

Dietary Guidelines for Bone Marrow
Transplant Patients

Low Microbial Diet



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Dietary Guidelines for Bone Marrow Transplant Patients

Low Microbial Diet

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People with a reduced immune function due to chemotherapy and radiation therapy at an increased risk of developing a food-related infection. The purpose of a low microbial diet is to help you avoid specific foods that are more likely to contain infection-causing organisms while allowing maximum healthy food choices.

This diet should be followed before and after all conditioning therapy, i.e. chemotherapy and/or radiation.

- For autologous transplant patients undergoing chemotherapy treatment only, follow this diet during the first three months after chemotherapy or your transplant surgery.
- Allogeneic patients should follow this diet during and after all therapy, i.e. chemotherapy and/or radiation. The diet should be continued until all immunosuppressive therapy is discontinued and no acute or chronic graft versus host disease is present.



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	Foods Allowed	Foods to Avoid
Beverages 	<p>Commercial liquid and powder eggnog, coffee, tea, carbonated beverages, sports drinks, sterile water and ice.</p> <p>All canned and bottled and powdered beverages. All soft drinks.</p>	<p>Unpasteurized eggnog, unpasteurized fruit juice, cold tea, cold brewed coffee, tap water.</p> <p>Fresh juice from restaurant juice bars.</p> <p>Unpasteurized wine and beer.</p>
Dairy Products 	<p>All pasteurized milk and milk products, powdered milk.</p> <p>Commercially packaged cheese, pasteurized cheese, and processed cheese, i.e. cheddar and mozzarella).</p> <p>Frozen ice cream bars, pasteurized whipped cream, pasteurized soya milk and soya milk products.</p>	<p>Unpasteurized milk products, unpasteurized fresh cheese, cheese with mold, cheese containing uncooked vegetables and seeds, unpasteurized yogurt (including those with fruit and live cultures).</p> <p>Unpasteurized milk shakes, raw milk, sour cream and soft served ice cream (from machine).</p>
Vegetables 	<p>All cooked vegetables, canned vegetables, canned vegetable sauces, frozen vegetables, pasteurized vegetable juices or sauces.</p>	<p>Raw vegetables and salads, unpasteurized vegetable juices, all uncooked herbs and spices. Food from salad bars.</p>

	Foods Allowed	Foods to Avoid
Fruit and Nuts	<p>Thick skinned fruit, i.e. banana, orange watermelon, etc.; fruit should be washed and eaten within 20 to 30 minutes of peeling.</p> <p>All canned or cooked fruit or pasteurized fruit juices. Commercially produced peanut butters and roasted can nuts.</p>	<p>Thin skinned fruit like cherry, strawberries, etc. All raw nuts and dried fruits.</p>



Breads/Starches/ Cereals



All types of breads, muffins, rolls, crackers, cooked cereals, ready to eat cold cereals without nuts or dried fruit, pancakes, waffles, french toast, pasta, potatoes, rice, popcorn, tortillas, noodles, packed chips, packed cakes, etc.

All cooked legumes, i.e. lentils, beans chickpeas.

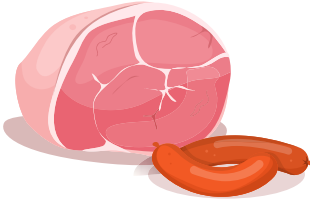
Sweet rolls or doughnuts with cream filling, cereals with uncooked nuts or dried fruits, unwrapped cakes, bread and rolled cakes served on service bins.

Uncooked grain products. Pasta salad with fresh vegetables.

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	Foods Allowed	Foods to Avoid
Meats and other Proteins 	All canned or cooked meats, fish, eggs, chicken, canned tuna, commercially-packaged salami, commercially-packaged peanut butter, meat or fish salads made with cooked vegetables, i.e. tuna salad with pickles.	Raw or half-cooked meats, fish, eggs or chicken. Dried meats and fish, i.e. beef jerky, raw hot dogs, meat or fish salads made with raw vegetables or raw fruit, i.e. tuna salad with celery, meat, hard cured salami, smoked fish, pickled fish, and sushi. Pre-made salads, i.e. chicken, tuna, seafood salad, etc.

Soups



All cooked and heated soups with any ingredients on the 'allowed foods list'.

Miso soup, cold soups if they contain any ingredients from the not allowed list.

