

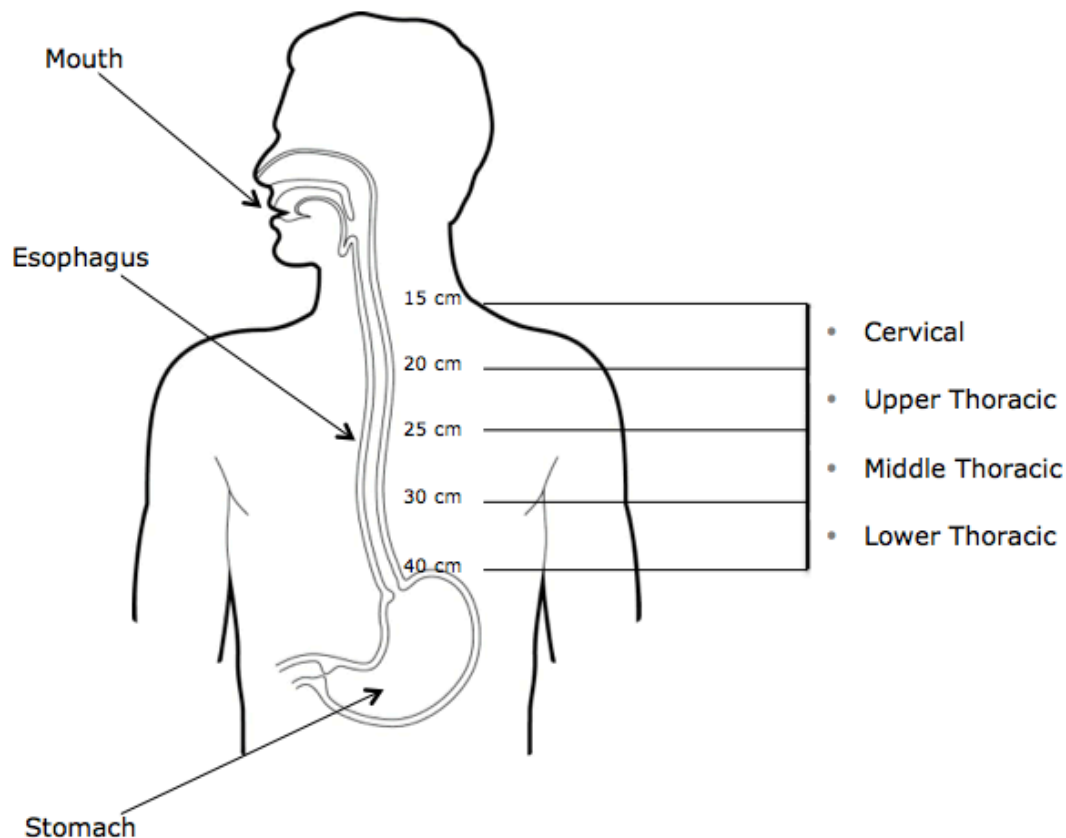
Nutrition during chemoradiation for adults with cancer of the esophagus

What is esophageal cancer?

Esophageal cancer is a type of tumour that has formed in the cells of your esophagus. Your esophagus is a hollow tube made of muscle that carries the food you eat from your mouth to your stomach. A tumour in your esophagus can make eating a challenge. Swallowing may be difficult or painful.

Where is my tumour located?

Below is a picture of the esophagus.



What is my treatment plan?

Your treatment plan may include a combination of brachytherapy, chemoradiation and possible surgery.

The goals for nutrition are to:

- keep your weight and muscle strength stable throughout treatment
- make sure you get enough fluids

These goals remain after treatment as you recover and prepare for possible surgery.

Eating with esophageal cancer

Your symptoms can change during the course of your treatment, affecting what you are able to eat or drink. You may have difficulty swallowing due to:

- a blockage in your esophagus caused by the tumor
- change in peristalsis (wave-like contractions) in your esophagus
- possible swelling in the area of treatment
- pain in your esophagus

Difficulty swallowing can lead to weight loss, poor nutrition, and loss of muscle.

If you are having difficulty swallowing, you may have to change the texture of your foods so you are more comfortable eating. You may find it helpful to start on a full fluid/thin pureed diet. Pureed foods are blended to make them easier to swallow.

Full Fluids/Thin Pureed Diet

(your tolerance of certain foods may vary)

- Fluids such as water, fruit and vegetable juices without pulp, fruit nectars, tea, ginger ale or broth.
- Milk and milk products including chocolate milk, milkshakes, smoothies, yogurt, or cream/pureed soups.
- Smooth cooked cereals such as Cream of Wheat.
- Finely blended entrees such as meat, cottage cheese, potatoes and vegetables.
- Nutritional supplements such as Boost Plus Calories, Ensure Plus Calories and Resource 2.0.
- Desserts and sweets such as Jell-O, pudding, honey, popsicles, ice cream and sherbet.



When you feel you are ready to have solid foods (for example, you are having less pain and swelling), start with minced/soft foods.



A minced diet includes soft foods that can easily be mashed with a fork.

