

Guide to the
**OUTPATIENT
LOW MICROBIAL
DIET**



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GUIDE TO THE OUTPATIENT LOW MICROBIAL DIET



What Does the Term “Low Microbial” Mean?

Microbes are tiny living organisms, such as bacteria and fungi, found in foods and liquids. In most processed foods (e.g. canned foods, cooked foods) microbes have been eliminated, reducing the risk of food-borne illness. These “low microbial” foods are safer to eat than raw, fresh or unprocessed foods (e.g. untreated fresh fruits and vegetables, raw or undercooked meats or tap water) which – if not handled properly – have a greater potential for causing infection and food-borne illness.

Why do I Need to Follow a Low Microbial Diet?

Cancer treatment with high-dose chemotherapy, radiation therapy and/or bone marrow transplant can destroy cells your body needs to fight infection. As a result, you are more susceptible to food-borne illness, especially while you are neutropenic (e.g. low neutrophil/White Blood Cell count). Following such treatments, your counts will recover and, although your ability to fight infection is improved, you must continue to handle fresh foods carefully to prevent food borne illness.

Dining Out



- Choose restaurants with a reputation for cleanliness.
- Eat early to avoid crowds.
- If choosing fast foods, **request that your selection be made fresh and without raw vegetables** (e.g. no lettuce, raw tomatoes, raw onions).
- Avoid buffets, smorgasbords, potlucks, salad bars and sidewalk vendors.
- **Avoid raw fruits or vegetables.** (This includes raw lettuce or tomato on a hamburger or sandwich).
- Request all fresh garnishes be left off of your plate (e.g. lettuce liner or parsley).
- Avoid ice cubes.
- Avoid soft-serve ice cream.

Careful Food Preparation



- **Wash hands before and during food preparation.**
- **Wash hands before eating.**
- Use paper towels – not dish towels – to dry your hands.
- Whenever possible, patients on the diet should have someone prepare the fresh/raw foods for them.
- Wash and scrub raw fruits and vegetables under cold running water and peel them, if possible, before consuming them.
- **Packaged fresh vegetables must also be washed – even if they state “triple washed” on the package.**
- Use different cutting boards for cooked vs. raw foods.
- Keep another cutting board for raw meats only.
- Rinse raw poultry before cooking.
- Marinate meats in the refrigerator. Discard any leftover marinade or boil to use at the table.
- Do not taste raw or partially cooked meat, poultry, fish, shellfish or egg mixtures.
- Refer to USDA guidelines for temperature levels for cooking meats and egg dishes.

How Long do I Need to Follow a Low Microbial Diet?

For patients having **chemotherapy or radiation**, you will need to follow the diet until your treatment is finished and you are no longer “neutropenic.” (In other words, your neutrophil count must be greater than 1,500 per uL of blood). Also, your physician may want you to continue this diet – even if you are no longer neutropenic – if you are expected to have subsequent chemotherapy/radiation in a short period of time.

For patients that have had an **Autologous Stem Cell Transplant**, you must remain on this diet for three months after day zero (e.g. the day of transplant).

For patients that have had an **Allogeneic Stem Cell Transplant or Cord Blood Transplant**, you must remain on the diet until you are off of immunosuppressive therapy (e.g. finished with your Tacrolimus/FK-506, and/or steroid therapy).

What Foods / Beverages Are Safe to Eat?

The following chart lists foods which are safe to eat and foods which should be avoided if your doctor orders the low microbial diet for you when you are discharged from the hospital.



The Outpatient Low Microbial Diet

Food Group	Foods Allowed on Meal Plan	Foods Not Allowed
Cereals, Other Grains, Potatoes	Ready-to-eat cereals, cooked cereals. Toast, variety of breads, muffins, biscuits, bagels, danish, crackers, macaroni (pasta), noodles, barley, potato.	Uncooked macaroni, noodles, barley or potatoes. Raw dough or batters. Brewer's Yeast – uncooked. Grain products with seeds or nuts added after cooking or baking.
Fruits	Pasteurized fruit juice. Well washed, unblemished fresh fruit including apples, bananas, oranges, melons, peaches, pears and plums. Cooked or canned fruits. Dried fruit.	Fruit juice that is not pasteurized. Raw fruit that has not been well washed. Raw grapes, cherries and berries.
Vegetables	Well washed, unblemished fresh vegetables. Cooked or canned vegetables.	Raw vegetables that have not been well washed. Vegetable sprouts. Raw scallions or leeks.
Meat, Fish, Poultry, Eggs, Cheese, Nuts and Legumes	Fresh meat, fish, and poultry cooked to well-done. Determine with Internal temperature reading of : Beef and pork: 160° F, Poultry: 180° F Fish: 160° F or until meat is white and flaky. Hard boiled or well cooked eggs. Freshly prepared egg salad or meat salads. Cottage cheese. Commercially packaged mild/medium cheddar cheese, Swiss cheese, American cheese. Commercially packaged cold cuts. Processed nuts (e.g. canned or bottled). Canned or cooked legumes. Hot dogs, precooked or smoked ham, sausages heated to 160° F. Commercially packaged peanut butter. Cooked tofu.	All raw or undercooked (rare or medium, medium-well done) meat, fish, poultry, and eggs. Smoked fish, lox, pickled fish, raw clams, or oysters. Under cooked or raw eggs. Sharp cheddar cheese (uncooked), blue cheese or Roquefort cheese. Soft cheeses like feta, brie, camembert. Cheeses and cold cuts sliced at a delicatessen eaten unheated. Nuts with shells. Uncooked or unbaked seeds or legumes. Raw tofu.
Milk and Non-Cheese Milk Products	Pasteurized milk, soy milk*(see note below), Lactaid milk®. Pasteurized yogurt, ice cream, sherbet and pudding.	Unpasteurized milk or products made with unpasteurized milk.

