A NUTRITION GUIDE FOR
PATIENTS, FAMILIES,
AND FRIENDS

DISCLAIMER
We are providing information in this web site with the aim of helping patients and families make informed choices about nutrition.

This guide is not tailor-made for any particular individual; patients and families are advised to talk to their physicians before starting any nutritional intervention.

The authors have made every effort to ensure that the recommendations in this web site are accurate and in keeping with general standards of nutrition practice at the time the website was established. They cannot be held liable or responsible for errors or omissions, or for damage to individual patients which a patient or family may think relates to interpretation of the information contained herein.

We stress that patients and families should use this as a general guide, but consult with their personal health care advisors on the nutritional path which they may wish to follow.
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INTRODUCTION

Often, people with cancer will lose appetite and weight. Sometimes it is the first problem noticed by the patient, occurring very early in the course of the illness.

Changes in appetite and weight can have many causes. They include:
- Anemia
- Anxiety and depression
- Abdominal distention
- Chemotherapy or radiotherapy side effects
- Constipation
- Decreased food absorption (so-called “malabsorption syndrome”)
- Decreased physical activity
- Diarrhea
- Nausea
- Pain
- Pain medication side effects
- Slowed stomach emptying which makes you feel “full” quickly
- Sores, infections or dryness in the mouth or throat, sometimes cause by chemotherapy or other treatment

A few less common causes may be considered by your health care team and can be treated. Therefore, it is important to diagnose them, if present.

The major cause of loss of appetite and weight may relate directly to the presence of cancer. We now know that the body’s reaction to the presence of a cancer often creates a state of chronic inflammation which is the principal cause of loss of appetite and change in body metabolism. Recent evidence also suggests that the cancer itself can produce substances which lower appetite and directly cause breakdown of fat and muscle tissue, with consequent loss of function.

Until recently, the effects of cancer on appetite and muscle loss were thought to be virtually untreatable. Today, we are positive about the possibilities of controlling or reversing appetite and weight loss. Indeed, treatment approaches and research studies active in our Cancer Nutrition Rehabilitation (CNR) centre are addressing this very problem.
Appetite Stimulants

Often people feel full after a small meal because the passage of food from the stomach to the intestine is delayed. Consequently, we often recommend a gastric stimulant to correct this problem and to help increase your appetite.

The following drugs can stimulate appetite:

Gastrointestinal emptying (delayed) adjunct or Peristaltic stimulant:

Metoclopramide is a medicine that increases the movements or contractions of the stomach and intestines. This drug may be used to help improve appetite. Your doctor may recommend domperidone, or erythromycin type antibiotics which also stimulate stomach emptying.

Appetite Enhancers

There are other drugs which may stimulate appetite by reducing factors which lower appetite. These include:

Corticosteroid Drugs: Decadron, prednisone, prednisolone, or methylprednisolone will increase appetite in many patients. Their effect usually lasts for only a few weeks. Because of long-term side effects of these drugs which can increase the loss of muscle tissue, we prefer to use them for short periods of time if at all possible.

Progestational Drugs: Megestrol is a progestational drug which can increase appetite, stop weight loss, and help some patients gain weight. About 40% of patients will benefit from taking megestrol for poor appetite and weight loss. Unlike corticosteroids, patients who respond can continue to take these drugs for months. Since these drugs might slightly increase the risk of developing a blood clot in the leg (“deep vein thrombosis”), with subsequent risk of a clot breaking off to the lung, we usually advise people who have had previous clots, or who we think are prone to develop clots, to take these drugs with caution.

Vitamins

A multi-vitamin mineral supplement is usually recommended at the CNR center as many patients are not eating well balanced meals throughout the day and may be lacking particular nutrients which the body normally requires. At present, high dose supplements of the antioxidants A, C and E are not recommended during chemotherapy or radiotherapy as they may interfere with these treatments (making treatment less effective). However, obtaining these vitamins naturally from food presents no risk.
**Exercise**

As you will note through reading other sections, the CNR Center is very positive on the value of a regular exercise programme.

We can advise you on a tailored exercise/rehabilitation program addressed to your specific needs. Exercise plays an important role in maintaining strength and enables muscle to make use of nutrients; good nutrition and muscle use go hand in hand. A daily activity program can also help to stimulate the body’s digestive functions and may help to increase the appetite, lower chemotherapy’s adverse effects and counter fatigue.

**Exercise Program**

Patients with cancer may lose muscle mass, strength, endurance, and mobility along with their decrease in appetite and lower levels of activity. Until recently, it was thought that little could be done about this problem. However, we believe that a combination of appetite stimulation, nutritional intervention, and moderate exercise will help to maintain the strength of your muscles, increase your level of function, and improve your quality of life.

Common causes of muscle loss include:

- Too much rest and disuse of muscles
- Loss of motivation to maintain normal levels of activity
- Depression
- Discomfort or pain associated with your cancer
- The side effects of chemotherapy

In addition, muscle loss and weakness may be due to diversion of protein away from your muscles to fuel the body reactions to cancer. The combination of loss of appetite, lower calorie intake, and increased rate of metabolism contributes greatly to fatigue, loss of strength, and an inability to maintain your normal levels of activity.

**What can be done to restore muscle and prevent muscle loss?**

A moderate exercise program designed to give you energy rather than deplete it can be added to your daily routine. Breathing and relaxation exercises, sets of light weight or elastic band resisted movements for key muscles, mobility and flexibility routines, a walking program, restorative yoga exercises, or tai chi can be designed to suit your individual needs and preferences. You will have the choice of doing your exercises at home, your health club, or for the Montreal residents at one of the L’Esprit Rehabilitation Centers which have fully equipped gymnasiums and exercise classes specifically designed for this program.

The physicians and physiotherapists involved in this Team Program will closely monitor your level of functional activity, muscle status, and endurance capacity during your routine hospital visits. Adjustments and progressions of your exercise routine will be made over time.

**Are there any other risks or benefits related to an exercise program?**

This closely supervised program involves very little risk. Gradual progressions of exercise are designed to work your arm, leg and trunk muscles without undue strain on your heart, lungs, bones or joints. An exercise routine increases the energy you need to maintain levels of work and family and leisure activities.
FOOD PREPARATION

TASTE AND TASTE CHANGES

Taste alterations can decrease your appetite and cause weight loss. Experiencing a bitter, metallic or sour taste in the mouth is quite common. Aversions to certain foods develop as their taste and/or smell becomes too strong. Many foods normally enjoyed may no longer seem tasty. Sometimes food appears to have no flavour which compromises intake further.

People with a decrease in appetite are particularly sensitive to the way in which food is prepared and offered.

Here are a few suggestions to assist you or the people who are helping prepare your food:

- Experiment with various spices and flavouring. It is common for a person’s preferences to change during illness. Try using basil, oregano, rosemary, tarragon or mint with meat, fish, chicken or cottage cheese. Garlic and onions may or may not help.
- Try flavouring foods with lemon, orange or various other fruit juices. Try various kinds of pickles, chutney, relishes which are sweet or sour.
- Use sugar in your cooking as this can help to eliminate metallic or salty taste.
- Add sauces, gravies or broths to food that tends to be dry. Try fruit based sauces using peaches, pears, oranges, plums or pineapple.
- Marinate meat, chicken or fish in sweet juices; sweet wine, lemon juice, soy sauce, vinaigrettes, pickle juice or a combination of marinades.
- If you develop a dislike for meat, try alternative high protein foods such as eggs (omelets, frittatas, egg salad), cottage cheese and fruit plate, cheese (cheese melt, pasta with melted cheese, meatless lasagna, quiche, cheese sandwich), legumes such as chick peas, lentils (hearty legume and vegetable soup, chili, casseroles).
- If milk products taste different, try adding chocolate or strawberry syrup to milk, custard, pudding or ice cream or add a little fruit and make a milkshake.
- If the taste of water bothers you, try adding a slice of orange or lemon or mix with fruit juice or fruit punch.

TEMPERATURE

Foods that are normally enjoyed when they are warm should be presented when they are warm. However, if you lose your appetite for warm food, in part because of food odours, try a cold plate such as cold cheeses, cottage cheese, chicken, salmon or egg salad with fruit and or crackers; various sandwiches, yogurt and fruit, pudding, custard or a homemade milkshake.

PRESENTATION

Vary food colour and use garnishes (parsley, dill, slice of tomato or orange) to make food attractive. White chicken, potatoes and cauliflower on a white plate is unappetizing for all of us.

Try and eat food in an atmosphere free of food smells.

Serve smaller portions of food. Sometimes we lose our appetite when we are presented with an overwhelming amount of food on a plate. We can always have a second helping.

ATMOSPHERE

Mealtime is a social occasion for most of us. This should not change; it is important that you continue to eat with your family and friends. Don’t feel badly if you eat smaller amounts than they may take in at a meal.

Remember, you will have had additional small nutritious snacks during the day. For their part, your family and friends should avoid forcing you to eat; this will not help and may indeed cause problems with abdominal distress and nausea.
Eat in a calm, relaxed atmosphere.
To relax, turn on your favourite music.
Set the table with a table cloth or placemats to make it more attractive.
If you are in the custom of consuming alcohol, before and during your meal, try a little wine, sherry or beer to help stimulate your appetite. Consuming a small amount of alcohol will not interfere during chemotherapy or radiotherapy.
During chemotherapy, it is wise to limit alcohol intake because the stomach lining tends to be irritated.

**MEAL PREPARATION**
- If you are usually the person making meals, try preparing some meals in advance and freezing them if you do not feel like cooking, try one of the many varieties of frozen meals that are available in the grocery stores today. Many stores carry ready to eat meals, be careful and check the expiration date.
- Before any of your treatments start, stock the cupboard or freezer with foods that you particularly enjoy or your favourite comfort foods.
- Keep protein rich foods on hand such as peanut butter or other nut butters, nuts (almonds, cashews, walnuts, pecans and peanuts), cheese, eggs, canned tuna, as well as dried and canned fruit and puddings.
- Ask a family member or friend to help with the shopping and possibly cooking.
- If you are having difficulty preparing meals, MEALS ON WHEELS (Montreal) is an organization which provides meals that are delivered to your home two to three times a week. Ask your health care team to make arrangements.
- Eating a sandwich and a bowl of soup with a glass of milk or juice is a quick and nutritious meal. You do not have to prepare a traditional hot meal every day to get proper nutrition. Make a sandwich in advance and have it during the day as a snack or for one of your meals.
- Remember that a small container of yogurt with slice of bread or small muffin contains almost the same number of calories as a shake.

**SNACKS FOR APPETITE LOSS**
- Eat smaller nutrient dense meals throughout the day; 3 smaller meals and 3 to 4 snacks.
- Snacks using Milk Products are great choices for protein and energy. Choose a variety of these foods each day such as cheese and crackers, toast or bagel with cheese or cream cheese, cheese and various fruits (pears, grapes or apples), “Quark”, “Minga”, yogurt, frozen yogurt, milkshakes, a glass of chocolate milk, hot chocolate made with milk, hot Oatmeal mixed with milk, pudding, custard, tapioca pudding, ice cream, cream soup, sour cream or yogurt vegetable dips.
- Starch foods (Grain Products) are good for energy; these include bread, toast with peanut butter or cheese, sandwiches, rolls, buns), muffins, bagels, various crackers, pita, pizza, cookies or cakes made with nuts and fruits, pancakes, waffles, cereals, granola, dessert breads or loaves.
- Protein foods (Meat and Alternatives) such as nuts, seeds, peanut and other nut butters, hummus, legume dips, milk products, egg dishes such as omelette, quiche, frittata, scrambled, poached, or boiled eggs, egg salad, salmon salad, smoked salmon or other fish, tuna salad, chicken salad
- Fruit choices provide a source of quick energy. They include fruit juices, fruit smoothies, dried fruits such as apricots, apples, pineapple, mango, raisins. These dried fruits can be mixed with various nuts and seeds to create your own trail mix. Canned or fresh fruit eaten with a slice of cheese or mixed with yogurt makes a nutritious snack.

**HOW MANY MEALS?**
Often, because your stomach may not move food along as fast as it should, you may be hungry, but rapidly lose your appetite once you start to eat. If this common problem is present, try:
- Frequent small meals throughout the day, don't force yourself to eat if you are becoming nauseated or too full. You may wish to have small portions five to six times a day.
- A small meal should be a nutrient dense snack. A nutrient dense snack will help you to meet your nutritional requirements.
- Eating a small container of yogurt with a small muffin or eating an ounce (30 grams) of cheese on 1 slice of bread are examples of nutrient dense snacks.
- Try drinking beverages or soup after your meals as liquids tend to fill a person up. Breakfast should be the largest meal, as appetite tends to decrease as the day progresses. Therefore, consume more protein rich foods in the morning. For example, if you usually have an egg, try adding another egg or consider adding a piece of cheese or make a cheese omelet.
- Take your time eating, and pause occasionally during the meal to avoid feeling full too quickly.

**SNACKS FOR APPETITE LOSS**
- Eat smaller nutrient dense meals throughout the day, 3 smaller meals and 3 to 4 snacks.
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SUPPLEMENTS

HOMEMADE FOOD SUPPLEMENTS

- Commercial nutritional supplements (described later in this section) are loaded with nutrients but some people do not like the taste.
- Try preparing your own power shake, but remember they will not be complete meal replacements.
- Make the shake in a blender with milk, ice cream or yogurt or a combination of the three.
- Lactose free milk can be used, such as LACTEEZE or LACTAID or the generic brands at your grocery store.
- If you do not want to use milk try a soy beverage (look for calcium fortified soy milk).
- Add 1 to 3 scoops of a whey protein powder (e.g. Resource Instant Protein Powder by Novartis HMS 90 by Immunotec or Pro-Mod by Ross) to increase the protein content of your shake.
- Fruits, fruit juices or syrups can be added to create a variety of flavours.
- Smoothies can be made by adding crushed ice to your shake.

POWERSHAKE RECIPES

High Protein Milk: Blend: 1 cup (250 ml) whole milk
1/4 cup (17 g) skim milk powder or 2 scoops Whey Protein Powder
1 scoop of POLYCOSE or CALOREEN or 1 tbsp. (15 ml) honey or sugar

Milkshake: Blend: 1 cup (250 ml) High Protein Milk
1/2 cup (200 ml) ice cream, sherbet or yogurt

Yogurt Shake: Blend: 3/4 cup (200 ml) plain yogurt or fruit flavoured yogurt
1/4 cup (17 g) skim milk powder or 2 scoops whey protein powder
1/2 cup (125 ml) apple juice
1 tbsp. (15 ml) honey or sugar

Fruit Shake: Blend: 1/2 cup (125 ml) sherbet
1/2 cup (125 ml) fruit juice
2 to 3 scoops whey protein powder

Fruit Milk Shake
- Blend: 1/2 cup (125 ml) whole milk
- 1/2 cup (125 ml) canned fruit
- 1 cup (250 ml) vanilla ice cream
- 2 to 3 scoops of whey protein powder

Nut Butter Shake
- Blend: 3/4 cup (200 ml) ice cream
- 1/2 cup (125 ml) whole milk
- 1/4 cup (17 g) skim milk powder or 2 scoops whey protein powder
- 2 tbsp. (30 ml) either peanut butter, almond butter or almond/hazelnut butter

PUDDINGS AND DESSERTS

Pudding Plus
- 1 food supplement drink (ENSURE or BOOST)
- 1 packet instant pudding mix
- 6 tablespoons (90 ml) powdered energy supplement (CALOREEN OR POLYCOSE)

Mix the high energy powder and the pudding mix together. Add a little milk to make a paste. Add the food supplement drink and whisk well. Leave to set.
This can also be frozen to make ice-cream or ice pops.

Adapted recipe from Christie Hospital NHS Trust, UK

Super Pudding
- 1 packet instant pudding

- 2 cups (500 ml) whole milk
- 2 tbsp. (30 ml) canola or olive oil
- 3/4 cup (51 g) skim milk powder or 6 scoops of whey protein powder

Mix on low speed with a hand blender, the pudding mix and skim milk powder or whey protein with milk and oil. Pour into 4 dessert bowls and enjoy.
DIFFERENT WAYS TO USE WHEY PROTEIN POWDER

- Whey Protein Powder can be added to your favourite fruit juice or tomato juice.
- Add 2 scoops of Whey Protein Powder to 1/2 cup (125 ml) of applesauce.
- Whey Protein Powder can be added into any cream soup, into an already prepared pudding, any kind of yogurt or a combination of plain yogurt and your favourite fruit.
- Add 2 to 3 scoops of Whey Protein Powder into hot chocolate, chocolate milk or plain milk.
- Whey Protein Powder can be added into oatmeal or Cream of Wheat.
- If you enjoy coffee, try adding 1 to 3 scoops into your daily coffee and create a “café au whey.”
- Remember, in order to prevent lumps, make a paste-like mixture with the whey protein powder and add it to any of the above food items.
- Please do not heat up the whey, add it after to your soup or hot beverage.

CREAM SOUPS

Cream of Wheygetable Soup

Put all ingredients into a blender and blend until smooth:
- 2 cups (500 ml) cooked vegetables
- 2 cups (500 ml) 2 % or whole milk or 1 cup (250 ml) milk and 1 cup (250 ml) chicken broth
- 1/4 cup (60 ml) either cooked potatoes, rice or noodles
- 1 tablespoon (15 ml) olive oil
- salt and pepper to taste

Pour ingredients in a saucepan or microwave bowl and heat on low heat. For each one cup (250 ml) serving of cream soup, add 3 scoops of whey protein powder to increase protein content.

Commercial Cream Soup With Whey Protein Powder

Prepare any cream soup, but use milk instead of water to dilute soup. After soup has been heated, but not boiling add to each one cup (250 ml) three scoops of whey protein powder to increase protein content.

Instead of using milk in the cream soup you can add a can of an unflavoured Nutrition Replacement liquid such as NUTREN by Nestlé to make it a complete nutritional meal.

WHEY PROTEIN RECIPES

CNRP Whey Shake

250 ml (1 cup) of yogurt or ice cream or use a combination of 125 ml (1/2 cup) of yogurt and 125 ml (1/2 cup) of milk
4 scoops of any whey protein powder
250 ml (1 cup) of fruit (banana, strawberries, raspberries, blueberries, peaches or mango) or add 10 to 15 ml (2 to 3 teaspoons) of chocolate or strawberry syrup
To increase sweetness honey or sugar can be added.
In order to avoid lumps, make a paste with whey protein powder and 125 ml (1/2 cup) of milk. Blend all ingredients in a blender at low speed for 30 seconds. If you like “Smoothies” add 125 ml (1/2 cup) ice cubes. Divide into 2 servings and drink slowly.
REFRIGERATE FOR UP TO 24 HOURS

Banana-Orange Shake

Blend 1 ripe banana, 250 ml (1 cup) of orange juice with 2 to 3 scoops whey protein powder. Serve with ice cubes.

Peach Whey Nog

Blend 125 ml (1/2 cup) of milk with 5 peach slices, canned or fresh for 15 seconds at medium speed and add 2 to 3 scoops of whey protein powder and blend on low speed

Peach or Apricot Whey Flip

Blend 60 ml (1/4 cup) orange or other fruit juice with 125 ml (1/2 cup) canned, drained peaches or apricots and 2 ice cubes at medium speed for 30 seconds. Add 2 to 3 scoops of whey protein powder and blend at low speed for 15 seconds

Adapted recipe from the American Dietetic Association.

Lemon Wheybert

1 1/2 cups (325 ml) sugar
1/3 cup (80 ml) lemon juice
grated rind of 1 lemon
2 cups (500 ml) of whole milk
6 scoops of whey protein powder
Mix sugar, lemon juice, and grated lemon rind in a blender at high speed for 2 minutes. Make a paste with the whey protein powder and whole milk and add to the lemon sugar mixture. Blend at low speed for 15 seconds and pour into a freezer tray and freeze. Cut into bite-size pieces.

Commercial Cream Soup With Whey Protein Powder

Prepare any cream soup, but use milk instead of water to dilute soup. After soup has been heated, but not boiling add to each one cup (250 ml) three scoops of whey protein powder to increase protein content.

Instead of using milk in the cream soup you can add a can of an unflavoured Nutrition Replacement liquid such as NUTREN by Nestlé to make it a complete nutritional meal.
Supplements can be used in addition to your regular meals and snacks. Take supplements if you believe you cannot meet your daily energy (caloric) requirements. However, we encourage you to take nutrient dense snacks to meet your nutritional needs before a supplement is recommended. As well, we have many recipes to create your own individualized nutritional supplements, be it a shake, high protein soup or nutrient bar.

- If you are not able to make these supplements, ask a family member or friend to help out.
- If you are out traveling to an appointment or going to meet a friend it would be helpful to eat a nutritious snack before you leave your home. However, sometimes a nutrient bar or supplement may come in handy when you are in a rush and are unable to eat.
- If you are using supplements as meal replacements you need to speak with your health care team to assess your nutritional status.
- A meal replacement product means that you are using it to replace a meal and that if taken in the correct quantities contains all essential vitamins, minerals, carbohydrate, protein and fat to meet your nutritional needs.
- There are a number of commercial nutritional supplements available such as Boost, Ensure, Resource, Carnation Instant Breakfast and generic products from your pharmacy or from Wal-Mart for days when your appetite has decreased.
- Some are available with added protein and calories and are called Ensure Plus or Boost or Resource PLUS.
- All of these supplements are rich in vitamins, minerals, protein, carbohydrates and fat. If you are buying a generic name brand from your pharmacy look to see whether the label states it is a meal supplement.
- They come in various flavours and if you don’t like the taste of one, or if you become bored with the taste, you can change to another one.
- If you don’t like the sweetness or consistency of a commercial meal supplement, milk lactaid milk (preferably whole milk) or soy milk can be added.
- For variety and/or improvement of taste and acceptability, these supplements can be kept cold and served with ice or frozen and eaten like ice cream.

**Cream of Mushroom Soup**

One can of cream of mushroom soup
One can of whole milk (3.25%)
6 scoops of whey protein powder

Heat the soup and milk together, over medium heat. Cool down. Make a paste with whey protein powder and 1/4 cup (60 ml) of milk. Gradually, by using either a hand whisk or blender on low speed, add the cream soup into the whey protein paste. Whisk or blend until mixed (about 10 to 20 seconds with blender or 1 minute with whisk. (This recipe works well with cream of celery, asparagus, tomato or cream of chicken).

**LIQUID FEEDINGS**

This recipe can be useful when you have a problem chewing or swallowing solid foods.

**Hot Meal High Protein Blend**

1 cup (250 ml) meat or canned baby food meat
1 cup (250 ml) cooked carrots or your favourite vegetables or canned baby vegetables
1/2 cup (125 ml) cooked potatoes, noodles or rice
1 cup (250 ml) canned or home made cream soup
2 cups (500 ml) whole milk or 3 cups (750 ml) vegetable broth

Add salt and pepper or favourite spices to your liking

For each 1 cup (250 ml) serving, add 2 to 3 scoops of whey protein powder which has been made into a paste consistency with milk or water.

Blend until smooth and then heat on medium heat or in microwave on medium temperature. After heating add 3 scoops of whey protein powder paste for each 1 cup (250 ml) serving. AVOID ADDING THE WHEY PROTEIN POWDER TO BOILING LIQUIDS.
cream. They may also be thickened to make a pudding.

- If you don't like these commercial nutritional supplements, you can always prepare home-made supplements (See section on homemade food supplements and whey protein recipes)

- There are also meal replacement bars or nutrient bars available in pharmacies and grocery stores. Read the labels and look for the bars that state they are complete in protein, carbohydrates, fat, vitamins and minerals. Try not to choose the bars that are only carbohydrate (energy) bars as they are loaded with sugar. Nutrient bars are usually used by people who want to lose weight but they are also good for people who want to gain weight and use them as in between snacks. Meal replacement bars come in a wide range of flavours and textures. Try a few flavours and keep one or two in your pocket, purse or car.

- Many commercially prepared nutrition supplements can be purchased at your local pharmacy or grocery store. Most are made for people who are unable to tolerate lactose and are labeled lactose free. In addition to the brands listed below, there are generic brands available from your pharmacy (Jean Coutu, Pharmaprix), grocery store or department store (Wal-Mart) that may cost less. Read the label and buy the product identified as a meal replacement or meal supplement.

- Protein powders and Energy (glucose) powders can be added to foods to enrich the protein and caloric content.

### NUTRITION SUPPLEMENTS

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<tr>
<th>LACTOSE FREE</th>
<th>CONTAINING LACTOSE</th>
<th>PROTEIN POWDER</th>
<th>ENERGY/GLUCOSE POWDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAD JOHNSON - BOOST PLUS</td>
<td>MEAD JOHNSON - SUSTICAL PUDDING</td>
<td>NESTLE - MERITENE POWDER</td>
<td>CALOREEN</td>
</tr>
<tr>
<td>ROSS - ENSURE PLUS ENSURE HIGH PROTEIN NUTRISURE PUDDING</td>
<td>NESTLE - CARNATION INSTANT BREAKFAST</td>
<td>ROSS - PROMOD</td>
<td>ABBOTT POLYCOSE</td>
</tr>
<tr>
<td>NOVARTIS - RESOURCE RESOURCE PLUS RESOURCE FRUIT BEVERAGE</td>
<td>NOVARTIS - RESOURCE INSTANT PROTEIN POWDER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JEAN COUTU - GENERIC BRAND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARMAPRIX - GENERIC BRAND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WALMART - GENERIC BRAND</td>
<td></td>
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### MEAL REPLACEMENT BARS

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>CALORIES/BAR</th>
<th>PROTEIN GRAMS/BAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAMS - BODY SMARTS</td>
<td>200</td>
<td>7.5</td>
</tr>
<tr>
<td>ADRIEN GAGNON - NUTRIFORME</td>
<td>255</td>
<td>13</td>
</tr>
<tr>
<td>GO ENERGY RECOVERY BAR</td>
<td>250</td>
<td>13</td>
</tr>
<tr>
<td>KELLOGG - VECTOR</td>
<td>215</td>
<td>9</td>
</tr>
<tr>
<td>NUTRIBAR</td>
<td>261</td>
<td>13</td>
</tr>
<tr>
<td>POWER BAR</td>
<td>222</td>
<td>9</td>
</tr>
<tr>
<td>POWER BAR HARVEST</td>
<td>209</td>
<td>7.9</td>
</tr>
<tr>
<td>PRESIDENT'S CHOICE - FAST TRACK</td>
<td>225</td>
<td>14</td>
</tr>
<tr>
<td>PRESIDENT'S CHOICE - EQUALIZER</td>
<td>198</td>
<td>11</td>
</tr>
<tr>
<td>SLIM FAST - MEAL-ON-THE-GO</td>
<td>230</td>
<td>12</td>
</tr>
<tr>
<td>ROSS - GLUCERNA MEAL SUBSTITUTE AND SNACK</td>
<td>144</td>
<td>6</td>
</tr>
<tr>
<td>ZONE PERFECT</td>
<td>210</td>
<td>14</td>
</tr>
</tbody>
</table>

### WILL I DO BETTER IF I FORCE MYSELF TO EAT OR IF I TAKE FOOD BY ARTIFICIAL MEANS, SUCH AS THROUGH MY VEINS OR A TUBE IN MY STOMACH?

In almost all circumstances, the answer is a clear and definite “NO”. Indeed forcing food, intravenous feeding (parenteral nutrition), or tube feeding can cause major problems such as an increased risk of infections, or vomiting with inhalation of food into the lungs. The extra calories supplied by artificial means may be used by cancer tissue, but are not effectively available to our muscles or other tissue. Why? Because the inflammatory reaction created by cancer and certain tumor products blocks their use.

This information, while clearly established after numerous medical studies, is often poorly understood by people in the community. It is only natural for family and friends to ensure that a loved one is well fed. They often become distressed when their family member or friend is not eating, and will sometimes overly encourage a person to eat, or ask doctors to order artificial means of nutrition when it is not helpful for the patient.

We know that forced feeding does not make one live longer, may cause one to live for a shorter period of time and is commonly a source of confusion and distress within families.

This does not mean that it is not important to take part in family meals, as these social occasions are very important for enjoyment of life. The advice contained in this patient brochure is designed to help you enjoy activities while maintaining a reasonable nutritional state.
CONSEQUENCES OF CANCER
SYMPTOMS AND NUTRITIONAL RECOMMENDATIONS

Your doctor may order specific medications to relieve the following symptoms. Our advice touches on nutritional tips you can use at home which will assist the effects of medications you may be taking.

ANEMIA (Iron deficiency)

Anemia is most commonly caused by chemotherapy treatment, poor nutrition and blood loss or by depression of blood production by an inflammatory response related to cancer. As a result, symptoms occur such as fatigue, shortness of breath, headache, vertigo (dizziness), sleeping difficulty, diminished strength and decreased appetite. Your physician may prescribe an iron supplement, sometimes a blood transfusion and if these measures are not sufficient, erythropoietin (this is a natural body chemical which stimulates red blood cell production.) Incorporating foods high in iron into your meal plan may help. Red blood cells need protein, therefore eating smaller, more frequent meals rich in protein is recommended.

Your doctor may order specific medications to relieve the following symptoms. Our advice touches on nutritional tips you can use at home which will assist the effects of medications you may be taking.

FUNCTION OF IRON

Iron is a mineral which is important for the function of the body as a whole. Iron combines with protein to form hemoglobin in the red blood cells which carries oxygen to all cells within the body. Oxygen is used to produce maximum energy from the foods we eat. Therefore, iron is important for the production of energy.

MAIN SOURCES OF IRON IN CANADA’S FOOD GUIDE TO HEALTHY EATING

<table>
<thead>
<tr>
<th>GRAIN PRODUCTS</th>
<th>VEGETABLES &amp; FRUITS</th>
<th>MILK PRODUCTS</th>
<th>MEAT AND ALTERNATIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breads made with enriched flour, enriched cereals</td>
<td>Prune juice, Raisins, dried</td>
<td>Milk products do not supply a significant amount of iron</td>
<td>Liver</td>
</tr>
<tr>
<td>Cream of wheat</td>
<td>Apricots, dried</td>
<td></td>
<td>Lean beef, pork, lamb, veal</td>
</tr>
<tr>
<td>Whole wheat flour</td>
<td>Spinach, Dates</td>
<td></td>
<td>Dried peas</td>
</tr>
<tr>
<td>Enriched white flour</td>
<td></td>
<td></td>
<td>Dried almond</td>
</tr>
<tr>
<td>Oats, puffed</td>
<td>Dandelion greens</td>
<td></td>
<td>Dried lentils</td>
</tr>
<tr>
<td>All bran</td>
<td>Broccoli</td>
<td></td>
<td>Dried beans</td>
</tr>
<tr>
<td>Egg noodles</td>
<td>Potato</td>
<td></td>
<td>Egg yolk</td>
</tr>
<tr>
<td>Pasta, enriched</td>
<td>Beet greens, Peas</td>
<td></td>
<td>Clams</td>
</tr>
<tr>
<td>Red nuts, enriched</td>
<td>Green beans</td>
<td></td>
<td>Sardines</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tuna</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Soy Milk</td>
</tr>
</tbody>
</table>
### MEAT AND ALTERNATIVES

<table>
<thead>
<tr>
<th>FOOD</th>
<th>PORTION SIZE</th>
<th>IRON - MG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liver, calf</td>
<td>60 gm (2oz)</td>
<td>5.0</td>
</tr>
<tr>
<td>Liver, pork</td>
<td>60 gm (2oz)</td>
<td>10.0</td>
</tr>
<tr>
<td>Liver, lamb</td>
<td>60 gm (2oz)</td>
<td>10.8</td>
</tr>
<tr>
<td>Tuna, fresh</td>
<td>60 gm (2oz)</td>
<td>5.3</td>
</tr>
<tr>
<td>Beef</td>
<td>60 gm (2oz)</td>
<td>5.3</td>
</tr>
<tr>
<td>Liver, chicken</td>
<td>60 gm (2oz)</td>
<td>5.0</td>
</tr>
<tr>
<td>Liverwurst</td>
<td>60 gm (2oz)</td>
<td>3.0</td>
</tr>
<tr>
<td>Hamburger</td>
<td>60 gm (2oz)</td>
<td>1.7</td>
</tr>
<tr>
<td>Corned beef</td>
<td>60 gm (2oz)</td>
<td>3.9</td>
</tr>
<tr>
<td>Sardines</td>
<td>7 medium</td>
<td>2.6</td>
</tr>
<tr>
<td>Lake trout, baked</td>
<td>60 gm (2oz)</td>
<td>3.0</td>
</tr>
<tr>
<td>Lean, pork</td>
<td>60 gm (2oz)</td>
<td>2.7</td>
</tr>
<tr>
<td>Clams, canned</td>
<td>60 gm (2oz)</td>
<td>2.5</td>
</tr>
<tr>
<td>Sardines, canned in oil</td>
<td>60 gm (2oz)</td>
<td>2.5</td>
</tr>
<tr>
<td>Veal</td>
<td>60 gm (2oz)</td>
<td>1.9</td>
</tr>
<tr>
<td>Lamb</td>
<td>60 gm (2oz)</td>
<td>1.0</td>
</tr>
<tr>
<td>Canned tuna</td>
<td>60 gm (2oz)</td>
<td>1.0</td>
</tr>
<tr>
<td>Sesame, seeds</td>
<td>125 ml (1/2 cup)</td>
<td>10.5</td>
</tr>
<tr>
<td>Whole Pumpkin seeds</td>
<td>125 ml (1/2 cup)</td>
<td>6.5</td>
</tr>
<tr>
<td>Sunflower seeds</td>
<td>125 ml (1/2 cup)</td>
<td>4.2</td>
</tr>
<tr>
<td>Almonds</td>
<td>125 ml (1/2 cup)</td>
<td>3.5</td>
</tr>
<tr>
<td>Beans, baked</td>
<td>250 ml (1 cup)</td>
<td>5</td>
</tr>
<tr>
<td>Tofu</td>
<td>250 ml (1 cup)</td>
<td>4.6</td>
</tr>
<tr>
<td>Lima or Soy beans, cooked</td>
<td>250 ml (1 cup)</td>
<td>4.6</td>
</tr>
<tr>
<td>Kidney beans</td>
<td>250 ml (1 cup)</td>
<td>5</td>
</tr>
<tr>
<td>Lima beans</td>
<td>250 ml (1 cup)</td>
<td>6</td>
</tr>
<tr>
<td>Peas, dried</td>
<td>250 ml (1 cup)</td>
<td>4.6</td>
</tr>
<tr>
<td>Lentils, cooked</td>
<td>250 ml (1 cup)</td>
<td>4.2</td>
</tr>
<tr>
<td>Soy milk</td>
<td>250 ml (1 cup)</td>
<td>3.6</td>
</tr>
<tr>
<td>Egg</td>
<td>1 large</td>
<td>1</td>
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### GRAIN PRODUCTS

<table>
<thead>
<tr>
<th>FOOD</th>
<th>PORTION SIZE</th>
<th>IRON - MG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cream of wheat</td>
<td>125 ml (1/2 cup)</td>
<td>8</td>
</tr>
<tr>
<td>Cherrios or puffed oats</td>
<td>125 ml (1/2 cup)</td>
<td>4.6</td>
</tr>
<tr>
<td>Bran Flakes</td>
<td>125 ml (1/2 cup)</td>
<td>3.5</td>
</tr>
<tr>
<td>Shreddies</td>
<td>125 ml (1/2 cup)</td>
<td>3.2</td>
</tr>
<tr>
<td>Bran Flakes (raisins)</td>
<td>125 ml (1/2 cup)</td>
<td>5.1</td>
</tr>
<tr>
<td>All Bran</td>
<td>125 ml (1/2 cup)</td>
<td>2.7</td>
</tr>
<tr>
<td>Corn, puffed (sweetened)</td>
<td>125 ml (1/2 cup)</td>
<td>2.8</td>
</tr>
<tr>
<td>Oatmeal</td>
<td>125 ml (1/2 cup)</td>
<td>2.0</td>
</tr>
<tr>
<td>Whole wheat Bread</td>
<td>2 slices</td>
<td>1.6</td>
</tr>
<tr>
<td>White, enriched Bread</td>
<td>2 slices</td>
<td>1.4</td>
</tr>
<tr>
<td>Enriched baby cereals</td>
<td>90 ml</td>
<td>5.0</td>
</tr>
<tr>
<td>Wheat germ</td>
<td>30 ml</td>
<td>0.8</td>
</tr>
<tr>
<td>Wheat flour</td>
<td>250 ml (1 cup)</td>
<td>3.8</td>
</tr>
<tr>
<td>All purpose flour</td>
<td>250 ml (1 cup)</td>
<td>3.2</td>
</tr>
<tr>
<td>Egg noodles</td>
<td>250 ml (1 cup)</td>
<td>2.7</td>
</tr>
<tr>
<td>Pasta, enriched</td>
<td>250 ml (1 cup)</td>
<td>2.4</td>
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</table>

### VEGETABLES AND FRUIT

<table>
<thead>
<tr>
<th>FOOD</th>
<th>PORTION SIZE</th>
<th>IRON - MG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peaches, dried</td>
<td>125 ml (1/2 cup)</td>
<td>5</td>
</tr>
<tr>
<td>Prune juice</td>
<td>125 ml (1/2 cup)</td>
<td>1.5</td>
</tr>
<tr>
<td>Baked potato</td>
<td>1 medium</td>
<td>2.8</td>
</tr>
<tr>
<td>Raisins, dried</td>
<td>125 ml (1/2 cup)</td>
<td>2.7</td>
</tr>
<tr>
<td>Prunes, dried</td>
<td>125 ml (1/2 cup)</td>
<td>2.3</td>
</tr>
<tr>
<td>Apricots, dried</td>
<td>125 ml (1/2 cup)</td>
<td>3.8</td>
</tr>
<tr>
<td>Spinach</td>
<td>125 ml (1/2 cup)</td>
<td>3.2</td>
</tr>
<tr>
<td>Dates</td>
<td>125 ml (1/2 cup)</td>
<td>1.9</td>
</tr>
<tr>
<td>Dandelion greens</td>
<td>125 ml (1/2 cup)</td>
<td>1.8</td>
</tr>
<tr>
<td>Beet greens</td>
<td>125 ml (1/2 cup)</td>
<td>1.5</td>
</tr>
<tr>
<td>Peas, green, cooked</td>
<td>125 ml (1/2 cup)</td>
<td>1.3</td>
</tr>
<tr>
<td>Broccoli</td>
<td>125 ml (1/2 cup)</td>
<td>1.3</td>
</tr>
<tr>
<td>Asparagus</td>
<td>125 ml (1/2 cup)</td>
<td>1.25</td>
</tr>
<tr>
<td>Tomato juice</td>
<td>125 ml (1/2 cup)</td>
<td>1.0</td>
</tr>
<tr>
<td>Potato</td>
<td>125 ml (1/2 cup)</td>
<td>1.0</td>
</tr>
</tbody>
</table>
**ANXIETY AND DEPRESSION**

When one is feeling anxious or depressed the appetite is lost. While your appetite is low it helps to consume small amounts of food throughout the day. By consuming small meals or meal replacement beverages or nutrient bars (homemade or commercial), weight can stabilize. Often, a bland or light meal plan can be followed eating foods that are not too spicy, rich or greasy. However, a number of people do prefer more spicy or flavorful meals. Try to get daily exercise by enrolling in a rehabilitation program, taking walks or trying one of the many forms of yoga. Meditation may also help to relieve stress. If your appetite has decreased, it is important to drink liquids throughout the day in order to prevent dehydration. Homemade milkshakes or nutrient supplements can come in handy at this time. *(Look at section on nutritional supplements, snacks for appetite loss and tips to increase protein.)*

**ABDOMINAL DISTENTION**

When there is a buildup of fluid or gas in your abdomen, your appetite diminishes due to the feeling of fullness and tightness. Try small amounts of food every two to three hours. Foods should be rich in protein. Try eating solid foods first and start with foods high in protein. Drink your beverages or soup _to 1 hour after your meal._ Try to limit intake of high fibre and gas producing foods. Homemade milkshakes or nutrient supplements can be used. *(Look at section on foods rich in protein and section on nutritional supplements.)*

**GAS PRODUCING FOODS* **

As well, carbonated soft drinks, alcoholic beverages, cheeses, Mexican foods and a rapid increase in dietary fiber may cause excess gas formation.

*Courtesy of the Jewish General Hospital*
If you suspect a particular food of causing gas, omit it from your diet for a short trial period and observe the results. Also remember to eat slowly. Avoid gulping food and chew your food with your mouth closed. If gas discomfort persists discuss it with your doctor or dietitian.

**CONSTIPATION**

Constipation may be caused by a number of factors. Being less active, not consuming enough liquids, and some pain medications are the main causes.

Constipation is almost always present when people are taking codeine, morphine, or similar drugs for pain control. Chronic constipation is a major cause of loss of appetite. The problem is readily treated if people are conscious of its importance and follow a regular laxative routine. Following a high fibre meal plan and increasing fluids may help to alleviate constipation. Natural laxatives such as prune juice or grape juice may help. **Note that high fibre foods are beneficial only if you are able to accompany them with an increased fluid intake.** If you can't take adequate fluids, high fibre foods can make constipation worse. We wish to help you prevent constipation as once it becomes severe, management is more difficult. It may even cause a bowel obstruction. You must inform your health care team if you are not passing gas or having a bowel movement.

**HIGH FIBRE**

- Use whole grain and bran cereals (All-Bran, Bran Flakes, Raisin Bran, Red River Cereal, Shredded Wheat, and Shreddies)
- Use whole wheat flour, whole grain and multi-grain breads and bran instead of white flour and white bread.
- Bake using whole wheat flour.
- Use brown rice instead of white.
- Have at least 5 servings of vegetables and fruit per day.
- Have fresh fruits and vegetables instead of juices.
- Include dried fruits (apricots, dates, prunes, raisins), candied fruits and peel in your diet.
- Legumes such as dried peas and beans, lentils, nuts and seeds are good sources of fibre. Add legumes to spaghetti sauce, soups and/or chilli.
- Popcorn is a great high fibre snack.
- An easy way to increase your fibre is to add bran to your diet. (See below for **“Tips for Adding Bran to Your Diet”**.
- Consume 6 to 8 glasses (1500 to 2000 ml) of water a day.
- Lazy abdominal muscles and lack of exercise often contribute to constipation. It is important to exercise daily if you are able.

**Read labels:** You can make better buying decisions if you know how to read food labels. It is better to choose products that mention on their label that they are at least “a source of fibre”

A label that reads:
- “a source” of fibre has at least 2 grams of fibre per serving.
- “High” in fibre has at least 4 grams of fibre per serving.
- “Very high” in fibre has at least 6 grams of fibre per serving.

**TIPS FOR ADDING BRAN TO YOUR DIET**

- Mix bran with juice or soup or in yogurt or a milkshake.
- Use bran as a breading for fish or meat.
- Add bran to meat loaves, hamburgers and casseroles.
- Add bran to cereal.
- Use bran to make bran muffins and in any muffin recipe.
- Add bran to cookie and bread recipes (you will probably have to increase the liquid in your recipe).

**FIBRE GUIDE**

<table>
<thead>
<tr>
<th>Serving</th>
<th>GRAINS AND CEREALS</th>
<th>VEGETABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>175 ml</td>
<td>All Bran cereals</td>
<td>250 ml</td>
</tr>
<tr>
<td>175 ml</td>
<td>Bran Buds cereal</td>
<td>1 Potato, cooked</td>
</tr>
<tr>
<td>175 ml</td>
<td>Fibre Crunch cereal</td>
<td>125 ml</td>
</tr>
<tr>
<td>175 ml</td>
<td>Raisin Bran cereal</td>
<td>125 ml</td>
</tr>
<tr>
<td>175 ml</td>
<td>Bran Flakes cereal</td>
<td>125 ml</td>
</tr>
<tr>
<td>1</td>
<td>Bran muffin</td>
<td>1 Carrot, raw</td>
</tr>
<tr>
<td>1</td>
<td>Oatmeal cookies</td>
<td>125 ml</td>
</tr>
<tr>
<td>175 ml</td>
<td>Wheat flakes</td>
<td>1 Tomato, raw</td>
</tr>
<tr>
<td>1</td>
<td>Whole wheat bread</td>
<td>125 ml</td>
</tr>
<tr>
<td>1</td>
<td>Rye bread</td>
<td>125 ml</td>
</tr>
<tr>
<td>1</td>
<td>Plain muffin</td>
<td>1 Celery, raw</td>
</tr>
<tr>
<td>1</td>
<td>White bread</td>
<td></td>
</tr>
<tr>
<td>125 ml</td>
<td>Rice, white, cooked</td>
<td></td>
</tr>
</tbody>
</table>

**Note that high fibre foods are beneficial only if you are able to accompany them with an increased fluid intake.** If you can't take adequate fluids, high fibre foods can make constipation worse. We wish to help you prevent constipation as once it becomes severe, management is more difficult. It may even cause a bowel obstruction. You must inform your health care team if you are not passing gas or having a bowel movement.

Gary Haslam, CMT

**Courtesy of the Jewish General Hospital**
DEHYDRATION AND FLUID USE

Dehydration can sneak up on a person if they do not maintain a good fluid intake. This is particularly true if vomiting or diarrhea exist or on hot summer days. Symptoms may include fever, increased weakness and dry mouth. An electrolyte imbalance can result; minerals found in the blood such as potassium, magnesium, sodium and calcium are affected and must be adjusted. If magnesium, potassium or sodium levels are not too low it is possible to obtain these minerals naturally from particular foods. Appropriate fluid intake is essential to prevent dehydration.

INCREASING FLUIDS

It is very important to drink plenty of fluids during your cancer treatment. To get enough fluids, it is important to drink even if you are not thirsty. Drink at least 8 to 10 cups (2 to 2 1/2 litres) of clear fluids each day. To prevent dehydration, be sure to replace fluids lost from vomiting and diarrhea.

- Drink fluids throughout the day, even when you don’t feel thirsty.
- Take a water bottle or juice box along whenever leaving home.
- Add foods and liquids to your diet that contain lots of fluid—for example, soups, broth, frozen fruit pops (such as popsicles), flavored ices, and gelatin.
- Limit your use of caffeine, including colas and other caffeinated soft drinks, coffee, coffee drinks, and tea (both hot and cold).
- Try to drink most of your liquids after and/or in between meals. This will help you consume more liquids and solids overall.
- If you have experienced diarrhea or vomiting, you need to replace lost salt. To do this, choose high-salt foods and liquids, such as broth, bouillon, sports drinks, saltine-type crackers, and pretzels.
- To replace potassium lost from diarrhea or vomiting, choose high potassium foods and liquids, such as bananas, orange juice, pineapple juice, tomatoes, melons, and boiled or baked potatoes.
- Clear liquid nutritional supplements may be helpful during this time. Your doctor, nurse, or dietitian may have samples and suggestions about which supplements would be best for you.
- Talk to your doctor about taking medications to help control diarrhea or nausea and vomiting.

DECREASED FOOD ABSORPTION

Sometimes if the pancreas is damaged, the digestive enzymes produced by the pancreas are not present in sufficient amounts, and food cannot be appropriately digested for proper absorption. People that have this problem may complain of diarrhea, or the passage of oily, fatty stools which float on the surface of the toilet water. If this condition is present, we can offer you pancreatic enzymes in capsule form which will assist you with digestion and you may need to watch your fat intake. Small meals are recommended throughout the day so that you can obtain your nutrient requirements. (Look at section on snacks for appetite loss).

DECREASED PHYSICAL ACTIVITY

When you have cancer or when you are in chemotherapy or radiotherapy, your energy level may decrease and you may feel tired. This could be due to a number of reasons. Appetite and muscle strength will improve and fatigue will decrease if you can carry out moderate exercise. Small meals throughout the day are recommended so that you can obtain your nutrient requirements. Remember to drink plenty of fluids as a decrease in activity and a decrease in fluids can lead to constipation. (Look at section on snacks for appetite loss, foods high in fibre and fluid examples.).
HYDRATING FLUIDS
- Water, bottled water, sparkling water, seltzer, and club soda
- Clear fruit juices and fruit drinks
- Sports drinks
- Clear soups, broth, and bouillon
- Popsicles, fruit ices
- Gelatin
- Caffeine-free soft drinks
- Weak, caffeine-free tea (hot or cold)

RECIPIES

CNR Electrolyte Hydration Drink

1 teaspoon salt (5 ml)
1 teaspoon baking soda (5 ml)
1 tablespoon sugar (15 ml)
1 cup (250 ml) frozen fruit juice concentrate
6 cups (1500 ml) of water
Mix all of the ingredients together and refrigerate. Shake before serving. Makes 7 1-cup (250 ml) servings.
Courtesy of the CNR program, Jewish General Hospital

Fresh Citrus Cooler

1 cup (250 ml) fresh orange juice
1/2 cup (125 ml) fresh lemon juice
1/3 cup (80 ml) sugar
1 cup (250 ml) club soda, chilled
Lime wedges (optional)
Reprinted from the American Dietetic Association

POTASSIUM

You may experience potassium loss as a result of your illness or as a side effect of chemotherapy. Consuming foods rich in potassium helps maintain a proper electrolyte balance in your body.

FOODS HIGH IN POTASSIUM (More than 250 mg or 6.5 mmol potassium)

<table>
<thead>
<tr>
<th>VEGETABLES</th>
<th>SERVING SIZE 125ML (1/2 CUP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artichoke</td>
<td></td>
</tr>
<tr>
<td>Avocado</td>
<td></td>
</tr>
<tr>
<td>Bamboo shoots - raw</td>
<td></td>
</tr>
<tr>
<td>Beets - fresh cooked</td>
<td></td>
</tr>
<tr>
<td>Beet greens - fresh cooked</td>
<td></td>
</tr>
<tr>
<td>Broccoli - raw</td>
<td></td>
</tr>
<tr>
<td>Brussels sprouts - frozen</td>
<td></td>
</tr>
<tr>
<td>Cassava</td>
<td></td>
</tr>
<tr>
<td>Cauliflower - raw</td>
<td></td>
</tr>
<tr>
<td>Celery - fresh cooked</td>
<td></td>
</tr>
<tr>
<td>Chard</td>
<td></td>
</tr>
<tr>
<td>Chicory greens</td>
<td></td>
</tr>
<tr>
<td>Chinese cabbage - fresh cooked</td>
<td></td>
</tr>
<tr>
<td>Clamato juice</td>
<td></td>
</tr>
<tr>
<td>Fennel</td>
<td></td>
</tr>
<tr>
<td>Kohlrabi</td>
<td></td>
</tr>
<tr>
<td>Mushrooms - more than 3</td>
<td></td>
</tr>
<tr>
<td>Okra - fresh cooked</td>
<td></td>
</tr>
<tr>
<td>Parsnips</td>
<td></td>
</tr>
<tr>
<td>Potato - baked, frozen, instant</td>
<td></td>
</tr>
<tr>
<td>Potato - fresh fried, scalloped</td>
<td></td>
</tr>
<tr>
<td>Potato pancake</td>
<td></td>
</tr>
<tr>
<td>Potato salad</td>
<td></td>
</tr>
<tr>
<td>Pumpkin</td>
<td></td>
</tr>
<tr>
<td>Rapini</td>
<td></td>
</tr>
<tr>
<td>Spinach</td>
<td></td>
</tr>
<tr>
<td>Squash, acorn, butternut, hubbard</td>
<td></td>
</tr>
<tr>
<td>Sweet potato</td>
<td></td>
</tr>
<tr>
<td>Taro</td>
<td></td>
</tr>
<tr>
<td>Tomato - fresh cooked, canned</td>
<td></td>
</tr>
<tr>
<td>Tomato paste, pureed, stewed</td>
<td></td>
</tr>
<tr>
<td>Tomato juice</td>
<td></td>
</tr>
<tr>
<td>V-8 juice</td>
<td></td>
</tr>
<tr>
<td>Vegetable juice</td>
<td></td>
</tr>
<tr>
<td>Water chestnuts - raw</td>
<td></td>
</tr>
</tbody>
</table>

Courtesy of the Jewish General Hospital
LOW MAGNESIUM

Some types of chemotherapy, notably cisplatin and carboplatin can cause loss of magnesium. Low magnesium may affect your muscles and make you feel tired. If you are on a magnesium lowering drug or if your magnesium is low for other reasons you may wish, on your doctor’s advice to increase the magnesium in your diet.

