

HEALTHY EATING

If you are maintaining your weight with your current eating habits, you most likely do not need a special diet. The key to nutrition is balance. It is most important to maintain your weight during treatment. You may find that you need to eat smaller meals more often. Well-intentioned friends and family have probably recommended foods you should be eating or avoiding and supplements you should be taking. They may give you any one of dozens of books or articles on the subject of cancer and nutrition. Be wary. Just because something is printed or posted on a website doesn't make it true. Your goal should be to eat well during your treatment and beyond.

Research has Proven that Patients Who Eat Well

- Are better able to tolerate the side effects of treatment and recover from them more quickly.
- Maintain their strength, prevent their body tissues from breaking down, and help rebuild normal tissue affected by treatment.
- Have fewer infections, and recover more quickly from those that do occur.

"Eating Well" Means

- Eating enough calories to prevent weight loss and maintain your weight. When undergoing treatment, ***You Should Not Try To Lose Weight!*** Your body is undergoing stress, and to help your body tolerate the stress, you need to maintain your current weight, *Even If You Are Overweight!*
- Eating enough protein to repair the tissues damaged by radiation and chemotherapy and to fight infections. Protein is needed for repair and replacement of all body tissues: muscle, skin and organs. The typical American diet contains more than enough protein.
- Taking in plenty of fluids.
- The best "diet" includes foods from all the food groups with a focus on unprocessed foods. Balance is key.
- Fruits and vegetables are the best sources of most of our vitamins and minerals. They also contain carbohydrates, fiber, phytonutrients, water and are fat-free.
- Carbohydrates give you energy and are the basis of all healthy diets. Good choices include whole grains, fruits, and vegetables every day.

How to Increase Calories in Your Diet

- A teaspoon of butter will add 45 calories; mix it into hot foods such as vegetables, rice, cooked cereal.
- Mayonnaise has 100 calories per tablespoon...almost twice as much as salad dressing. Use in salads, in eggs, or with lettuce on sandwiches.
- Use peanut butter (one tablespoon is 90 calories and it is a good source of protein). Spread on fruit such as apples, bananas, pears or stuff celery with it.
- Add whipping cream (60 calories) to desserts, puddings, hot chocolate, jello.
- Add raisins, dates, chopped nuts or brown sugar to hot or cold cereals.

About Nutritional Myths...

The importance of sound nutrition and lifestyle choices are being proven in the *prevention* of cancer; however, we still need more research on nutrition in the *treatment* of cancer. If you choose to try special vitamins, herbs or supplements in addition to your medical treatment, please inform your doctor or nurse to determine if this is harmful to you or interferes with your treatment.

We do recommend you take multivitamins daily to aid in your nutritional needs.

HIGH PROTEIN MEAL PLAN GUIDELINES

You must maintain adequate nutrition throughout your Chemotherapy and Radiation Therapy treatments. Poor nutrition and eating habits contribute to poor tolerance to therapy and subsequent fatigue.

Eating enough protein is important when your body is fighting off or recovering from debilitating illness or radiation therapy. Protein builds muscle tissue and also helps your immune system fight infections. You can obtain protein from animal or vegetable sources. Eat generous portions at each meal.

Animal Protein

- Fish, chicken, turkey, red meat (veal, lamb, beef, pork, rabbit or venison) and organ meats, gizzards
- Eggs, cheese, milk and other dairy products

Vegetable Proteins

- Cooked beans (kidney beans, black-eyed peas, pinto beans, soybeans or garbanzo beans), falafel
- Split peas and lentils
- Tofu, tempeh, miso and seitan (flavored wheat gluten)
- Fortified soymilk (rice milk, cashew milk or almond milk with added protein powder)
- Nuts (walnuts, pecans, cashews, almonds or brazil nuts) and nut butters (peanut butter or cashew butter)
- Seeds (sesame or pumpkin) and seed butters (tahini)

Suggestions to Increase Protein

- Use hard-cooked eggs to make egg salad sandwiches; add sliced or diced hard-cooked eggs to salads; eat desserts that are made with eggs; add eggbeaters or protein powder to milkshakes; and try French toast for sandwiches instead of regular bread.
- Angel food cake is a good protein source and may be a break from meats and beans.

- Add diced meats, chopped chicken or turkey to soups, salads and sauces. Add canned tuna, chicken, salmon, sardines, shrimp or crabmeat to casseroles and salads.
- Grate cheese into sauces, soups, omelets, baked potatoes and steamed vegetables; add shredded cheese to tossed salad, chicken salad or potato salad; try cottage cheese with fruit, tomatoes or salsa; snack on cheese and crackers, peanut butter and crackers, or cottage cheese with fruit between meals.
- Use milk, Lactaid™ milk, fortified soymilk or nut-based milks in hot or cold cereals, creamed soups and fruit shakes. Eat yogurt with dry cereal or fruit. Freeze yogurt and defrost slightly for a cool summer snack.
- Spread butter or nut butters on bread, toast, crackers, fresh fruit or raw vegetables.
- Add beans to soups and salads; spread bean dip on bread, tortillas, crackers or raw vegetables; add cubed tofu, tempeh or chopped seitan to soups, salads and casseroles.
- Add dried milk powder to milk for “extra strength milk.”

Weight Maintenance

You can add significant calories to your diet and maintain your weight through Radiation Therapy by incorporating foods from the following list.

- Ice Cream, 1 cup = 250 calories
- Corn oil, 1 tablespoon = 120 calories
- Molasses, 1 ounce = 105 calories
- Mayonnaise, 1 tablespoon = 101 calories
- Peanut butter, 1 tablespoon = 95 calories
- Sour cream, 1 tablespoon = 70 calories
- Jelly, 1 tablespoon = 50 calories
- Cream cheese, 1 tablespoon = 50 calories
- Honey, 1 tablespoon = 55 calories
- Whipped cream, 1 tablespoon = 53 calories
- Butter, 1 tablespoon = 35 calories

In order to add extra protein to a milkshake, you may consider:
Milk – 1 cup, ice cream – 1 cup, or peanut butter – 1 tablespoon.

Highly Recommended Nutritional Supplements

- Ensure, Ensure Plus, and Ensure puddings
- Sustacal, Sustacal HC, and Sustacal puddings
- Nutrin (by Carnation)
- Boost

Carnation will deliver high nutritional supplements to your home simply by ordering through the following toll-free number: 1-800-776-5446.

Other Tips:

- Eat every few hours in small amounts, and snack whenever possible,
- For beverages with meals, utilize higher calorie drinks like milk products and juices, don't fill up on water at mealtime.

If you have any nutritional questions, please ask for assistance.

HIGH PROTEIN MILKSHAKES

SWEET SHAKES

Banana Nut Milkshake

1 cup Vanilla ice cream
 1 pkg. Vanilla instant breakfast
 4 oz. Half & Half Cream
 ½ cap Black walnut extract
 ½ Ripe banana

Calories: 640 Protein: 14 grams

Peppermint Milkshake

1 cup Vanilla ice cream
 1 pkg. Vanilla instant breakfast
 4 oz. Half & Half Cream
 ½ cap Peppermint extract
 2 drops Red food coloring

Calories: 640 Protein: 14 grams

Coffee Milkshake

1 cup Vanilla ice cream
 1 pkg. Vanilla instant breakfast
 4 oz. Half & Half Cream
 1 pkg. Instant coffee dissolved in 1 tbsp. Hot water

Calories: 640 Protein: 14 grams

Chocolate Mint Milkshake

1 cup Vanilla ice cream
 1 pkg. Chocolate instant breakfast
 4 oz. Half & Half Cream
 ½ cap Peppermint extract

Calories: 640 Protein: 14 grams

Chocolate Almond Milkshake

1 cup Vanilla ice cream
 1 pkg. Chocolate instant breakfast
 4 oz. Half & Half Cream
 ½ cap Almond extract

Calories: 640 Protein: 14 grams

Peach Milkshake

1 cup Vanilla ice cream
1 pkg. Vanilla instant breakfast
4 oz. Half & Half Cream
2 Canned peach halves
Calories: 525 Protein: 12 grams

Vanilla Milkshake

1 cup Vanilla ice cream
1 pkg. Vanilla instant breakfast
4 oz. Half & Half Cream
½ cap Vanilla extract
Calories: 640 Protein: 14 grams

Chocolate Milkshake

1 cup Vanilla ice cream
1 pkg. Chocolate instant breakfast
4 oz. Half & Half Cream
3 tbsp. Chocolate syrup
Calories: 780 Protein: 14 grams