Keep a Clean Kitchen



- **Sanitize** cutting boards, knives and appliance blades after each use with the sanitizing solution mixture.
- Keep appliances and countertops free of food particles.
- If you have a dishwasher, use it to wash your dishes instead of washing dishes by hand. The high water temperatures and the heat from the drying cycle are more effective at sanitizing your dishes.
- If you wash dishes by hand, wear rubber gloves and use hot water to wash and rinse the dishes. Allow dishes to air dry whenever possible to reduce bacteria that may contaminate dishes from dish towels.
- Replace dish cloths and dish towels daily: sanitize them in the sanitizing solution.
- Replace sponges at least weekly. These also can be cleaned with the sanitizing solution if you plan to use them again.

Store Food Safely:



- Keep your refrigerator temperature at 34-40° F.
- Keep your freezer temperature below 5° F.
- Sanitize the shelves and doors of your refrigerator and freezer often.
- Use the following mixture for sanitizing: Mix three tablespoons unscented bleach with one quart water.
- Clean spills in the refrigerator IMMEDIATELY.
- Discard freezer-burned foods. They will look dry and discolored and may or may not have visible ice crystals.
- Refrigerate all products marked “Keep Refrigerated.”
- Thaw frozen foods in the refrigerator or microwave: NEVER on a countertop at room temperature.
- Keep all perishables cold until you are ready to use them.
- Discard foods past their “Use By” dates.
- Discard any foods with mold present.
- Refrigerate leftover cooked foods immediately after a meal in an uncovered, shallow container. Cover after cooled. Use leftovers within 1-2 days.
- Freeze foods to slow bacterial growth.
- Discard any cans that are bulging, leaking or deeply indented.
- Rotate food stock; use older items first.
- Do not store food under the sink.
- Do not store chemicals and cleaning solutions near food.

Always remember: when in doubt, throw it out!!!

The Outpatient Low Microbial Diet

Food Group	Foods Allowed on Meal Plan	Foods Not Allowed
Liquid Nutritionals	All canned products or powders made using pasteurized milk or water from the approved list.	None.
Fats	Butter, margarine, vegetable oil, salad spread, cream cheese, sour cream.	Blue cheese-containing spreads or condiments. Salad dressings made with raw egg (like Caesar salad dressing) and/or aged cheeses.
Desserts	Cakes, pies, donuts, cookies, danish. Cooked or canned pudding or custard. Hard ice cream. Jello® or Jello® molds with allowed fruits (see above).	Soft-serve ice cream. Unrefrigerated cream and custard filled desserts.
Sweets	Sugar, syrups, processed honey, candy.	Raw honey.
Soups, Sauces, Gravy	Soups, sauces and gravy.	None.
Spices	Salt, lemon juice, ground black pepper, plain dried spices. Pepper blends cooked in food. Well washed fresh herbs.	Dried pepper blends sprinkled on food after cooking. Unwashed fresh herbs. Herbal and nutrient supplement preparations.
Water	Tap water. Distilled water. Boiled well water. Bottled water brands on approved list. (Refer to bottled water list on the next page.)	Well water that has not been boiled. Bottled water not on approved list.
Other Beverages	Hot coffee, hot tea, hot cocoa. Soda pop. Pasteurized fruit and vegetable juices.	Unpasteurized fruit or vegetable juices.

***Note:** If you have a history of breast cancer and are interested in including soy products in your diet, please consult with your physician.

Water, water
everywhere...



but is it safe to drink?

Tap water that is rigorously tested on a daily basis for parasites, bacteria and viruses – such as that of the Erie County Water Authority which works in conjunction with the Buffalo Water Authority serving Roswell Park Cancer Institute – **is considered safe for you to drink as an outpatient.**

Untreated well water is NOT! It may contain a variety of bacteria or viruses that would be potentially life threatening. **Well water must be boiled** for you to safely consume it or to make beverages with it, such as powdered drink mixes.

Bottled Water can be safe **if** you choose a brand that has been treated with distillation, reverse osmosis or has been treated using an “Absolute” one-micrometer filter, which would reliably remove potentially harmful bacteria and viruses.

With this criteria in mind, the following list of bottled waters are considered to be safe for you to drink:

- Acadia (Purified drinking water or pure steam distilled water)
- Aquafina
- Dasani
- Dannon Natural Spring Water
- Deer Park
- Great Bear
- Ice Mountain
- Poland Spring
- Wegmans/Mayer Brothers

WHAT ELSE
CAN I DO TO
PREVENT
FOOD-BORNE
ILLNESS?



Be a Smart Shopper

- Check “sell by” and “use by” dates when you buy meats, dairy products, eggs, etc.
- Have deli selections freshly sliced and use them within 1-2 days.
- Always heat freshly sliced deli meats and cheeses to 165° F prior to consumption. (Prepackaged deli meats and cheeses may be consumed without heating.)
- Do not use cracked or unrefrigerated eggs.
- Check foods for off-odors, mold or contamination.
- Pick up refrigerated and frozen items last when shopping to reduce warming or thawing.
- Keep a cooler in the car to prevent refrigerated and frozen foods from thawing or warming on the way home.
- Reject cans that are dented, swollen or rusted.
- Avoid foods from the bulk food section of the grocery store.
- Avoid unrefrigerated cream-filled or custard-filled baked goods that are not shelf-stable.
- Select unblemished fruits and vegetables.
- Do not taste free food samples while you shop.
- Store groceries promptly.