FOODS RICH IN MAGNESIUM

<table>
<thead>
<tr>
<th>VEGETABLES</th>
<th>mg magnesium</th>
</tr>
</thead>
<tbody>
<tr>
<td>spinach, cooked (1 cup)</td>
<td>156</td>
</tr>
<tr>
<td>spinach, cooked from frozen (1 cup)</td>
<td>130</td>
</tr>
<tr>
<td>spinach, raw (1 cup)</td>
<td>44</td>
</tr>
<tr>
<td>Swiss chard (1 cup)</td>
<td>150</td>
</tr>
<tr>
<td>beet greens (1 cup)</td>
<td>98</td>
</tr>
<tr>
<td>butternut squash, baked, cubed (1 cup)</td>
<td>118</td>
</tr>
<tr>
<td>acorn squash, baked (1 cup)</td>
<td>106</td>
</tr>
<tr>
<td>acorn squash, boiled (1 cup)</td>
<td>64</td>
</tr>
<tr>
<td>okra, cooked from frozen (1 cup)</td>
<td>94</td>
</tr>
<tr>
<td>fresh okra, 8</td>
<td>48</td>
</tr>
<tr>
<td>artichoke hearts, cooked (1 cup)</td>
<td>74</td>
</tr>
<tr>
<td>artichokes, cooked (3 oz)</td>
<td>72</td>
</tr>
<tr>
<td>collards, cooked (1 cup)</td>
<td>50</td>
</tr>
<tr>
<td>corn niblets (1 cup)</td>
<td>48</td>
</tr>
<tr>
<td>corn on the cob (5” long)</td>
<td>22</td>
</tr>
<tr>
<td>green peas, cooked from frozen (1 cup)</td>
<td>46</td>
</tr>
<tr>
<td>baked potato with skin (6 1/2 oz)</td>
<td>54</td>
</tr>
<tr>
<td>baked potato, flesh only (5 oz)</td>
<td>39</td>
</tr>
<tr>
<td>boiled potato, peeled (4 1/2 oz)</td>
<td>27</td>
</tr>
<tr>
<td>stir fried bean sprouts (1 cup)</td>
<td>41</td>
</tr>
<tr>
<td>broccoli, cooked (1 cup)</td>
<td>37</td>
</tr>
<tr>
<td>green beans, cooked (1 cup)</td>
<td>32</td>
</tr>
<tr>
<td>parsnips, cooked (1 cup)</td>
<td>23</td>
</tr>
<tr>
<td>tomato sauce (1/2 cup)</td>
<td>23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NUTS AND SEEDS</th>
<th>mg magnesium</th>
</tr>
</thead>
<tbody>
<tr>
<td>pumpkin seed kernels (1 oz)</td>
<td>124</td>
</tr>
<tr>
<td>sesame seeds (1 oz)</td>
<td>99</td>
</tr>
<tr>
<td>sunflower seeds (1 oz)</td>
<td>95</td>
</tr>
<tr>
<td>almonds (1 oz)</td>
<td>84</td>
</tr>
<tr>
<td>cashews (1 oz)</td>
<td>74</td>
</tr>
<tr>
<td>peanuts (1 oz)</td>
<td>52</td>
</tr>
<tr>
<td>peanut butter (2 tbsp)</td>
<td>48</td>
</tr>
<tr>
<td>English walnuts (1 oz)</td>
<td>48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FRUIT</th>
<th>mg magnesium</th>
</tr>
</thead>
<tbody>
<tr>
<td>prune juice (1 cup)</td>
<td>36</td>
</tr>
<tr>
<td>avocado (1 cup mashed)</td>
<td>90</td>
</tr>
<tr>
<td>bananas (1 cup)</td>
<td>43</td>
</tr>
<tr>
<td>fig (1)</td>
<td>11</td>
</tr>
<tr>
<td>juices (1 cup)</td>
<td>25-27</td>
</tr>
<tr>
<td>raisins (1 tbsp)</td>
<td>48</td>
</tr>
<tr>
<td>fruits</td>
<td>10-25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MILK PRODUCTS</th>
<th>mg magnesium</th>
</tr>
</thead>
<tbody>
<tr>
<td>buttermilk (1 cup)</td>
<td>131</td>
</tr>
<tr>
<td>milk (1 cup)</td>
<td>39</td>
</tr>
<tr>
<td>yogurt (1 cup fruit or plain)</td>
<td>20-40</td>
</tr>
<tr>
<td>cheese (1 oz)</td>
<td>6-8</td>
</tr>
</tbody>
</table>

**FOODS RICH IN MAGNESIUM (continued)**

| NUTS AND SEEDS mg magnesium |
|---------------------------|--------------|
| pumpkin seed kernels (1 oz) | 124          |
| sesame seeds (1 oz)     | 99           |
| sunflower seeds (1 oz)  | 95           |
| almonds (1 oz)          | 84           |
| cashews (1 oz)          | 74           |
| peanuts (1 oz)         | 52           |
| peanut butter (2 tbsp) | 48           |
| English walnuts (1 oz)  | 48           |

| FISH AND MEAT mg magnesium |
|---------------------------|--------------|
| baking chocolate, unsweetened (1 oz) | 88           |
| cocoa powder (2 tbsp) | 52           |
| semi sweet chocolate chips (1/4 cup) | 59           |
| chocolate syrup (2 tbsp) | 26           |
| blackstrap molasses (2 tbsp) | 86           |

| CHOCOLATE mg magnesium |
|------------------------|--------------|
| baking chocolate, unsweetened (1 oz) | 88           |
| cocoa powder (2 tbsp) | 52           |
| semi sweet chocolate chips (1/4 cup) | 59           |
| chocolate syrup (2 tbsp) | 26           |
| blackstrap molasses (2 tbsp) | 86           |

| CEREAL, RICE, BREAD mg magnesium |
|----------------------------------|--------------|
| 100% bran (1 cup)               | 312          |
| bran buds (1 cup)               | 267          |
| all bran (1/3 cup)              | 105          |
| raisin bran (POST) (1 cup)      | 95           |
| wheat germ toasted (1/4 cup)    | 90           |
| brown rice (1 cup)              | 84           |
| white rice (1 cup)              | 21           |
| bread whole wheat, 1 slice      | 24           |

**MAGNESIUM RICH MUFFINS**

The CNRP Magnesium Muffin

1 1/2 cups (375 ml) wheat germ or 100 % bran
1/2 cup (125 ml) all bran or bran buds
1 1/2 cups (125 ml) whole wheat flour
1/2 cup (125 ml) white flour
1 tbsp (15 ml) baking powder
1/3 tsp (1/3 ml) salt or to your taste
4 tbsp (20 ml) brown sugar
3 tbsp (15ml) almonds (crush them with a rolling pin)
3 tbsp (15 ml) pumpkin seeds or a combination of pumpkin, sesame and sunflower seeds (crush them with a rolling pin)
6 figs (chop up into small bits)
1/4 cup (60 ml) dark chocolate chips
2 eggs (medium)
1/3 tsp. (2 ml) vanilla extract
100 ml of canola oil
1 cup (250 ml) buttermilk

Mix all dry ingredients together. Crush almonds, seeds and chop figs and add to dry mixture along with chocolate chips. Beat eggs, then add oil, vanilla and buttermilk. Add liquid ingredients to dry and mix.

Put into greased muffin pans. Bake at 375 degrees for 15-20 minutes. Makes 28 mini muffins or 12 big muffins.

Nutritional content of 1 mini muffin: 42 to 55 mg magnesium, 105 calories, 3 gm protein, 12 gm carbohydrate, 5.7 gm fat, 2 gm fibre
DIARRHEA

Diarrhea often occurs during certain cancer treatments. Eating foods low in fibre is recommended. However, some forms of soluble fibre are recommended since they decrease intestinal motility (how fast food goes through the intestines) and help to absorb water in the intestine. Try oatmeal, barley, white rice. The gummy substance found in cooked carrots, beets, squash, okra contains soluble fibre. Applesauce without the skin, bananas guava, crabapples, gooseberries and Concord grapes contain pectin which help absorb water. Also, it is important to drink plenty of fluids in order to prevent dehydration.

Milk and milk products may present a problem if diarrhea is persistent and you may be advised to follow lactose intolerance recommendations. Your doctor may request a stool culture if diarrhea persists and look for other causes. (LOOK AT DEHYDRATION AND FLUIDS).

LOW FIBRE DIET

While you are experiencing diarrhea and/or abdominal cramping, you may need to temporarily decrease the amount of fibre in your diet. It may also be useful to limit residue-causing foods.

It becomes necessary to decrease the amount of fibre in order to relieve stress on the gastro-intestinal tract. As your symptoms disappear, gradually re-introduce different foods back into your diet.

RECOMMENDATIONS

- Follow this diet on a temporary basis only. Once your symptoms disappear gradually re-introduce food back into your diet.
- Follow Canada’s Food Guide to Healthy Eating and choose a variety of foods in each group.
- In general, avoid any foods made with nuts, seeds or dried fruits.
- Choose refined grain products such as white bread, rice, pasta, etc. Avoid whole grain products.
- Remove skin from vegetables and fruits before cooking.
- Consume milk and milk products according to your tolerance. Determine with your dietitian how many servings are appropriate for you.
- Avoid excessive amounts of concentrated sugars (refined sugar, fruit juices, iced cakes, jam and jelly) and fats as they may cause distress and irritation to your digestive tract.

LOW FIBRE

MILK & MILK PRODUCTS
- Low fat milk, milk drinks, yogurt (made with recommended fruits), cheeses, cottage cheese

MEAT & ALTERNATIVES
- Ground or well-cooked meats (beef, veal, lamb, ham, pork, poultry, fish and organ meats, meat sauces, tofu

VEGETABLES & FRUIT
- Most well cooked or canned vegetables without seeds. Examples: green & yellow beans, carrots, beets, potatoes (scalloped mashed or baked – no skin), cooked asparagus tips, tomatoes, tomato sauce (no seeds), squash, zucchini, mushrooms
- Lettuce, if tolerated.
- Strained vegetable juices.
- Most canned or cooked fruits, applesauce, ripe bananas.
- Strained fruit juices.

GRAIN PRODUCTS
- Use refined, white and rye breads, buns, plain muffins, crackers (soda, Melba toast) waffles, pancakes.
- Refined and cooked cereals (puffed rice and wheat, cream of wheat, oatmeal).
- White rice and pasta (macaroni, spaghetti) or noodles.

OTHER FOODS (in moderation)
- Margarine, butter, vegetable oils, mayonnaise, gravies and salad dressings.
- Bouillon, broth and soups made with allowed ingredients.
- Plain cakes and cookies, pie made with allowed foods
- Sherbet, popsicles, ice cream
- Gelatin-like desserts, jellies
- Candles such as life savers
- Condiments, spices, vinegar

FOODS THAT MAY CAUSE DISTRESS OR PROBLEMS

MILK & MILK PRODUCTS
- Dairy products should be consumed according to individual tolerance

MEAT & ALTERNATIVES
- Legumes (lentils, dried beans and peas, soybean, chick peas, etc.)
- Nuts, seeds, crunchy peanut butter.
- Tough, fibrous meats, fried meats

VEGETABLES & FRUIT
- Raw vegetables, vegetables with seeds.
- Examples: celery, eggplant, broccoli, Brussel sprouts, cucumbers, onions, spinach and other similar greens, peppers.
- Sauerkraut
- All dried candied fruit.
- All berries.
- Pears and apples with skin, rhubarb, prunes, pineapple, grapes

GRAIN PRODUCTS
- Any kind of bread, muffin, bun, and cracker made with whole wheat or whole grain flour, bran, and products with dried fruits, seeds, nuts.
- Cereals with seeds, nuts, dried fruits, coconut, granola cereals.
- Brown or wild rice, whole wheat pasta, commin.

OTHER FOODS (in moderation)
- Any made with whole wheat, whole grain flour, bran, seeds, nuts, dried fruits, coconut, popcorn, fried foods.
- Coffee tea and carbonated beverages.
- Jam with seeds.

 Courtesy of the Jewish General Hospital
LACTOSE INTOLERANCE

Lactose is a kind of sugar found naturally in milk and milk products. Lactose intolerance occurs when your body does not produce enough lactase, a substance (enzyme) naturally produced in the body needed to digest lactose. People with this syndrome experience symptoms of cramping, diarrhea, gas, or bloating, 1/2 to 2 hours after eating lactose containing foods.

Lactose intolerance has two major causes:
1. It may be a temporary side effect following an episode of diarrhea due to treatment from antibiotics, radiation, chemotherapy or bowel surgery. Persistent diarrhea does not allow the enzyme lactase to work and lactose intolerance develops. Once the treatments have stopped, the body will gradually start to digest lactose and the diarrhea will stop.
2. It may be inherited, therefore it is a permanent condition.

Dietary control of lactose intolerance is a very individual process based on trial and error. Some people find that they can tolerate a certain amount of lactose while others experience symptoms with even a small dose. With the help of a dietitian and your own experience, you will learn how much lactose you can tolerate.

HELPFUL HINTS

There are several ways to ensure that you are eating enough foods from the milk and milk products group. Even though you can not absorb and use the lactose in these products, you can still absorb the calcium, vitamin D and other important nutrients that they contain. The following tips may be helpful depending on the degree of lactose intolerance you have:

- Drink small amounts of milk, 75-125mL (1/4 to 1/2 cup) at a time.
- Do not drink milk on an empty stomach, drink with meals or snacks.
- Eat yogurt with live bacterial culture. The live bacterial cultures help to digest the lactose therefore making it easier to tolerate.
- Eat hard, aged cheeses as they contain low levels of lactose. Cheddar, Mozzarella, Swiss and Parmesan are examples of these cheeses.
- Drink lactose reduced milk (Lactaid, Lacteaze) or add lactase drops to regular milk before drinking it. People that are very sensitive to lactose may need to add the drops to lactose reduced milk as well.
- Take lactase tablets (Lactaid) before eating milk or milk products.