Minced/Soft Diet

(your tolerance of certain foods may vary)

- Meat and alternatives such as:
 - scrambled eggs
 - minced or chopped chicken, beef or fish
 - smooth peanut butter
 - soft or grated cheese
- Grains and starches, such as:
 - oatmeal or other cooked cereals
 - soft cereals in milk
 - pancakes and waffles softened with butter/margarine or syrup
 - minced or bite sized pasta, such as elbow macaroni, cooked very soft
 - rice
 - mashed and scalloped potatoes
- Fruits and vegetables such as:
 - soft, mashed, or minced fruits and vegetables without skins or seeds, such as bananas and applesauce
 - all fruit and vegetable juices



- Blended or minced soups
 - Soft desserts and baked goods with no seeds, nuts or whole fruit such as pudding, ice cream or soft cookies
 - Honey, jam, marmalade and syrups can be added to foods
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Tips

Use a blender or food processor to chop foods that you are finding too hard to chew. You can also use broth, sauces, gravy, milk, and fruit or vegetable juices to make your food easier to swallow. Make sure you take small bites and chew well.



These foods may need to be avoided because they bother the treated area:

- Tart, acid foods such as oranges, grapefruit, lemon, lime and tomatoes.
- Hard, crunchy foods such as popcorn, nuts, chips or raw vegetables.
- Irritating condiments such as pepper or pepper sauces, salsa, pickles, horseradish and vinegar.
- Very spicy foods such as tacos or chili.
- Very hot or very cold items.
- Alcoholic beverages, tobacco and commercial mouthwashes.



Some foods may “stick” in the treated area. Make sure to chew well before swallowing. Using liquids can help make eating these foods more comfortable:

- stringy, dry foods such as red meats and white chicken breast
- soft, fresh breads
- dry mashed potatoes

What are my daily needs for calories, protein and fluid?

You need:

- Calories: _____ a day
- Protein: _____ a day
- Fluid: _____ a day

As your treatment continues, your calorie and protein needs increase due to the added stress on your body. At this time your appetite may also be decreasing. Watching your weight is the best way to know you are eating enough.

Calorie needs

Calories provide your body with the energy it needs to develop and work properly.



Tips to increase calories:

- Eat at least 3 small meals and 3 snacks a day.
- Melt margarine on bread, cereals, cooked vegetables and rice.
- Use sour cream on mashed potatoes and tender meats.
- Use cream cheese on soft bread and fruit.
- Put peanut butter on bananas and soft breads.
- Top puddings and hot chocolate with whipped cream.

Protein needs

Protein helps with maintaining and healing lean muscle.



Tips to increase protein:

- Add dry skim milk powder to regular milk, sauces, gravies and puddings.
- Add half and half evaporated milk to instant cocoa, soups and puddings.
- Add extra ice cream to shakes.
- Add grated cheese to casseroles, cooked vegetables and sauces.
- Blended cottage cheese or hummus make great dips.
- Add finely chopped eggs to sauces and casseroles.
- Make drinks and desserts that use eggs, such as eggnog, angel food cake and egg custard.
- Add minced or pureed meats to soups and casseroles.

Speak to your dietitian about your specific protein needs.

Nutrition supplements

You may choose to buy drinks that are rich in protein and calories. These drinks are called nutrition supplements. Examples of supplements that you can buy at the grocery store include brand names such as Boost Plus Calories and Ensure Plus Calories.

You can also make your own nutrition supplements at home by adding 1 to 2 tablespoons of skim milk powder to ½ cup to 1 cup serving of milk. You may have also heard of protein powders as there are many available on the market. These can easily be added to drinks such as smoothies to help you get more protein (see recipe below). Ask your dietitian which protein powder is right for you.

Smoothie recipe:

- 1 cup milk (your choice)
- 1 scoop protein powder
- 1 banana
- 1 cup frozen berries



Combine all ingredients in a blender and blend until smooth. Extra fluid can be added to make the smoothie thinner if needed.

Fluid needs

Your body needs plenty of water every day. Nausea, vomiting, and pain may keep you from drinking and eating enough to get the amount of water your body needs. One of the first signs of dehydration (not enough water in the body) is feeling very tired.

Tips to help prevent dehydration:

- Drink water, juice, milk, or foods that have a lot of liquid in them, such as ice pops and flavoured ices.
- Stay away from drinks that have caffeine in them, such as sodas, coffee and tea (both hot and cold).
- Take a water bottle with you whenever you leave home. It is important to drink even if you are not thirsty.
- Drink most liquids between meals.



Taste changes

If your food tastes differently during your treatment, here are some tips that may help:

- Try food at cold or at room temperature.
- Add extra flavour to foods with condiments like BBQ sauce, mustard, and ketchup.
- Try alternating bites of different types of food.
- If milk products taste different, try adding chocolate or strawberry syrup.
- If you do not like the taste of water, try mixing with some fruit juice.
- If foods taste salty, try adding extra sugar.
- If foods taste too sweet, try adding a pinch of salt.

Travelling tips

Travelling, long treatment days, and appointments can make eating on time difficult. Remember to bring easy to eat foods, so you don't miss any meals or snacks.

Preparing for surgery and recovery

Most of the tips in this handout can also be used to help you recover and prepare for possible surgery. Keep an eye on your weight and aim to keep it stable. Contact your dietitian for extra help if you are having a hard time meeting your nutrition needs.

Suggestions:
