

Nutrition and Graft Versus Host Disease

What is graft versus host disease?

Graft versus host disease, also called GVHD, is a common side effect of an allogeneic bone marrow or blood stem cell transplantation. In GVHD, the cells from the donor (the graft) attack the body of the transplant patient (the host).

GVHD can affect your skin, your gut (intestines and bowel) and/or your liver. Some of the symptoms of GVHD include:

- diarrhea and abdominal pain
- mouth sores
- nausea and vomiting

Following the foods and dietary guidelines in this handout may help you to control these symptoms and start to feel better again.

Diarrhea and abdominal pain

If you have any loose stool, contact your doctor. Your doctor may recommend that you rest your bowel and not to eat. Once you start to eat again you will need to **introduce foods slowly**:

- Try one new food at a time.
- Wait at least 3 hours before trying another new food.
- Stop the new food if your diarrhea, abdominal pain and/or vomiting increase.
- Eat small meals every 3 hours – these are often better tolerated than larger meals.

You may tolerate foods that are low in fat, low in fibre and lactose-free:

- Choose lactose-free dairy products, such as Lactaid milk.
 - Choose foods low in fibre. Avoid insoluble fibres such as whole wheat and bran products.
 - Eat foods that are low in fat. Many fats are hard to digest and can increase diarrhea.
 - Avoid caffeinated beverages such as caffeine containing soft drinks, tea and coffee. Caffeine may cause diarrhea.
 - Drink extra fluids such as diluted juices, diluted Gatorade and water.
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Try the foods listed in Table 1 first to see if you can tolerate them.

Each newly introduced food may be eaten with foods previously tolerated.

For example, after trying cream of rice successfully, you may try cream of rice with lactose-free milk.

Table 1		
Food Group	Examples	Serving
Beverages	Decaffeinated or herbal tea, except peppermint – brewed weak Rice milk Lactaid milk Broth: chicken, beef or vegetable Popsicle Apple juice, Kool-Aid, Gatorade, Tang, Cranberry drinks – dilute with water ½ strength because high sugar drinks may contribute to diarrhea	All 1 cup servings
Starches	Cream of Rice, Cream of Wheat, Farina, Grits, Malt-o-meal - made with water, Puffed Rice, Rice Krispies, Cheerios Refined pasta, white rice, peeled potato prepared without fat Plain white bread or English muffin	All ½ cup servings 1 slice
Fruits	Unsweetened applesauce Canned peaches, in juice or light syrup Canned pears, in juice or light syrup Banana	All ½ cup servings ½

Once you can tolerate the foods in Table 1, try the foods listed in Table 2.

If you do not have diarrhea, stomach cramping or vomiting you may start with the following foods in small amounts:

Table 2		
Food Group	Foods Recommended	Foods to Avoid
<p>Breads/Grains</p> <p>2 to 3 servings daily</p> <p>Serving size: ½ cup</p>	<p>Breads - corn, white, sourdough, pita</p> <p>Bagels - plain</p> <p>Cereals with less than 2 g fiber per serving</p> <p>Crackers - animal, graham, saltine</p> <p>English muffins</p> <p>Pasta</p> <p>Pretzels</p> <p>Rice Cakes, plain</p> <p>Tortillas</p> <p>Rice</p> <p>Couscous</p> <p>Baked tortilla or potato chips (low-fat)*</p> <p>Pancakes, waffles</p>	<p>Any whole wheat/whole grain bagel, bread, english muffin, bread, rice, pasta, tortilla or crackers</p> <p>Wheat germ</p> <p>Popcorn</p> <p>Croissants</p> <p>Bran</p> <p>Chips, potato chips</p> <p>*Note: Avoid products with Olestra or Olean</p>
<p>Meats and other proteins</p> <p>2 to 3 servings or 6 oz daily</p> <p>Serving size: 1 egg 2 to 3 ounces cooked meat</p>	<p>Well cooked, lean cuts of broiled, baked or roasted fish, meat, skinless poultry, ham</p> <p>Crab, imitation crab</p> <p>Tuna - water-packed</p> <p>Eggs - well cooked</p>	<p>Deli lunch meats</p> <p>High fat lunch meats</p> <p>Hot dogs</p> <p>Corned beef</p> <p>Pepperoni</p> <p>Pickled or cured meats/fish</p> <p>Beans/legumes</p> <p>Nuts and seeds</p>
<p>Fruits</p> <p>2 or more servings daily</p> <p>Serving size: ½ cup</p>	<p>Peeled fresh fruit : apples, apricots, bananas, cantaloupe, mango, melon, nectarines, peaches, pears, papaya, plums, seedless watermelon.</p> <p>Canned fruit (peeled): apricots, fruit salad, mango, peaches, pears, plums</p> <p>Plain applesauce</p> <p>Juices: cranberry, apple</p>	<p>Juices: citrus, prune, V-8 or V-8 Splash, tomato, pineapple</p> <p>All raw fruits except those specifically allowed</p> <p>Canned or fresh: berries, cherries, figs, grapes, grapefruit, kiwi, lemons, limes, oranges, pineapple, prunes, rhubarb</p> <p>All dried fruit</p>