LACTOSE INTOLERANCE

FOOD RECOMMENDED

MILK PRODUCTS
Milk: milk such as Lactaid or Lacteaze; regular milk treated with Lactaid drops; soy milk, soy-based infant formulas.
Cheese: dry curd cottage cheese; Camembert, cream cheese, Gouda, blue, Colby, cheddar, processed, Parmesan.
Others: half & half, light and whipping cream (less than 1 tbsp), kosher ice cream.

MEAT & ALTERNATIVES
All plain meat, fish, poultry, eggs, nuts, seeds, peanut butter, dried beans, chick peas, lentils, tofu.

VEGETABLES & FRUIT
All fruits, vegetables and their juices, except those in the next column.

GRAIN PRODUCTS
Breads: Italian, French, whole wheat, rye, bagels, croissants, white.
Cereals: oatmeal, cream of wheat, Mini Wheats, Puffed Rice, Rice Krispies, Puffed Wheat, Corn Flakes, Cherries, Bran Flakes, etc.
Others: crackers, pastas, rice.

OTHER FOODS (in moderation)
Fats & Oils: butter, milk-free margarine, lard, shortening, oil, mayonnaise, salad dressing.
Sweets: plain candy (jelly beans, gum drops, pure chocolate, sugar), jams, jellies, marmalades, honey, corn syrup, maple syrup, chewing gum.
Others: herbs, spices, cocoa powder, ketchup, relish, liquid or powdered non dairy creamers, plain popcorn, potato and corn chips, pretzels.

LACTOSE INTOLERANCE

FOODS TO AVOID

MILK PRODUCTS
Milk: untreated milk (skim, 1%, 2%, whole), chocolate milk, goat milk, powdered milk, buttermilk.
Cheese: Ricotta, 2% cottage cheese, creamed cottage cheese.
Others: yogurt, sour cream, ice cream ice milk, puddings, yogurt based drinks, half & half, light cream, and whipping creams (more than 1 tbsp).

MEAT & ALTERNATIVES
Commercially processed meat*, commercially prepared meats and poultry in a batter* or cream sauce.

VEGETABLES & FRUIT
Potatoes: instant potatoes*, commercially processed or prepared potato products such as scalloped potatoes.
Vegetables: commercially processed or prepared vegetable products such as cream vegetables, breaded or battered vegetables, vegetables in pastry.
Fruit: commercial fruit pie fillings*.

GRAIN PRODUCTS
Breads: Read labels.
Cereals: made with skim milk powder* such as Special K, Alpen, granola, etc.
Other: Read labels - granola bars, commercial baked products (cakes, cookies, pies), waffles, cresps.

Other foods (in moderation)
Fats & Oils: margarine containing lactose*.
Sweets: milk chocolate and other commercially prepared icing products.
Others: liquid or powdered drinks (hot & cold drink mixes), frozen or powdered artificial whipped topping, party dips, cheese flavored snacks, artificial sweeteners.

* Read section on food labeling.
FOOD LABELING

Check labels carefully for the following words Awhey®, Acurds®, Acry milk solids®, Amilk sugar® and Anon fat dry milk®. If these words appear on the label they may cause symptoms of lactose intolerance in highly sensitive individuals. However, words such as Alactic acid®, Alactalbumin®, Alactate® and Acasein® do NOT contain lactose and therefore can be included in the diet. The items with a A® in the table are those whose labels should be checked carefully for the above terms.

The following information may be helpful for those patients who are trying to determine the amount of lactose they can tolerate:

LACTOSE CONTENT OF CERTAIN FOODS

<table>
<thead>
<tr>
<th>Product</th>
<th>Lactose (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk, whole, 2%, 1%, fat-free (1 cup or 250 ml)</td>
<td>11</td>
</tr>
<tr>
<td>Buttermilk (1 cup or 250 ml)</td>
<td>10</td>
</tr>
<tr>
<td>Evaporated (1/2 cup or 125 ml)</td>
<td>12</td>
</tr>
<tr>
<td>Sweetened condensed (1/2 cup or 125 ml)</td>
<td>15</td>
</tr>
<tr>
<td>Ice milk (1/2 cup or 125 ml)</td>
<td>9</td>
</tr>
<tr>
<td>Ice cream (1/2 cup or 125 ml)</td>
<td>6</td>
</tr>
<tr>
<td>Half and half (1/2 cup or 125 ml)</td>
<td>5</td>
</tr>
<tr>
<td>Yogurt, low-fat (1 cup or 250 ml)</td>
<td>5</td>
</tr>
<tr>
<td>Sour cream or light cream (1/2 cup or 125 ml)</td>
<td>4</td>
</tr>
<tr>
<td>Cottage cheese, creamed (1/2 cup or 125 ml)</td>
<td>3</td>
</tr>
<tr>
<td>Whipping cream (1/2 cup or 125 ml)</td>
<td>3</td>
</tr>
<tr>
<td>Cottage cheese, uncreamed (1/2 cup or 125 ml)</td>
<td>2</td>
</tr>
<tr>
<td>Sherbet, orange (1/2 cup or 125 ml)</td>
<td>2</td>
</tr>
<tr>
<td>American cheese (1 oz or 30 g)</td>
<td>2</td>
</tr>
<tr>
<td>Other cheeses, including Swiss, blue, cheddar, and Parmesan (1 oz or 30 g)</td>
<td>1</td>
</tr>
<tr>
<td>Cream cheese (1 oz or 30 g)</td>
<td>1</td>
</tr>
<tr>
<td>Butter (1 tsp or 5 ml)</td>
<td>Trace</td>
</tr>
<tr>
<td>Lactaid milk (1 cup)</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

Adapted from Adverse Reactions to Foods, Chicago, Ill: American Dietetic Association, 1991. Courtesy of the Jewish General Hospital

FATIGUE

Fatigue can be a result of chemotherapy treatment, cancer, depression, fear, inactivity, and is made worse by a poor intake of protein and calories. It is important to have a meal plan rich in protein and calories throughout the day. Becoming more active can counteract your tiredness. (LOOK AT ANEMIA AND APPENDIX ON TIPS TO INCREASE CALORIES AND PROTEIN).

FEELING FULL

Please look at section on slowed stomach emptying.

FLATULENCE (GAS)

Gas can be caused by your body’s inability to digest certain carbohydrates. For ideas to decrease gas production try using LACTAID pills or using Lactose free milk or BEANO. Limit gas producing foods as well. It is important to chew foods thoroughly and eat slowly. Swallowing too much air can increase flatulence; therefore do not drink with a straw. (LOOK AT ABDOMINAL DISTENTION)

HICCUPS

Hiccupping may be caused by an irritated diaphragm or by a distended stomach. It is important to eat small frequent meals throughout the day and it may help to separate your solids and liquids. Eat your protein rich foods first and drink your beverage or soup about _ to one hour after eating. Eating slowly and not talking while eating may also help to alleviate your hiccups. Sometimes hiccups occur because the stomach doesn’t empty properly (SEE Slowed stomach emptying).
PAIN MEDICATION SIDE EFFECTS
Constipation and nausea for the first few days are common side effects of pain medication from the opioid family (morphine like drugs). It is important to drink at least 2 litres of fluid per day to avoid constipation.

(LOOK AT CONSTIPATION, NAUSEA AND VOMITING, FLUIDS AND SECTION ON SNACKS FOR APPETITE LOSS).

SLOWED STOMACH EMPTYING
Eating small meals throughout the day (every 2 to 3 hours) is recommended. Chew food well and eat slowly. Drink beverages and soup one hour after a meal or about 1 hour before a meal. Eat your solid foods first, such as protein from meat, chicken, fish, cheese or yogurt and drink your beverage or eat your soup after. This will help in preventing fullness. Limit the amount of high fibre foods and gas producing foods as these will contribute to the feeling of fullness. Try eating high protein foods for snacks or a nutritional supplement bar or beverage. Nutritional supplements or home made milkshakes can be sipped on throughout the day. If needed your physician may recommend a drug to speed up the passage of food through your stomach thus easing the full feeling.

(LOOK AT SECTION ON SNACKS FOR APPETITE LOSS AND TIPS TO INCREASE CALORIES AND PROTEIN).

HEARTBURN
Heartburn or a feeling of indigestion can have many causes. By not eating you are worsening your heartburn. It is important to consume small amounts of food every 2 to 3 hours. Sometimes separating solids from liquids may help. Avoid spicy foods as well as alcohol and peppermint. It is important not to lie down after eating. Consuming peppermint and lying down can contribute to acid reflux which gives heartburn.

HEARTBURN CONTROL* General Guidelines
- Have frequent small meals and snacks instead of three large meals.
- Chew food well, eat and drink slowly.
- Avoid swallowing air when eating, do not talk and eat at the same time.
- Avoid chewing gum and carbonated drinks.
- Do not wear tight fitting clothes.
- Do not bend or lie down after eating.
- Avoid eating 2 hours before going to bed.
- Elevate the head of your bed - do not lie flat.
- Avoid: High fat and greasy foods, chocolate, coffee, colas, strong tea, alcohol, mint, peppermint, tobacco.
- Use more: Lean meat, fish and poultry, skim or partly skim milk and dairy products.
- Certain individuals have discomfort when taking tomato, tomato juice, citrus fruits or juices and very spicy foods. If this happens to you, dilute juices, take smaller portions of citrus fruit or avoid completely.
- Remember this is an individual intolerance; therefore it is not necessary to avoid foods if they are not a problem.

*Courtesy of the Jewish General Hospital

NAUSEA AND VOMITING
Following a semi dry diet of crackers, toast, tea biscuits for 1 to 2 days will help decrease nausea. However, it is important to consume liquids in order to prevent dehydration. Broths, jello, diluted juices, flat 7-Up, ginger ale or soda water and weak tea can be sipped on throughout the day. Not eating will make the nausea worse. Once your nausea subsides you can introduce more solid foods into your meal plan, such as protein and bland cooked vegetables and canned fruit. Consuming small frequent meals every 2 to 3 hours will also help.
SORE MOUTH
Cancer and cancer treatment can sometimes cause the mouth to become very sore and make it difficult to chew and swallow. Certain chemotherapy agents and radiation therapy to the head and neck area can make the inside of the mouth raw and irritated. There are things you can do to help your mouth heal and to make it feel better:

I Choose soft, bland-tasting foods that are served cold or at room temperature.
Try blenderized fruits and vegetables; creamed soup; cooked cereal; macaroni and cheese; yogurt; pudding; and chicken, beef, or fish cooked until very tender. Other soft foods include milkshakes, bananas, applesauce, mashed potatoes, pasta, noodles, cottage cheese, custard, gelatin, scrambled eggs, and pureed meats.

I Chilled foods and beverages can be soothing. Try freezing fruits such as grapes, banana pieces, melon balls, peach slices, or mandarin orange slices. Suck on frozen fruit pops (Popsicles), fruit ices, ice chips, or other cold foods.

I Puree or liquify foods in a blender to make them easier to swallow.
Add broth, soup, sauces, gravy, butter, or margarine to moisten foods. Dip or soak food in whatever you are drinking.
Serve foods cold or lukewarm rather than hot, to reduce mouth irritation.
Eat high-protein, high-calorie foods to speed up healing.

What to Avoid:
I Avoid citrus fruits (oranges, grapefruit, limes, lemons) and tomatoes because their high acid content can irritate a sore mouth.
I Avoid irritating spices, seasonings, and condiments such as pepper, chili powder, cloves, nutmeg, salsa, pepper sauces, and horseradish, although capsaicin taffy has been helpful for mouth pain (see recipe).
I Avoid rough, dry, or coarse foods, which can scratch an irritated mouth or throat.
I Avoid commercial mouthwashes, alcoholic and acidic beverages, and tobacco. They can dry and irritate your mouth.

HELP FOR NAUSEA AND VOMITING

I Keep a few dry crackers or social tea cookies, or a piece of toast beside your bed, and eat these in the morning when you get up. Then remain in a seated position or at a 45º to 60º angle until the feeling of nausea goes away, however do not lie down.

I Instead of three large meals eat small amounts of food throughout the day.
Drink beverages such as milk, water, juice or weak tea between meals, instead of with meals.
Try Ginger Tea.
Include more of the high carbohydrate foods in your diet such as crackers, plain cookies, toast and jelly, canned fruit, cereal and milk, yogurt, baked potato, pasta, rice and plain gelatin desserts as long as the nausea lasts.
You can then resume your regular diet. Try eating bland foods such as plain chicken, turkey or beef and plain vegetables.
Gradually introduce your usual foods back into your meal plan, BUT DON’T eat or drink the following:
Don’t eat foods that are high in fat such as fried foods, pastries, and rich desserts.
Don’t eat large meals but don’t stop eating altogether or let your stomach get completely empty. Instead, space your meals throughout the day, and make them smaller.
Don’t drink caffeinated coffee. Try decaf. or herbal teas.

