

## Nutrition and Bone Marrow Failure

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## Objectives

- Healthy eating recommendations
- Side-effect management
- Supplements
- Resources
- Questions



## HEALTHY EATING RECOMMENDATIONS

## Nutrients for Blood and Bone Marrow

- Calories
  - Provides energy for all cells in your body.
  - Inadequate calorie intake will cause your body to break down protein for energy.
- Protein
  - Helps to build cells, maintain muscle mass and strength, and supports your immune system.
    - Animal protein sources: chicken or turkey, red meat, fish, eggs, yogurt, milk and cheese.
    - Plant protein sources: soy and tofu, beans and lentils, nuts and seeds, protein powders.
- Fluid
  - Supports blood volume and viscosity.



## Eat a Plant-Based Diet

- Evidence suggests that a plant-based diet may promote health and prevent many chronic diseases.
- Eat more of a variety of vegetables, fruits, whole grains and beans.
  - Try to base all of your meals on plant foods. Aim to fill at least 75% of your plate with vegetables, fruits, whole grains and beans.



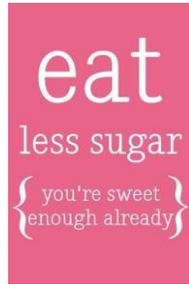
## General Recommendations

- Plant foods protect against many diseases.
- They are rich in fiber, vitamins, minerals and phytochemicals (these are nutrients that protect the cells in our body from diseases).
- Plant foods keep our body healthy, strengthen our immune system and help with weight management.



## General Recommendations

- Avoid sugary drinks – soda, sweet tea, lemonade, fruit drinks.
- Limit intake of energy-dense foods, such as processed foods with added sugar or fat and little nutritional value.
  - Snack foods (chips), fast foods, sweets (cakes, cookies)
- It's okay to have them occasionally or in small portions but try not to make them the basis of your diet.



## General Recommendations

- Limit consumption of red meats (such as beef, pork and lamb) to 18 ounces per week.
- Avoid processed meats (such as bacon, sausage, hot dogs, deli meats).
  - Look for versions that are nitrate-free, uncured.



## General Recommendations

- If consumed at all, limit alcoholic beverages to 2 per day for men and 1 per day for women.
  - One drink is defined as: 12 ounces of beer, 1.5 ounces of spirit, 5 ounces of wine



## Organics

- A plant-based diet has many benefits, so eating any produce, whether organic or not, is healthier than eating none at all
- You may try to avoid the most heavily contaminated fruits and vegetables
- Remember to wash all produce thoroughly before consumption

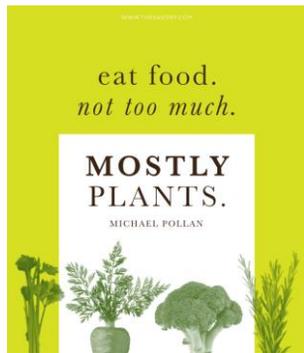


EWG Produce Pesticide Guide: [www.ewg.org](http://www.ewg.org)  
 Dirty Dozen by Environmental Working Group – free app



## The Great Plate





## SIDE-EFFECT MANAGEMENT

### Symptom Management – Poor Appetite

- Focus on small but frequent meals.
  - Try to eat every 1-2 hours.
  - Keep favorite foods readily available.
  - Focus on calorie and nutrient dense foods.
    - High calorie and protein snack ideas:
      - Mixed nuts or trail mix
      - Nuts butters on fruit, crackers or bread
      - Hummus with pita
      - Guacamole with tortilla chips
      - Greek yogurt with granola
      - Hard-boiled egg with crackers
      - Cheese and crackers
      - Shakes such as Boost, Ensure, Orgain, ENU, Svelte, Carnation Breakfast Essentials, homemade milkshakes or high calorie smoothies



### Symptom Management – Nausea/Vomiting

- Try to eat small but frequent meals.
- Well tolerated foods include: crackers, room temperature fruit, plain pasta, mashed potatoes, oatmeal, cream of wheat, toast, cereal, pretzels and rice.
- Focus on bland foods.
- Choose foods with little or no aroma. Cold foods have a decreased smell and may be better tolerated.
- Consume ginger: ginger tea, ginger ale, ginger brew and ginger candies.
- Avoid spicy and acidic foods (such as tomato and citrus products).
- Try Sea Bands: available at most pharmacies and reduce nausea through acupressure.
- Talk with your health care team about anti-nausea medicines.



SEA-BAND  
THE NATURAL CHOICE FOR NAUSEA RELIEF



### Symptom Management – Taste Changes

- Try a variety of foods. Be open to new foods and flavors.
- Increase use of herbs, spices, seasonings and marinades.
- Use citrus to flavor foods – try lemon, lime or oranges.
- For a metallic taste try plastic utensils and avoid canned foods.
- Cleanse your mouth before meals with mouthwash or a rinse of baking soda, salt and water.
- Mint teas may help your mouth taste better between meals.
- Talk with your health care team about using zinc supplementation.