Food Group	Foods Recommended	Foods to Avoid
<p>Vegetables 2 or more servings daily</p> <p>Serving size: ½ cup cooked vegetable or juice</p>	<p>Well cooked, tender vegetables: asparagus tips, beets, carrots, peeled eggplant, canned green or yellow beans, mushrooms, pumpkin, sweet potatoes, turnip, yams (without skin), waxed beans, winter squash, potatoes (without skin), crushed canned tomatoes without seeds or skins</p>	<p>All raw or undercooked vegetables.</p> <p>Avoid the following cooked vegetables: Artichokes, baked beans, bamboo shoots, bean sprouts, beet greens, broccoli, brussels sprouts, celery, cauliflower, cabbage, chives, coleslaw, corn, cucumbers, peas, bell peppers, leafy vegetables, leeks, all legumes, mushrooms, mustard greens, okra, onions, parsley, radish, rutabagas, sauerkraut, summer squash, tomatoes, turnips, spinach, collard greens, swiss chard</p>
<p>Dairy 2 to 3 servings daily</p> <p>Serving size: ½ cup milk or yogurt 1 oz cheese</p>	<p>Lactose-free 2%, 1%, skim or chocolate milk Rice milk Any lactose-free supplement (i.e. Boost, Ensure) Low fat yogurt Low fat cottage cheese (non-fat or 1%) Cheese: cheddar, monterey jack, swiss, american, ricotta, string (part-skim mozzarella)</p>	<p>Any milk or milk-based product not pre-treated or not taken with lactase enzyme</p> <p>Whole milk, regular chocolate milk, regular yogurt, eggnog, cream, high fat cheese</p> <p>Yogurt mixed with berries or seeds</p>
<p>Fats</p>	<p>Can use low-fat or fat-free margarine, mayonnaise, and salad dressings without restriction.</p> <p>Limit butter/ margarine or oils to 1 tsp, peanut butter to 2 tsp and gravies and sauces to ¼ cup.</p> <p>May use cream cheese, sour cream, whipping cream or half and half with a limit of 2 Tbsp</p>	<p>Fats in greater portions than listed in previous column</p>



Food Group	Foods Recommended	Foods to Avoid
Condiments/ Herbs/Spices	Herbs/spices: basil, bay leaf, oregano, rosemary, thyme, cinnamon, salt Condiments: honey, jelly, Syrup, soy sauce, vinegar	Herbs/spices: cayenne, chili powder, garlic, mustard, onion powder/salt, paprika, pepper Condiments: mustard, ketchup, chili sauce, horseradish, jalapeno peppers, steak sauce, relish, barbecue sauce, salsa, Tabasco sauce
Desserts	Plain cookies or cakes Jell-O Frozen: ice cream (low fat, non-dairy), low fat frozen yogurt, sherbet, sorbet, popsicle Pudding made with allowed milk	Cookies or cake with raisins, nuts, coconut or fillings Regular fat/premium ice cream Pastries-any high fat commercial pastry
Beverages	Non-cola, caffeine-free carbonated beverages Hawaiian Punch, Hi-C, Tang, Gatorade, PowerAde, Kool-Aid Weak, decaffeinated teas (except peppermint)	Alcohol Coffee, regular and decaffeinated All beverages with caffeine Colas Peppermint tea

Mouth sores

You may have mouth sores with GVHD. You may also have sores in your throat. Mouth sores can make eating and swallowing difficult.

Avoid these foods and beverages if you have mouth sores:

- coarse or hard to chew foods such as nuts, tough meats, raw vegetables, toast or crackers
- acidic foods such as citrus fruits and juices, yogurt, vinegar-based salad dressings, olives, onions, tomatoes and peppers
- acidic condiments such as mustard, ketchup, soy sauce, BBQ sauce and vinegar
- salty foods
- spicy foods
- hot foods

Nausea and vomiting

If you feel nauseous or have vomited, **you need to keep drinking fluids**. This will help to prevent dehydration and make you feel better. It is also important to try to eat during this time to help build your strength.

Here are some tips to help you drink and eat when you are not feeling well:

If you have nausea:	If you are vomiting:
<ul style="list-style-type: none"> • Sip fluids frequently. Keep fluids separate from solids. This will help keep you hydrated and settle your stomach. • Have small, frequent meals and snacks. • Serve foods and beverages cool or at room temperature. • Do not prepare foods with strong odours. • Try nutrition supplements such as Ensure or Boost 	<ul style="list-style-type: none"> • Drink lots of fluids to prevent dehydration. • Start with small, frequent sips of clear fluids such as water, clear juices, clear flat soft drinks (Ginger ale, Sprite, 7-Up), decaf tea and, coffee, and popsicles. Increase food and fluid choices as you are able to tolerate them. • When starting solids, try small portions of dry, starchy foods such as bread, crackers and melba toast

Food safety

Food safety is very important after your transplant. Food can become unsafe to eat when bacteria and other microorganisms grow on it. The “Food Safety after stem cell transplant”, booklet provides information on safe food preparation and eating.

<http://www.hamiltonhealthsciences.ca/documents/Patient%20Education/FoodSafetyStemCellTransplant-trh.pdf>

Additional information

Eating well when you have cancer: Canadian Cancer Society
www.cancer.ca

Notes



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