TART SHAKES

Orange Frappe

2 oz. Lemonade
2 oz. Orange juice
4 oz. Half & Half cream
½ cup Orange sherbet
1 jar Gerber apricots with tapioca
Calories: 450 Protein: 5 grams

Raspberry Fluff

1 crt. Raspberry yogurt
2 oz. Cranberry juice
4 oz. Half & Half cream
Calories: 430 Protein: 13 grams

Pineapple-Orange Fluff

1 crt. Pineapple yogurt
½ cup Orange sherbet
Calories: 370 Protein: 11 grams

Lemon Flip

4 oz. Buttermilk
4 oz. Lemonade

$\frac{3}{4}$ cup Vanilla ice cream
Calories: 320 Protein: 8 grams

LOW RESIDUE DIET

Information for Patients Receiving Radiation to the Abdominal or Pelvic Area

This Low-Residue Diet provides food that will produce only a moderate amount of internal residue and therefore a reduced amount of stool in the lower bowel. Diarrhea can occur two to three weeks after the treatment begins, causing malnutrition as well as fluid and electrolyte imbalances. The combination of a Low Residue Diet and anti-diarrhea medication will help you keep this unpleasant side effect under control. Please report any diarrhea to your radiation oncology team.

You can take up to 8 tablets of Imodium, one after each loose stool (available over the counter without a prescription) a day. Take one after each loose stool and continue until diarrhea stops. Start taking Imodium cautiously as it can be very constipating. The following dietary instructions will help:

- Increase your fluid intake by drinking plenty of water each day.
- Eliminate milk and milk products until diarrhea is under control.
- Eat smaller, more frequent meals (example: 5 smaller meals as compared to 3 large ones).
- Avoid raw vegetables and fruits. Avoid foods with a high roughage content (salads, corn, etc.).
- All vegetables should be cooked.
- Add nutmeg to foods. This spice may decrease stomach irritability.
- Reduce alcohol consumption.
- Avoid tobacco products.
- Avoid extremely hot or cold foods. Foods served warm or at room temperature are more easily tolerated.
- Avoid items that can produce gas or cause cramps, such as carbonated drinks, chewing gum, beans, cabbage, highly spiced foods, skipping meals and swallowing air while talking and eating.
- Include foods high in potassium - bananas, potatoes, red meat, apricot nectar and vegetable juices.
- Eliminate caffeine from your diet (coffee, tea, cocoa, soda)

Special Considerations

If a low fiber or low residue diet results in abdominal cramps or discomfort, notify the dietitian or physician immediately.

Low Residue Diet Guidelines

Group	Recommend	Avoid
Milk & milk products (limit milk	All milk products	

to 2 cups daily)

Vegetables (3 or more servings daily)

Lettuce; vegetable juice without pulp; the following cooked vegetables: yellow squash (without seeds), green beans, wax beans, spinach, pumpkin, eggplant, potatoes, without skin, asparagus, beets, carrots

Vegetable juices with pulp, raw vegetables except lettuce, cooked vegetables not on **Recommend** list

Fruits (2 or more servings daily)

Fruit-juices without pulp, canned fruit except pineapple, ripe bananas, melons

Fruit-juices with pulp, canned pineapple, fresh fruit except those on **Recommend** list, prunes, prune juice, dried fruit, jam, marmalade

Starches-Bread & grains (4 or more servings daily)

Bread and cereals made from refined flours, pasta, white rice

Whole-grain breads, cereals, rice, pasta; bran cereal; oatmeal

Meat or meat substitutes (5 to 6 oz daily)

Meat, poultry, eggs, seafood

Chunky peanut butter, nuts, seeds, dried beans, dried peas

Fats and oils (servings depend on caloric needs)

All oils, margarine, butter

Coconut

Sweets and desserts

Anything not on Avoid list

Desserts containing nuts, coconut

Miscellaneous

Anything not on Avoid list

Popcorn, pickles, horseradish, relish

Sample Menu

Breakfast

orange juice *1/2 cup*
cornflakes *i*
poached egg
white toast *1 slice*
margarine *1 tsp*
jelly *1 Tbsp*
skim milk *1 cup*
coffee *3/4 cup*
sugar *1 tsp*
non-dairy creamer
salt/pepper