SORES, INFECTIONS OR DRYNESS IN THE MOUTH OR THROAT

With permission from the American Dietetic Association

Be sure that your mouth is kept moist and regularly check to ensure that a fungus infection, called “thrush” is not present. Thrush, identified by the presence of whitish material on the tongue and the inside of the cheeks, is common particularly if one is taking steroid drugs. It is important to diagnose it, as it is easily treated with simple mouthwashes or anti-fungal drugs. If untreated, it can cause major problems in taste appreciation, appetite, and swallowing. The mouth can become sore and often foods are difficult to chew or swallow. The mouth and throat can also become irritated and raw due to chemotherapy. Often a liquid, soft or pureed meal plan is advised if foods are difficult to swallow. Milkshakes, Smoothies, Whey Protein shakes, cream soups, and high protein soups may be needed until the irritation is alleviated. Non acidic and non spicy foods are recommended if you have sores in your mouth. (SEE RECIPE FOR HIGH PROTEIN SOUPS, AND SECTION ON NUTRITIONAL AND HOMEMADE SUPPLEMENTS)

Because taste is so important, we have a special section on it in our FOOD PREPARATION chapter. Please look at it if you experience taste problems. (LOOK AT SECTION ON FOOD PREPARATION AND TASTE CHANGES).
Helpful Techniques:
- Tilt your head back and forth to help foods and liquids flow to the back of the throat for swallowing.
- Drink through a straw to bypass an irritated mouth, especially if you have sores and tender places in your mouth.
- Rinse your mouth often with baking soda and salt mouth rinse (made with 1 quart water, 3/4 teaspoon salt, and 1 teaspoon baking soda) to remove food and germs, and to enhance healing.
- Talk to your doctor about medications that can numb and soothe your mouth or throat.

Recommended Food List:
- High-protein foods ground, chopped, or blenderized meats, poultry, or fish; casseroles; egg, cheese, and bean dishes; milkshakes; yogurt, and commercial liquid nutritional supplements
- Cereal Products: Rice, moistened breads, cooked cereals, cold cereal and pasta soaked in milk, pasta and rice in sauce
- Vegetables and Fruit: Cooked or blenderized fruits and vegetables
- Beverages and desserts: Fruit nectars; flavored gelatin, ice cream, sherbet, or pudding
- Miscellaneous: Butter, margarine and vegetable oils

Foods That May Cause Distress:
- Whole meats, poultry, or fish; dry meats
- Dry toast, hard rolls, English muffins, dry crackers, bagels
- Fresh fruits and vegetables (unless very ripe, soft, and juicy—for example, bananas or watermelon); citrus fruits, pineapple, and other acidic fruits; pickled fruits; raw and pickled vegetables
- Carbonated beverages; cookies and cakes unless soaked in liquids; crunchy snacks such pretzels and chips
- Condiments such as pepper sauces, chili, salsa, pepper, and cloves; vinegar

SORE OR IRRITATED THROAT

Cancer and cancer treatment can sometimes cause the throat to become very sore and make it hard to eat and swallow. Certain chemotherapy agents and radiation therapy to the head, neck, or chest area can make the inside of the throat irritated. Some people even experience heartburn and gastric reflux.

Here are some things you can do to help your throat heal and to make it feel better:
- Try eating foods that are bland, semisolid or soft, and easy to swallow. Cream soups, cheeses, mashed potatoes, yogurt, eggs, custards, puddings, cooked cereals, ice cream, casseroles, gravies, shakes, and smoothies are usually easy to eat.
- Make smoothies with soothing fruits, such as melons, bananas or peaches. Add yogurt, frozen yogurt, milk, ice cream or silken tofu as well as whey protein powder for extra protein.
- Take your time while you eat. Chew and swallow foods carefully and allow ample time between bites.
- Choose lukewarm or cool foods that are soothing. Very cold foods or very hot foods can cause distress.
- Several small meals a day are easier to eat and digest than three large meals. Space meals around 2 to 3 hours apart to get the most comfort. Remember to stop eating 2 to 3 hours before bed and to sleep with your head elevated if gastric reflux and heartburn are problems.

What to Ask Your Doctor, Dietitian, or Nurse:
- Nutritional supplements, such as liquid meal replacements, may be helpful during this time. Your doctor, nurse, or dietitian may have samples and suggestions about which supplements would be best for you.
- Talk to your doctor about medications that can numb and soothe your mouth or throat.

What to Avoid:
- Tart, acidic, or salty beverages and foods can be irritating.
- Foods that may cause discomfort include:
  - Citrus fruit juices (grape fruit, orange, lemon, and lime)
  - Pickled and vinegar foods (relishes and pickles)
  - Tomato-based foods (chili, salsa, pasta sauces, and pizza)
  - Some broths (canned and dry packets)
- Avoid coarse or rough textured foods, such as dry toast, granola, and raw fruits or vegetables. Blend or moisten foods that are dry and solid.
- Avoid commercial mouthwashes, alcoholic and acidic beverages, and tobacco. They can dry and irritate your mouth.
Avoid strong spices, such as chili powder, cloves, curry, hot sauces, nutmeg, and peppers, although capsaicin taffy has been helpful for throat pain (recipe printed on “Sore Mouth” handout).

Recommended Food List:
- High-protein foods: Soft, bland meats and casseroles such as chicken rice casserole, macaroni and cheese, or tuna noodle casserole; homemade cream soups; eggnog, milk, milkshakes, silken tofu
- Grain Products: Bread, if tolerated; cooked or cold cereals with milk, pasta, or rice casseroles
- Vegetables and Fruit: Soft, non-acidic fruits and vegetables; non-acidic juices such as apple juice and miscellaneous nectars or fruit punches
- Desserts: Non-Chocolate pudding, cake, cookies (as tolerated), pie, gelatin, ice cream, and sherbet
- Beverages: Decaffeinated coffee, tea, herbal teas and soft drinks

Foods That May Cause Distress:
- Spicy entrees, such as spaghetti, tacos, chili; whole meats if not well tolerated
- Crackers, hard-crust breads, salted rolls
- Citrus fruits and raw vegetables; tomatoes, tomato-containing products
- Citrus juices, tomato juice, caffeinated beverages, alcohol,
- Pickles, vinegar, spices, potato chips,
- Pretzels, popcorn, snack chips

RECIPIES

Potato Soup

3 medium potatoes, peeled and cubed
2 cups (500 ml) chicken broth (reduced-sodium)
2 stalks celery
1/2 small onion, peeled
1 tbsp (15 ml) margarine
1 tbsp (16 ml) flour
2 cups (500 ml) milk
2 eggs, hard-cooked, chopped
Salt and pepper to taste

Cook potatoes in chicken broth with celery and onion until potatoes are tender.
Blend mixture in a blender or food processor or rice in a ricer. In a heavy saucepan over low heat, melt margarine and stir in flour to make a paste. Slowly add milk, stirring or whisking continuously until mixture is thoroughly blended and heated through. Add pureed potato mixture. Add chopped eggs that have been pushed through a sieve or rice in a ricer. Mix well and season with salt and pepper as desired. Serve hot or cold. (This soup thickens when chilled and may need to be thinned with additional chicken broth or milk.) Makes four servings. Each serving contains 240 calories and 12 grams protein when prepared with reduced-fat milk.

Basic Sauce

2 tbsp (30 ml) vegetable oil or margarine
2 tbsp (30 ml) flour
1 cup (250 ml) broth or milk
Nutmeg, salt, grated lemon rind, or soy sauce (optional)

Heat vegetable oil or margarine in a heavy saucepan. Stir in flour. Whisk for 1 to 2 minutes over low heat. Remove from heat. Heat and add broth or milk. Stir briskly until smooth and return to heat. Add seasonings of choice. Bring almost to a boil. Turn heat to low and simmer until thickened. This basic sauce can be altered as desired with a variety of seasonings. It is useful for moistening foods, as well as increasing calorie and protein values. Makes 1 cup (250 ml) of sauce.

Apricot Smoothie

1/4 cup (60 ml) plain or vanilla yogurt
1/2 cup (125 ml) whole milk
1/2 cup (125 ml) canned apricots (packed in heavy syrup)
1 tbsp (15 ml) honey

Blend ingredients to desired consistency and chill well before serving. Makes one serving. Each serving contains 280 calories and 8 grams protein (calculated with plain non-fat yogurt).

Peaches and Cream

1 cup (250 ml) whole milk
1 cup (250 ml) canned peaches (packed in heavy syrup), including juice
1 cup (250 ml) vanilla ice cream or frozen yogurt
Almond or vanilla extract to taste

Blend ingredients and chill well before serving. Makes two servings. Each serving contains 300 calories and 7 grams protein.
**SWALLOWING PROBLEMS**

Cancer and its treatment can sometimes make it hard to swallow food. If you are having trouble swallowing, try eating softer, more liquid foods. Using liquid nutrition drinks may be helpful if you are not able to eat the foods you usually would eat. Your doctor may also refer you to a speech therapist to teach you how to swallow more easily.

- If appropriate, get a swallowing evaluation for recommendations about what the best fluid consistency is for you.
- Drink 6 to 8 cups (1500 to 2000 ml) of fluid each day and thicken the fluid to the right consistency for you.
- Eat small meals often during the day.
- If you need thicker liquids to help you swallow, try adding gelatin, tapioca, flour, cornstarch, pureed vegetables, instant potatoes, dry infant cereals, or commercially prepared thickeners.
- If you cough or choke when you eat, report this to your doctor, nurse or dietitian immediately, especially if you also have a fever.
- Talk with your health care team! Let them know if you are having a hard time swallowing food or fluids.

**SELECTION OF THICKENING AGENTS**

- **Gelatin**: Can be used with cakes, cookies, crackers, sandwiches, pureed fruits, and other cold foods. It forms a soft gel that aids in swallowing these foods. Mix 1 tablespoon unflavored gelatin until dissolved in 2 cups liquid and pour over food. Allow food to sit until it is saturated.
- **Tapioca, flour, or cornstarch**: Will thicken liquids to different consistencies but need to be cooked.
- **Pureed vegetables**: Useful for soups but can alter the flavor.
- **Dry infant cereal, instant potatoes**: Useful for soups but can alter the flavor. Useful when a very thick cereal product is needed.
- **Commercial thickeners**: A fluid’s consistency can be adjusted depending upon the amount used. Follow the instructions on the label.

<table>
<thead>
<tr>
<th>Boiled Custard</th>
<th>2 cups (250 ml) milk</th>
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<tbody>
<tr>
<td></td>
<td>2 eggs</td>
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<tr>
<td></td>
<td>1/4 cup (60 ml) sugar</td>
</tr>
<tr>
<td></td>
<td>1 1/2 tsp (7.5 ml) cornstarch</td>
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<tr>
<td></td>
<td>1 tsp (5 ml) vanilla</td>
</tr>
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<td></td>
<td>Pinch of salt</td>
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</tbody>
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In a medium saucepan, heat milk over medium-low heat until it just begins to bubble at the edges. Do not boil. Beat eggs, sugar, and cornstarch together in a separate bowl. Add a little of the scalded milk to the egg mixture, stirring well. Add this mixture to the rest of the scalded milk, stirring constantly. Cook over low heat until the mixture coats a spoon. Remove from heat. When cool, add salt and vanilla. This is delicious by itself or over fruit or cake. Makes four servings. Each serving contains 150 calories and 7 grams protein (calculated with reduced-fat milk).

**PUREED OR THICK-LIQUID DIET**

- **Milk Products and Meat and Alternatives**: Thickened milk; yogurt without fruit; cottage cheese; sour cream pureed meat, poultry, and fish; casseroles; soft scrambled eggs
- **Cereal Products**: Cooked cereals, such as cream of wheat or cream of rice; slurried* breads as tolerated; pureed pasta or rice
- **Vegetables and Fruit**: Pureed fruit and vegetables without seeds or skins; mashed potatoes; thickened juices and nectars
- **Condiments, beverages, and thick syrups or honey**: Butter or margarine; spices; milkshakes; custard or desserts pudding; slurried* cakes or cookies as tolerated

**Mechanical Soft-Thick-Liquid Diet**

- **Milk Products**: Milk, yogurt, cheeses, and sour cream
- **Cereal Products**: Soft breads; graham crackers; cookies; soft cold cereals in milk; pancakes and waffles; pasta; rice
- **Vegetables and Fruit**: Bananas; canned fruit; soft, well-cooked or pureed vegetables
- **Condiments, beverages, and syrups and honey**: Butter and margarine; spices; thick fluids; soft desserts that do not require much chewing, such as ice cream, sherbet, flavored gelatin, pudding, custard, soft cakes, or soft cookies
- **If thin liquids are recommended for you, select from the following**: coffees, tea, soft drinks, liquid nutritional supplements, Italian ice, sherbet, broth, or thin cream soups.

*A slurry is a thickener dissolved in a liquid. A slurried bread or cake has a thickened liquid poured on top to make it easier to swallow.

