

Nutrition and Bone Marrow Failure

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Objectives

Healthy eating recommendations
Side-effect management
Food safety
Supplements
Questions

Healthy Eating Recommendations

General Recommendations

Be as lean as possible without becoming underweight.

- Maintaining a healthy weight is one of the most important things you can do to reduce chronic diseases.



General Recommendations

Be physically active.

- Research strongly suggests that exercise is not only safe during cancer treatment, but it can also improve physical functioning and many aspects of quality of life.
- Moderate exercise has been shown to improve fatigue, anxiety and self-esteem. It also helps heart and blood fitness and muscle strength.
- Always speak with your physician about physical activity, especially prior to starting an exercise program.
 - In particular, those with severe anemia may need to delay exercise and those with compromised immune function should avoid public gyms and pools.
 - If you are not used to being active, start slowly and build up to your goal.

General Recommendations

- Adults should get at least 150 minutes of moderate intensity activity each week, preferably spread throughout the week.
- Children and teens should get at least 1 hour of moderate intensity activity each day.
- Limit sedentary behavior such as sitting, lying down, watching TV and other forms of screen-based entertainment.
- Doing some physical activity above usual activities can have many health benefits.

General Recommendations

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 two-thirds of your plate with vegetables, fruits, whole grains and beans.
- 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. Limit intake of energy-dense foods (such as processed foods with added sugar or fat and little nutritional value).

- It's okay to have them occasionally or in small portions but try not to make them the basis of your diet.

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.

If consumed at all, limit alcoholic beverages to 2 per day for men and 1 per day for women.

The Great Plate



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.

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.

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.

Food Safety

Food Safety

Food safety is especially important for those with bone marrow failure.

Wash your hands with warm, soapy water for 20 seconds before and after preparing food and before eating. Wash hands often.

Wash surfaces and utensils after each use.

- Bacteria can spread throughout the kitchen and get onto cutting boards, utensils, countertops and food. Change sponges and dishtowels often.
- Wash fruits and vegetables under running water prior to peeling or cutting. Do not wash meat, poultry or eggs.

Food Safety

Separate, don't contaminate.

- When handling raw meat, poultry, seafood and eggs, keep these foods away from ready-to-eat foods to stop bacteria from spreading. Use separate cutting boards for raw meat, poultry and fish. Keep them separate in your fridge.

Cook food thoroughly to proper temperatures.

- Use a food thermometer.

Refrigerate food promptly.

- Refrigerate or freeze leftover foods within 1 hour to slow the growth of harmful bacteria.
- Thaw frozen meat and poultry in the refrigerator, microwave or cold water, not by leaving it out on the kitchen counter.

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>

Find a Naturopathic Doctor

- <http://www.naturopathic.org>

Naturopathic Doctor board certified in oncology

- 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

American Institute for Cancer Research: www.aicr.org

EWG Produce Pesticide Guide: www.ewg.org

Food Safety: www.foodsafety.gov

The Great Plate: <http://www.hr.umich.edu/mhealthy>

Fitness Trackers: Fitbit, Jawbone, Nike Fuel

Resources

MyFitnessPal – www.myfitnesspal.com or free app

- Calorie counter, diet and exercise tracker

Map My Walk – free app

- Map your route, track your activity

- Fitness Trackers: Fitbit, Jawbone, Nike Fuel

Johnson & Johnson Official 7 Minute Workout – free app

- Designed with ease, effectiveness and fun in mind

Dirty Dozen by Environmental Working Group – free app

- Produce with the highest and lowest pesticide loads

Ask Karen from USDA – free app for food safety

Ask the Nutritionist: Recipes for Fighting Cancer – free app

- Developed by the dietitians of the Dana-Farber Cancer Institute

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



Thank you!