### Symptom Management – Taste Changes

- Adjust flavor with FASS – fat, acid, salt and sweet
  - Fat: olive oil, butter, coconut oil, sesame oil
  - Acid or sour: lemon, lime, vinegar, tomatoes, pickles
  - Salt: kosher or sea salt, tamari or soy sauce, MSG-free bouillon, fish sauce, nitrate-free bacon or ham
  - Sweet: maple syrup, honey, agave, fruits, caramelized onions
  - Aromatic: garlic, onion, shallots, citrus zest, ginger, pepper, herbs, spices
  - Heat: cayenne, red pepper flakes, chili powder, curry, mustard, black pepper, coriander
  - Too spicy? Add some sweetness or creaminess (dairy cuts heat)
  - Too sweet? Add some sour or heat
  - Too sour? Add sweet
  - Too bland? Add salt or some heat
  - Too salty? Add sour
  - Just needs a spark? Add acid or an aromatic or just a touch of heat
  - Too harsh? Try a touch of sweetness

## Symptom Management – Sore Mouth

- Avoid foods that are very hot, spicy, salty and acidic (tomato and citrus foods).
- Avoid alcohol-based mouthwashes. Try a rinse of baking soda and water or products such as Biotene and Natural Dentist.
- Focus on soft, bland foods such as smoothies, soups, mashed potatoes, noodles, eggs, cottage cheese, bananas, canned peaches or pears and yogurt.
- Honey can soothe your mouth and promote healing.
- Talk with your health care team about using glutamine supplementation.



## Symptom Management - Constipation

- Being well-hydrated is important for preventing and treating constipation.
  - Increase your intake of water, seltzers, tea, coffee and juices.
- Increase your fiber intake by eating more fruits, vegetables, whole grains and beans.
- Try drinking a half cup of warm prune juice.
- Try drinking Smooth Move Tea.
- Snack on dates, apricots or prunes.
- Physical activity can stimulate bowel function.
- Talk with your health care team about stool softeners and laxatives.



## Symptom Management -Diarrhea

- Sip on fluids throughout the day.
- Increase foods with soluble fiber such as bananas, rice, applesauce and oatmeal.
- Lie down for 30 minutes after a meal.
- Avoid or limit foods that may worsen diarrhea:
  - Caffeine: coffee, tea, sodas, chocolate.
  - Dairy: especially milk. Try Lactaid or non-dairy milks (almond, soy, etc.).
  - Very hot or very cold food or fluids.
  - High fat foods: fried, greasy and fatty foods.
  - Spicy or seasoned foods.
  - Sugar alcohols: commonly found in sugar-free gum or candies.
- Talk with your health care team about anti-diarrhea medicines as well as glutamine and probiotic supplements.



## SUPPLEMENTS

## Supplements

- Always discuss with your health care team.
- Supplements often interact with medications.
- Every supplement has the potential to be harmful.
- Not regulated by the Food & Drug Administration.

### Resources:

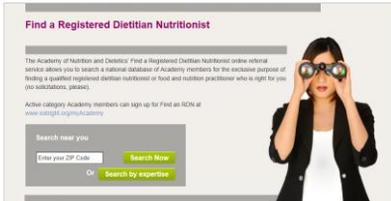
- Memorial Sloan Kettering Integrative Medicine
  - <http://www.mskcc.org/cancer-care/integrative-medicine/about-herbs-botanicals-other-products>
  - About Herbs: free app
- Find a Naturopathic Doctor
  - <http://www.naturopathic.org>
- Naturopathic Doctor board certified in oncology
  - [http://www.oncanp.org/find\\_fabno.html](http://www.oncanp.org/find_fabno.html)



## RESOURCES

## Find a Registered Dietitian

- Search tool available on the Academy of Nutrition and Dietetics website
  - <http://www.eatright.org/programs/rdfinder/>
  - Can specify expert in oncology/hematology or expert in pediatrics



## Resources

- Academy of Nutrition and Dietetics: [www.eatright.org](http://www.eatright.org)
  - Recipes, nutrition tips, articles
- American Institute for Cancer Research: [www.aicr.org](http://www.aicr.org)
- Food Safety: [www.foodsafety.gov](http://www.foodsafety.gov)
  - Ask Karen from USDA – free app for food safety



## Resources

MyFitnessPal – [www.myfitnesspal.com](http://www.myfitnesspal.com) or free app

- Calorie counter, diet and exercise tracker

Map My Walk – free app

- Map your route, track your activity

Johnson & Johnson Official 7 Minute Workout – free app

- Designed with ease, effectiveness and fun in mind

Ask the Nutritionist: Recipes for Fighting Cancer – free app

- Developed by the dietitians of the Dana-Farber Cancer Institute
- To help you find recipes for staying healthy, getting you through treatment, and living and eating healthy for the rest of your life
- Easy recipes ranging from nutritious snacks to good-for-you main dishes to delicious desserts
- Offers the ability to search by common symptoms (such as nausea or mouth sores)



## Simple Green Smoothie

- 1 cup spinach
- 1 cup pineapple
- ½ banana
- ½ cup ice

Calories: 155 calories  
 Protein: 2.5 grams  
 Carbohydrates: 40 grams  
 Fat: 0.5 grams