Lunch

fish *3 oz*
mashed potatoes *1/2 cup*
cooked green beans *1/2 cup*
white bread *1 slice*
margarine *1 tsp*
jelly *1 Tbsp*
applesauce *1/2 cup*
coffee *3/4 cup*
sugar *1 tsp*
non-dairy creamer
salt/pepper

Dinner

chicken breast *3 oz*
medium baked potato without skin
cooked carrots *1/2 cup*
white bread *1 slice*
margarine *1 tsp*
jelly *1 Tbsp*
canned peaches *1/2 cup*
skim milk *1/2 cup*
coffee *3/4 cup*
sugar *1 tsp*
non-dairy creamer
salt/pepper

This Sample Diet Provides the Following

Calories	1576	Fat	45 gm
Protein	89 gm	Sodium	2817 mg

NUTRITION TIPS

Why is nutrition important for people with cancer?

There are many reasons. First, when someone has cancer, there are often changes in the way their body uses food. These changes are usually caused by the cancer itself. Second, there may also be a greater need for food because of the effects of treatments like surgery, radiation, and chemotherapy. Some cancer patients need up to twenty percent more calories and fifty percent more protein than they needed before having cancer. Third, people have a much easier time tolerating their treatments for cancer when they are well nourished. They usually have less side effects, better wound healing, fewer infections, and are able to be more active.

So, what should I eat? What should I not eat? What vitamins must I take?

First of all, if you are getting treatment for cancer, this is not the time to leave out any foods. You're at a high risk of getting undernourished. You simply cannot afford to restrict your diet unless it's absolutely medically necessary. (Worrying about your cholesterol level may have to wait!) This IS the time to eat whatever appeals to you. There are no "bad foods" except the ones you don't like.

Knowing what to eat can be confusing. Your five nutrition priorities are as follows:

1. Drink enough fluids. Most adults need about six to eight, 8-ounce glasses of fluid per day. If you have fever, vomiting, or diarrhea, you will need more to replenish losses. Fluids can be gotten from water, juices, milk, sports drinks, teas, soups, gelatin, sherbet, popsicles, ices, and liquid supplements like Ensure, Sustacal, Boost, etc. If most of your fluid comes from things other than water, coffee, or tea, the next step will be easier.

2. Get enough Calories. Calorie needs vary a great deal from person to person. In general, if your weight is stable, it is safe to assume that you are meeting your calorie needs. If you are losing more than a few pounds during treatment, you are not getting enough calories.

A few simple changes can help increase the calories in what you eat and drink. Drinking high calorie beverages is easy, and the calories will add up quickly. Using whole milk instead of skim, and using full-fat dairy foods instead of the "lite" versions will also increase calories with minimal effort. You may wish to try adding high calorie items to your favorite foods, like butter or margarine, gravies, sauces, cheese, or nuts. All of these suggestions will give a big calorie boost to what you already eat and drink. These kinds of changes are easiest. If you do them, you won't have to force yourself to eat a

greater volume, which is much more difficult. If you have tried these suggestions and are still losing weight, ask your nurse for a referral to the nutritionist.

3. Get enough protein. Like calories, protein needs are different for each person. If you notice you are losing weight and/or muscle tone, or if your doctor says your blood proteins are too low, you are not getting the protein you need. Remember that surgery, radiation, and chemotherapy all cause some degree of damage to body tissues. Protein is what is used to repair the damage, and to make new tissue. Protein is listed as number three, because without enough calories, protein will be used for energy, instead of for repairing damaged tissue.

Foods high in protein include poultry/meats/fish, dairy products, eggs, cheese, tofu, soy milk, dried beans, and nuts. Choose several servings per day from a variety of high protein foods. If you are still falling short, make an appointment with the nutritionist.

4. Get your vitamins and minerals. These are important to make sure your body has the best chance to fully use the food you are giving it. It is like the motor oil in your car. It is needed for smooth functioning, but if the gas tank is empty, it has little value in helping things "go". Although some cancer patients can meet their vitamin and mineral needs with food alone, most could probably benefit from taking a "Centrum" or "One-a-Day" type supplement. Look for a multivitamin-mineral supplement with about 100% of the USRDA for most nutrients. Take it with food. Be sure to let your doctor know you are taking a supplement. DO NOT take any higher doses of vitamins or minerals without first consulting your doctor and/or nutritionist. Supplements can be harmful at high doses and they can interfere with your treatment.

