lifetime. We are your allies – a national network of passionate survivors, caregivers and advocates dedicated to helping you and your family navigate all aspects of the disease, from diagnosis and treatment to a lifetime of progression-free survival. We are a community of people eager to share experiences, address your concerns, and answer your questions. We understand the different stages of the colon cancer journey because we've been there. We are here for you when you need us because we believe tomorrow can't wait.



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Common Challenges: Fatigue



Eat small, frequent meals and snacks for an ongoing, consistent energy source



Use oral nutrition supplements to promote adequate intake



Keep nonperishable snacks nearby and at your bedside



Use prepared and easy to prepare food and snacks



Consider using frozen meals and a grocery delivery service



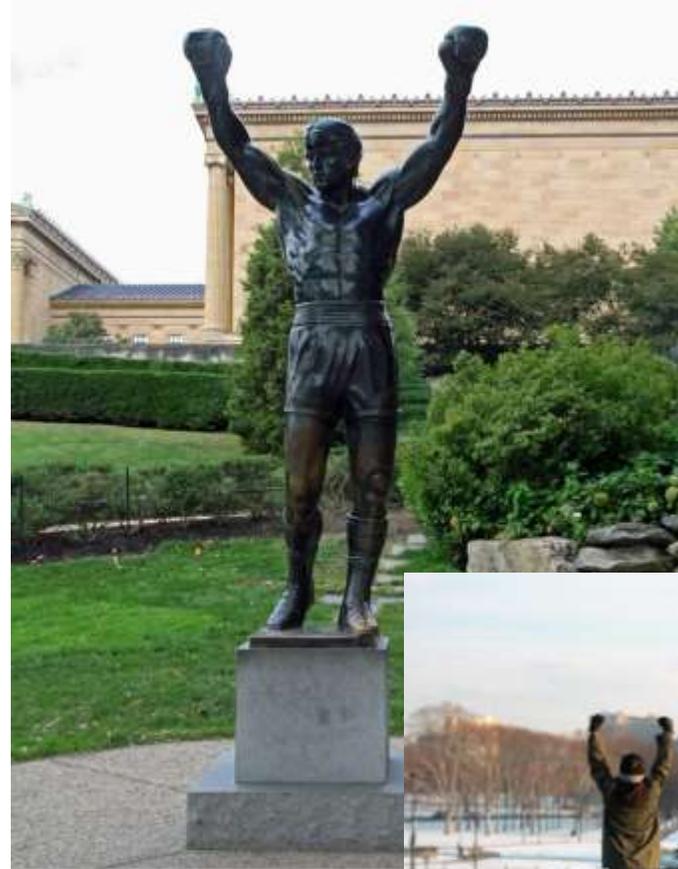
Continue to perform activities of daily living and aim for light physical activity, as tolerated



Caregiver Tips: Help schedule friends and family members to prepare meals and help with daily tasks
Encourage patient to set up a routine for activities during the day

Transitioning from Surviving to Thriving

- Goals after cancer treatment
 - Consume essential nutrients to promote recovery
 - As able, shift focus to a diet high in fruits, vegetables and whole grains
 - Continue to adjust food choices for disease and symptom-related side effects and to promote diet tolerance
- Nutrition after treatment looks different for each person
 - Cancer and treatment to the digestive tract can have permanent impacts and diet changes may not be appropriate for all



Eating Well

- Nutrition goals for cancer survivorship
 - Eat a diet rich in whole grains, vegetables, fruits and beans
 - Limit intake of fast foods and other processed foods that are high in fat, starches or sugars
 - Limit red meat intake to no more than 12-18 ounces per week
 - Eat little to no processed meat
 - Limit sugar-sweetened beverage intake
 - Limit alcohol intake
- Lifestyle factors
 - Maintain a health weight
 - Be physically active

Balancing Colorectal Cancer & Diet After

Treatment

Slowly re-introduce or increase intake of fruits, vegetables and high-fiber foods

Easier to Digest: Add First	More Difficult: Add Second	Most Difficult: Add Last
<p>Peeled raw fruits including apples, papaya, plums, pears, peaches, nectarines, melons, bananas Applesauce and cooked fruit without seeds and skins Canned fruits in juice Avocado (small serving) 100% fruit juices</p> <p>Cooked vegetables including green beans, carrots, zucchini, squash, peeled potatoes and sweet potatoes Marinara sauce Vegetable juice</p> <p>Oatmeal, grits, corn tortillas Cereals, crackers and bread with no more than 2 grams of fiber per serving Hummus and smooth nut butters</p>	<p>Raw fruits with seeds or skins including berries, grapes, kiwi, pomegranate and citrus</p> <p>Gas-producing vegetables including beets, broccoli, brussels sprouts, cabbage, cauliflower, greens, kale, lima beans, mushrooms, okra, onions and spinach</p> <p>Raw carrots, peeled cucumber and iceberg lettuce</p> <p>Cereals, crackers and bread with 3 or more grams of fiber per serving Whole-grains including whole-wheat bread and brown rice</p>	<p>Dried fruits</p> <p>Corn and peas Raw greens and large salads</p> <p>Beans Nuts and seeds Popcorn</p>

Tell Me About... A Plant-Based Diet

- Plant-based diet: diet focusing primarily from plants, choosing more foods from plant sources
- Does not necessarily mean never eating meat or dairy or following a vegetarian or vegan diet
 - Often implemented by limiting animal proteins to 1/4 of the plate and filling 3/4 of plate with plants foods
- Principles implemented by plant-based diet are protective against colorectal cancer