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INTERNET WEBSITES

websites for nutritional information for cancer patients

Abramson Cancer Centre
  http://www.oncolink.org

American Cancer Society
  http://www.cancer.org  type in: Nutrition

The American Dietetic Association
  http://www.eatright.org

American Institute for Cancer Research
  http://www.aicr.org/publications/resource/part2.lasso#Treatment

American Society of Clinical Oncology (ASCO)
  http://www.peoplelivingwithcancer.org/

The Association of Cancer Online Resources
  http://www.acor.org

Arizona Cancer Center
  http://www.azcc.arizona.edu/nutrition/pvn-treatment.htm

British Columbia Cancer Agency
  http://www.bccancer.bc.ca
  http://www.bccancer.bc.ca/PPI/CancerTreatment/Nutrition/ NutritionalChallengesduringCancerTreatment/default.htm
  http://www.bccancer.bc.ca/HPI/NutritionalCare/Role+of+Nutrition+in+Cancer+Care.htm
  http://www.bccancer.bc.ca/HPI/NutritionalCare/SMG/default.htm

Health Canada
  http://www.hc-sc.gc.ca

Canadian Cancer Society / Société canadienne du cancer
  http://www.cancer.ca  type in:

Canadian Oncology Society
  http://www.cos.ca
  http://www.cancerguide.org

Association of Cancer Online Resources (ACOR)
  http://www.acor.org

CancerBACUP (Diet and the Cancer Patient)
  http://www.bacup.org.uk
  http://www.bacup.org.uk/info/diet.htm

Cancer Care
  http://cancercare.org

Cancer Net
  http://www.cancernet.ca.nid.nih.gov/index.htm

Cancer News
  http://www.cancernews.com

Cancer Pain (Management of Cancer Pain by ACOR)
  http://www.cancer-pain.org

Cancer Pain (excellent site for cancer resources)
  http://www.cancerpain.com

Cancer Research and Prevention Foundation
  http://www.preventcancer.org

Cancer Supportive Care
  (excellent summaries and information on cancer, symptoms and management)
  http://www.cancersupportivecare.com/sitemap.html
  http://cancersupportivecare.com/nutrition.html

Dietitians of Canada
  http://www.dietitians.ca

Food and Nutrition Information Center

Fondation québécoise cancer
  http://www.fcq.qc.ca
  http://www.fcq.qc.ca/dossier.asp?id=20
  http://www.fcq.qc.ca/dossiertexte.asp?id=104

Health Canada
  http://www.hc-sc.gc.ca/pphp-dgsp/cdgc-ccmg/cancer/links_e.html

Memorial Sloan-Kettering Cancer Center
  http://www.mskcc.org
NUTRITION RECOMMENDATIONS

HIGH-PROTEIN, HIGH CALORIE

Maintaining weight or losing weight is a problem confronting many cancer patients. Your protein and caloric needs are increased during your illness and are further increased if you receive chemotherapy or radiotherapy. If you cannot maintain your weight you need to consume more calories.

Increasing protein in your diet allows the body to build and repair its cells. A high-calorie, high energy diet allows the protein to be used for growth and repair while providing enough energy to maintain or gain weight.

GENERAL GUIDELINES

1. Follow Canada’s Food Guide to Healthy Eating but increase the amount of protein and calories (energy). High-quality protein is found in the Milk & Milk Products and Meat & Alternative groups. Choose foods from these groups for each meal and snack.

2. Carbohydrates supply the body with the best and quickest source of energy. We find carbohydrates in the Grain Products and Vegetables and Fruit groups.

3. Fat is also needed in your everyday meal plan to help insulate and warm our bodies and to help transport the fat soluble vitamins A, D,E and K. Fat can supply a lot of calories and is a quick way to help maintain and increase your weight. Fat is found in many food sources such as nuts, milk products, vegetable oils and butter.

4. Eat more often but in smaller amounts. This may help to increase your appetite.

5. Sugars, sweets and chocolate are high in calories (energy), but poor sources of protein, vitamins and minerals. When taken eat them with a high-protein food.

6. Drink fluids of high-nutritive value - milkshakes, milk, etc. Limit the amount of coffee, tea, and sodas as these fluids are poor sources of protein, vitamins and minerals.

Mayo Clinic
http://www.mayoclinic.com/findinformation/diseasesandconditions/list.cfm?alpha=c

National Cancer Institute
http://www.cancer.gov/cancerinfo/pdq/supportivecare/nutrition
http://www.cancer.gov/cancerinfo/eatinghints/DetailedTOC#
http://www.cancer.gov/cancerinfo/chemotherapy-and-you

National Cancer Institute of Canada
http://www.ncic.cancer.ca/

National Institute of Health

National Foundation for Cancer Research
http://www.researchforacure.com

Quackwatch
http://quackwatch.com

Stanford Cancer Supportive Care Program
http://stanfordhospital.com

United Kingdom Christie Hospital NHS Trust
http://www.cancerlineuk.net/index.asp
http://www.christie.nhs.uk/
http://cancerhelp.org.uk

United States Department of Health and Human Services
http://www.healthfinder.gov/

United States National Cancer Institute
http://cancer.gov/

University of Pennsylvania Cancer Center
http://www.oncolink.edu
http://www.oncolink.upenn.edu
FOOD CHOICES ACCORDING TO CANADA’S FOOD GUIDE TO HEALTHY EATING.

- Eat frequent small meals throughout the day so you don’t fill up quickly.
- Eat slowly chew your food well.
- To avoid the discomfort of feeling full, try to eat three small meals and three snacks.

PROTEIN should make up at least 20% of your meal plan during chemotherapy or radiotherapy.

- Protein promotes tissue growth and repair and helps to maintain a strong immune system.
- Protein is found predominately in the MEAT AND ALTERNATIVES and in MILK PRODUCTS.

TIPS TO INCREASE PROTEIN

- **Skim Milk Powder**
  - Add 1/4 cup (30-60 mL) of skim milk powder or 3 scoops of whey protein powder to 1 cup (250 mL) of whole milk.
  - Mix into soups, casseroles, milk puddings, cereals, baked goods, sauces, gravies, egg dishes, milkshakes or any recipe calling for milk.

- **Eggs**
  - Finely chopped eggs can be added to - salads, sauces, casseroles. Prepare entrees, beverages and desserts that contain eggs - omelettes, quiche, soufflé, egg nog, milkshake, custard, rice pudding, angel food cake.

- **Cheese**
  - Add grated cheese to some dishes - sauces, hot vegetables, salads, casseroles, egg dishes. Melt cheese on sandwiches, hot dogs, hamburgers.

- **Cottage Cheese**
  - Try blended cottage cheese as vegetable dip. Mix with fruit. Use to stuff crêpes, noodles.

- **Peanut and Nut Butter**
  - Spread on toast, crackers, celery sticks or fruit sections. Use in milkshakes, or in baking such as cookies, muffins, bread.

- **Wheat Germ**
  - Sprinkle on cereal. Use in baking. Add to casseroles.

- **Nuts & Seeds**
  - Eat nuts and seeds as snacks. Add chopped nuts to desserts - ice cream, pudding, yogurt, muffins, and fruit. Use chopped nuts in vegetable sauces.

- **Legumes**
  - Dry peas or beans may be cooked and added to some dishes - pasta, soups, casseroles, salads.

- **Meat, Fish & Poultry**
  - Add diced meat to salads, soups. Use in omelettes, quiche. Try cooked shrimp, canned salmon, tuna, and crab meat on hot biscuits. Add to sauces. Serve over rice, noodles.

- **Tofu**
  - Add to soups, salads, entrees, and desserts.

Courtesy of the Jewish General Hospital.

TIPS TO INCREASE CALORIES (ENERGY)

- **Butter & Margarine**
  - Melt on hot items - hot toast, pancakes, waffles, vegetables, eggs, popcorn. Stir into soup, mashed potatoes, rice.

- **Mayonnaise/Salad Dressings**
  - Combine with some foods - meat, fish, and vegetables, pasta for salads, sandwiches, and hors d’oeuvres. Use in sauces, dips.

- **Sour Cream/Yogurt**
  - Try in fruit or vegetable dips. Serve over potatoes, pyroges. Add when baking muffins, breads.

- **Dried Fruit/Nuts/Seeds**
  - Eat as snacks mixed with nuts and seeds. Mix into cereals, puddings, salads.

- **Ice Cream/Whipped Cream**
  - Use as a topping for puddings, pies, waffles, pancakes, fruit, Jell-O, hot chocolate, milkshakes. Use as a topping for puddings, pies, Jell-O, fruit.

- **Honey, Jam, Jelly**
  - Spoon over toast, crackers. Use in baking, e.g. cookies and cakes.

- **Table Cream**
  - Add to liquids - hot beverages, milkshakes and milk drink.

Courtesy of the Jewish General Hospital.
MILK PRODUCTS
(source of protein, carbohydrate, fat, B vitamins and calcium)
- Glass of milk, homemade milkshake, bowl of yogurt, smoothie made with yogurt, milk, fruit and ice cubes
- Milk, yogurt or cheese
- Cheese sandwich, grilled cheese sandwich
- Soups made with 1 or 2% milk such as cream of vegetable soup
- Homemade puddings

MEAT AND ALTERNATIVES
(source of protein, B vitamins and minerals such as iron, zinc, phosphorous, magnesium)
- Eggs (omelet, scrambled, boiled, poached), quiche
- Peanut butter either on toast, bagel or in a sandwich
- A handful of nuts with some raisins
- Chicken, turkey, veal, lean beef
- Fish such as salmon, herring, sardines (omega 3 fatty acids), halibut, perch, sole, cod, tuna and egg are all good choices to be eaten with rice, potatoes, pasta and vegetables OR to be made into a sandwich
- Chicken or beef fajitas or minced beef tacos
- Chicken, beef, lamb, pork brochettes (shish kabobs)
- Different types of casseroles such as shepherd’s pie, cabbage rolls, lasagna, ravioli, beef chili
- Try incorporating legumes into your casseroles, soups, salads or as a substitute to meat or fish
- Meatless chili
- Lentil or bean casserole
- Various vegetarian patés
- Hummus or baba gannouj
- Peanut butter sandwich

GRAIN PRODUCTS
(Carbohydrates, B vitamins, iron and fibre)
- Choose whole grain products for their fibre and mineral content
- Bagel, bread or toast, pita, homemade muffins or scones, homemade pancakes which can be made in advance, frozen and re heated when needed and try adding fruit yogurt or fresh fruit as a topping
- Cereal - cold or hot such as oatmeal, (RED RIVER) or cream of wheat (sprinkle with toasted wheat germ)
- Tapioca pudding

- Leftover plain, cheese or vegetarian pizza
- Sandwich made on whole wheat bread, rye bread, bagel, pita
- Pasta such as spaghetti or macaroni with cheese, tomato sauce or meat, tomato sauce or stir fried vegetables
- Rice, millet, buckwheat, bulgar, barley or couscous with stir fried vegetables and beef, fish, chicken or tofu
- Tortillas, fajitas or enchiladas
- Perogies stuffed with potato, cottage cheese or sauerkraut
- Verinikas

VEGETABLES AND FRUIT
(Carbohydrates, vitamins and minerals)
- Choose your favourite fruits or fruit juices, try to have fruits rich in vitamin C such cantaloupe, mangoes, papayas, oranges, grapefruit, strawberries or kiwi
- Choose dark green and orange veggies for their folacin and beta carotene content
- Cut up your favourite vegetables, eat them raw and if you want use a homemade vegetable dip
- A nice garden salad (romaine, spinach) with a vinaigrette or dressing
- Cooked veggies (beet greens, swiss chard, spinach) with your pasta, rice or other grain products
- Stir-fry vegetables (broccoli, cauliflower, carrots, green and red peppers, snow peas, onions, and garlic if tolerated) in a teflon pan or use broth or a little olive or canola oil
- Baked or boiled potato (vitamin C) or a sweet potato or yam (beta carotene)
- Homemade vegetable soup, minestrone, or cream of vegetable soup

Liquids
- DRINK PLENTY OF FLUIDS which include water, juice, soups and milk.
- Drink at least 6 to 8 cups (1500-2000 ml) of fluid a day (coffee and tea do not count as these liquids are quickly eliminated from the body).
- Consommé, bouillon, vegetable and cream soups are sources of liquids, however, they tend to be filling. Therefore, if you have a decreased appetite be careful not to fill up on soups and liquids … try eating solid foods first and then consume your soup after.
FOOD CHOICES

BREAKFAST

GRAIN PRODUCTS
- bagel, bread or toast, pita, homemade muffins
- homemade pancakes which can be made in advance, frozen and reheated
- cereal, cold or hot, such as oatmeal or cream of wheat
- leftover plain, cheese or vegetarian pizza

VEGETABLES AND FRUIT
- choose your favourite fruits or fruit juices; try to have fruits rich in vitamin C such as oranges, grapefruit, strawberries, cantaloupe or kiwi

MILK PRODUCTS
- glass of milk, bowl of yogurt, homemade milkshake made with fruit, or a piece of cheese

MEAT AND ALTERNATIVES
- eggs (omelet, scrambled, boiled, poached); leftover quiche
- peanut butter either on toast, bagel or in a sandwich
- a handful of nuts with some raisins

LUNCH AND SUPPER

GRAIN PRODUCTS
- sandwich made on whole wheat bread, rye bread, bagel, pita
- pasta such as spaghetti or macaroni with cheese, tomato sauce or meat and tomato sauce
- rice with stir fried vegetables and beef, fish, chicken or tofu
- tortillas or fajitas or enchiladas
- homemade pancakes with a yogurt or fruit topping

VEGETABLES AND FRUIT
- cut up your favourite vegetables, eat them raw and if you want use a homemade vegetable dip
- a nice garden salad with a little dressing
- cooked veggies with your rice or pasta
- stir-fry vegetables
- baked or boiled potato or a sweet potato
- homemade vegetable soup, minestrone, or cream of vegetable soup

MILK PRODUCTS
- glass of milk, homemade milkshake, bowl of yogurt, cheese sandwich, grilled cheese sandwich, bagel and cream cheese
- soups made with milk such as cream of vegetable soup
- homemade puddings

MEAT AND ALTERNATIVES
- chicken, turkey, fish such as halibut, perch, sole, cod, tuna, salmon, lean beef, egg are all good choices to be eaten with rice, potatoes and vegetables OR to be made into a sandwich
- chicken or beef fajitas or minced beef tacos
- chicken, beef, lamb, pork brochettes (shish kabobs)
- different types of casseroles such as shepherd’s pie, cabbage rolls, lasagna, ravioli, chili
- hearty chicken or beef soup
- meatless chili
- tofu stir-fry