	Foods Allowed	Foods to Avoid
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Miscellaneous



Sugar, heat-treated honey, packed jam, jelly, syrup, molasses, individually packaged candy and chocolate, salt, spices added prior to cooking, cooked nuts and seeds, vinegar, commercial canned condiments, i.e. ketchup, mayonnaise, mustard, pickles, olives, lemon juice, etc. Commercial canned baby food, canned drinks, homemade cakes, cookies, puddings, gum, canned dietary supplements, individually packed sweets.

Spices and pepper not cooked with food, uncooked nuts or seeds, uncooked garnishes, candy made with uncooked seeds, nuts, unpacked jam and honey, dried fruit, homemade condiments, i.e. homemade mustard, ketchup, mayonnaise, etc. Pickles refilled from barrels, all shared sweets and all sweets from self-service shelves.

Fats



Oils, refrigerated butter and margarine and canned cream.

Fresh salad dressings containing aged cheese or raw eggs or fresh herbs.
Fresh butter.

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Special considerations:

- Grapefruit should be avoided as it may interact with some medications.
- Special care should be taken to ensure appropriate yogurts are selected; yogurt should not contain prebiotics, probiotics, live or bio cultures or be unpasteurized.
- Black pepper and other herbs sachets should not be given to neutropenic patients.
- During hospitalization, food delivery from outside is not permitted.

Herbal and Botanical Preparations

Herbal and botanical preparations include a variety of products derived directly from plants. They may be sold as tablets, capsules, liquid extracts, powders and topical preparations. There are no manufacturing regulations for the cleanliness or purity of these products. Therefore, there is a danger that the products may be contaminated with fungus, bacteria, parasites, or other chemicals, which can be life-threatening to a person with an impaired immune system, including people receiving chemotherapy or recovering from a transplant surgery.

Meal Planning Tips

Small, frequent meals may be easier for you to tolerate than larger meals.

If you can only tolerate small quantities of food, choose high-calorie foods like full fat milk products, nutritional supplements and starchy foods.

Consult your dietician and physician if you develop any of the following:

- If you are losing weight because you cannot eat enough; commercial supplements may be helpful, particularly between meals.
- If you experience diarrhea, gas or bloating stomach pain after drinking or eating milk or milk products; you may need to avoid these foods.
- In case of presence of gastrointestinal graft-versus-host disease (GVHD) symptoms, avoid the following:

- High fat foods, including fried foods, rich sauces and rich desserts.
- High fiber foods, including legumes, nuts, and whole grain cereals with more than three (3) grams of fiber per serving.

Personal Hygiene and Food Safety

- Wash your hands before food preparation and eating.
- Use clean, sanitized utensils to handle cooked or ready to eat food.
- Cook food well, especially meats, chicken, fish and eggs.
- Keep hot foods hot. Keep cold foods cold.
- Do not allow food to stand at room temperature for more than one (1) hour.
- Use different cutting boards for raw and cooked foods and avoid wooden cutting boards.
- Wipe the tops of cans with a clean cloth before opening.
- Use a plastic sealing bandage or plastic gloves if you have a cut or open sore on your hand.
- Thaw frozen meats in the refrigerator or microwave, not at room temperature.
- Check foods for expiration dates. Do not buy foods if the 'use by' or 'sell by' date has already passed.
- Wash fruits and vegetables before eating or cooking.
- Clean the inside of your refrigerator regularly with soap and water to control mold.
- Discard all milk, juices and water bottles one hour after opening.
- Ensure all milk, dairy products, juices and honey are pasteurized.
- Never re-freeze thawed food.
- Avoided leftover reheated foods.

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RESOURCES

Dietary Management of Neutropenic Patients

Approved by: The Policy and Guideline Committee; revised date: September 2010, Leicestershire Nutrition and Dietetic Service, NHS, UK; website www.lnds.nhs.uk

American Dietetic Association. (2010). Hematopoietic stem cell nutrition therapy. Retrieved May 19, 2010, from

http://www.nutritioncaremanual.org/vault/editor/Docs/HSC Nutrition Therapy_FINAL.pdf

Dietary advice for patient with neutropenia (revised January 2012) .leukemia and lymphoma research, 39-40street London WC1R4TH www.beatingbloodcancer.org.uk

Food safety for patient who are immunosuppressed. Stony Brook University medical center. www.stonybrookcancercenter.org

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Published by:

 **Patient and Family Education Committee**

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