Tip: Progress toward a more plant-based diet is beneficial; start by adding an extra vegetable serving each day and build from there



Tell Me About... Red Meat

- Strong evidence that eating high amounts of red meat increases the risk of colorectal cancer due to containing heme which promotes formation of potentially carcinogenic compounds
- Red meat includes beef, pork, goat and lamb
- Do I need to completely avoid eating red meat?
 - Can still be incorporated into the diet in moderation
 - Limit red meat intake to 12-18 ounces or less a week
 - 3–4-ounce portion is equivalent to a deck of cards
 - Limit intake to 3 servings a week

Tip: Include small amounts of sliced, cubed or ground meat in a stir-fry, stew, chili or mixed dish and add other protein sources to round out the flavor and nutrition

Tell Me About... Processed Meat

- Strong evidence that eating processed meats increases the risk of colorectal cancer as the compounds used to make processed meats can cause cancer
 - Processed meats pose a greater risk of colorectal cancer than unprocessed red meat
- Processed meats are produced from smoking, curing and nitrate- or nitrite-based additives
 - Includes bacon, sausage, hot dogs, pepperoni, ham, corned beef, deli meat, bologna and salami
- What about labels including “uncured” or “no nitrates added”?
 - Manufacturers often use natural nitrates, including celery powder
 - Unclear if products containing natural nitrates are healthier choices

Tip: Try using leftover roasted chicken or turkey, tuna or egg salad or peanut butter and banana as sandwich fillings

Tell Me About... Dairy Foods

- Link between lower colorectal cancer risk in people with higher intake of calcium-rich dairy products including milk and cheese
 - Research suggests calcium helps to reduce irritation in the colon and lactic-acid producing bacteria protect against colorectal cancer

Tips: Choose low-fat dairy products and incorporate yogurt with live cultures as a source of calcium and beneficial probiotics

Lactose intolerant? Try lactose-free milk, hard cheeses and yogurt as these contain lower amounts of lactose and may be better tolerated



Tell Me About... Sugar

- Does sugar feed cancer?
 - Simple sugar (glucose) feeds all cells and is found in vegetables, fruits, whole-grains and dairy as well as sweets and sweetened beverages
 - Idea that sugar could fuel cancer cell growth leads some people to unnecessarily avoid all carbohydrate containing foods
 - It is not as simple as eliminate glucose and starve cancer cells
- Recommendations
 - Do not eliminate all carbohydrates
 - As able, focus on healthier sources of carbohydrates including fruits vegetables and whole-grains
 - Limit intake of high sugar foods including cakes, cookies and sweetened beverages

Tell Me About... Vitamin, Mineral & Herbal Supplements

- Supplements are not recommended for cancer prevention
 - Consumption of nutrients through food and drink is more likely to protect against cancer than dietary supplements
- Tip: Discuss all vitamin, mineral and herbal supplements with your oncologist prior to taking
- Food first
 - Turmeric: add curry powder or turmeric to your food including scrambled eggs or try drinking golden milk
 - Garlic: add minced garlic to your recipes
 - Calcium: eat dairy foods, canned fish with bones, dark leafy greens, tofu, fortified plant milks
 - Magnesium: whole-grains, green leafy vegetables and nuts are high in magnesium
 - Omega 3 fatty acids: consume 2-3 ounce servings of fatty fish a week including tuna, salmon, sardines, anchovies, black cod, whitefish and striped bass

In Conclusion

- Colorectal cancer presents challenges starting with diagnosis through survivorship
- Each patient's journey is unique and there is no one size fits all plan
- Diet should be adjusted based on treatment and side effects to provide optimal nutrition and support current goals
- Seek guidance from a registered dietitian
 - Oncology-specialized registered dietitians can work with you to build an individualized plan

Diet & Nutrition Resources

- American Cancer Society
 - Recipes (<https://www.cancer.org/healthy/eat-healthy-get-active/eat-healthy/find-healthy-recipes.html>)
 - Nutrition for cancer prevention and survivorship (<https://www.cancer.org/treatment/survivorship-during-and-after-treatment/coping/nutrition.html>)
- [American Institute for Cancer Research](https://www.aicr.org/cancer-prevention/healthy-eating/) (<https://www.aicr.org/cancer-prevention/healthy-eating/>)
 - Recipes
 - Nutrition for cancer prevention and survivorship
- [Cancer-Fighting Kitchen](https://www.rebeccakatz.com/cancer-and-food) (<https://www.rebeccakatz.com/cancer-and-food>)
 - Recipes and cancer-related food articles
- [Colorectal Cancer Alliance](https://www.ccalliance.org/colorectal-cancer-information/health-and-wellness/health-and-wellness-nutrition) (<https://www.ccalliance.org/colorectal-cancer-information/health-and-wellness/health-and-wellness-nutrition>)
- [Cook for Your Life](https://www.cookforyourlife.org/) (<https://www.cookforyourlife.org/>)
 - Recipes tailored for cancer-related side effects
 - Cancer-fighting recipes for survivors
- [National Cancer Institute Eating Hints](https://www.cancer.gov/publications/patient-education/eatinghints.pdf) (<https://www.cancer.gov/publications/patient-education/eatinghints.pdf>)
- [United Ostomy Associations of America](https://www.ostomy.org/diet-nutrition/) (<https://www.ostomy.org/diet-nutrition/>)