5. Be extra careful about food safety. Most cancer treatments cause temporary damage to the immune system. This is not a good time to get a food-borne infection! Be extra cautious. Always wash hands thoroughly (both thumbs and all fingers) before preparing food, before eating, after using the toilet, and after handling pets. Do not keep foods at room temperature for long periods of time. Keep cold foods cold, and hot foods hot. Take note of the smell and appearance of food that has been stored. If you think it may be spoiled, don't take a chance. As they say, "when in doubt, throw it out". Do not eat raw meats or fish, or raw eggs. If eating ground meat, be sure it is cooked to well-done. Be sure that raw eggs and meats that will be cooked are kept away from other foods that will be eaten uncooked. Use separate cookware and kitchen utensils to avoid cross-contamination (i.e. don't use the knife that just touched raw chicken to cut the cucumbers for your salad). After cooking eggs, meats, fish or poultry, put the cooked food on a clean plate. Scrub all cooking utensils with hot soapy water, rinse well, and allow to air dry.

Do nutrition supplements such as Ensure, Sustacal, and Boost have a funny taste and smell?

The smell and "funny" taste are caused by the vitamins and minerals that are added to the supplements. If you find this unpleasant, try a homemade milk shake with your favorite ice cream. You can replace the vitamins and minerals with an oral

multivitamin/mineral supplement. If swallowing is a problem, take children's chewables, and double the dose. Be sure to check with your physician before taking any supplements.

Tips For When Food Doesn't Taste Good

Chemotherapy, radiation therapy or the cancer itself may cause this problem. Sometimes people complain of a bitter or metallic taste in their mouth. Other times the food "tastes like nothing". For some people foods can taste too sweet or too salty. Taste preferences may even change from day to day. This is not only frustrating for the patient, but those who prepare meals for them. Some simple suggestions may make mealtime more enjoyable:

- Add small amount of seasonings to foods, such as oregano, basil, cinnamon or ginger. If you do not have mouth sores you may even want to try spicier foods at this time.
- Many foods including meaty and poultry taste better if they are served cold or at room temperature instead of hot.
- Marinate meats to enhance or disguise flavor. Try citrus juices, wine, and vinegar based dressings or marinades.
- Tart foods with distinctive tastes may be added to foods to help cover the metallic taste. Try adding orange, lime or lemon juice to fruit salad, salsa, sauces for pork or chicken, stir fried or cooked vegetables and oil-based salad dressing. Try vinegar, lemon juice or pickles to creamy dressings for macaroni, potato, tuna, chicken, egg or coleslaw. Lemon juice added to chicken broth, broth based soup, gazpacho and guacamole enhances the flavor.
- Rinse your mouth with fruit juice, wine, tea, ginger ale, club soda or salted water before eating. This will help clear your taste buds.
- Experiment with new foods or cuisines you may not have tried before.
- Find substitutes for foods that taste bad to you. For example substituting chicken, turkey, eggs, cottage, cheese, yogurt or tofu for red meat.
- Avoid eating no-salt-added or low salt varieties of canned soups or vegetables (unless your physician has instructed you to do so). Soups and vegetables tend to have a metallic taste if you omit salt in processing.
- If the metallic taste in your mouth persists, avoid using metal dishes and utensils. Try using plastic eating utensils.
- Suck on lemon drops, mints or chew gum after eating to get rid of undesirable tastes that linger in the mouth.
- Fruit juice, Popsicles, fruit sorbet, sherbet and fruit smoothies usually taste good and are a great source of fluids.

Feeling queasy?

Nausea is often caused by the smell of some foods. Hot foods have a stronger aroma and seem to be more of a problem. If the smell of food seems to bother you, try replacing hot meals with nourishing cold meals instead. Here are some examples of foods which are well tolerated:

- Cold salad plates; (For example, chef salad type)
- Chicken/tuna/egg salad plate
- Chicken/tuna/egg salad sandwiches
- Cold-cut sandwiches
- Cheese/egg sandwiches
- Cold soups like potato leek soup or gazpacho
- Puddings, ice cream, milk shakes
- Cottage cheese and fruit
- Cheese and crackers
- Peanut butter and crackers, peanut butter and jelly sandwiches