

# Nutrition Information for Patients Having Radiation Treatment for Head and Neck Cancer

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If you have any concerns, please ask to speak with a dietitian.

One of the most important parts of your care is getting enough nutrition and hydration. This can be difficult, as radiation can affect your taste and ability to eat and swallow. Your goal is to take in enough food and fluids to keep your weight stable and your body hydrated. To meet your nutrition needs, you will probably have to increase the calories and protein in your diet. Once your treatments begin, you will be referred to the cancer centre dietitian to discuss your nutrition and hydration requirements during your cancer treatments.

It is important for you to continue to eat your regular diet until problems arise.

The next few pages have suggestions for ways to:

- increase your protein and calories
- manage your diet
- deal with common eating problems that may arise

Tips for increasing protein:

Food	How to Use
Skim milk powder/soy milk powder	<ul style="list-style-type: none"><li>• Add to cold foods such as milkshakes, yogurt, puddings, custard and smoothies.</li><li>• Add to foods such as mashed potatoes, cooked cereals, cream soups and sauces, hot chocolate and casseroles.</li><li>• Add to baked goods such as pancakes, muffins, biscuits, etc.</li><li>• Make 'double milk' by adding ¼-½ cup of powder to 1 cup of whole milk.</li></ul>

## Tips for increasing protein (continued)

Food	How to Use
Cheese	<ul style="list-style-type: none"><li>• Grate or cut up in casseroles and salads.</li><li>• Use soft cheeses like goat cheese, brie, cream cheese etc.</li><li>• Melt on top of potatoes, eggs, pasta, cooked vegetables, and stews.</li><li>• Eat with muffins, fruit, and breads.</li><li>• Melt in sauces, dips, and soups.</li></ul>
Eggs	<ul style="list-style-type: none"><li>• Eat fried, mashed, scrambled, boiled or poached.</li><li>• Add chopped or sliced into potato or tossed salads, sandwich fillings, and casseroles.</li><li>• Use extra eggs when baking and cooking.</li></ul>
Peanut, pumpkin seed, and sunflower seed butter	<ul style="list-style-type: none"><li>• Add to muffin, cookie, pancake, and waffle mixes.</li><li>• Spread on crackers, bread, fruit, and vegetables.</li><li>• Stir into warm cereals, ice cream, yogurt, and milkshakes.</li></ul>
Beans, lentils, grains and chickpeas	<ul style="list-style-type: none"><li>• Add to casseroles, soups, stews, salads, chili, dips and spreads.</li><li>• Spread hummus on soft bread or use as a dip.</li><li>• Use white rice, quinoa, bulgur, or wild rice as side dishes.</li></ul>
Meat, fish, poultry	<ul style="list-style-type: none"><li>• Add to casseroles, soups, pasta, salads, omelets, quiche and rice.</li><li>• Use ground meat to cut down on chewing.</li><li>• Spread pâté on bread and crackers.</li></ul>

## Tips for increasing protein (continued)

Food	How to Use
Tofu	<ul style="list-style-type: none"> <li>• Mix silken style into smoothies, sauces, soups and chowders.</li> <li>• Add to casseroles, soups, and stews.</li> <li>• Cubed for stir fry.</li> <li>• Crumble for a scrambled egg substitute.</li> </ul>
Wheat germ and ground flaxseed	<ul style="list-style-type: none"> <li>• Sprinkle onto yogurt and cereal.</li> <li>• Add to muffin, cookie, pancake and other mixes.</li> </ul>
Nutritional yeast	<ul style="list-style-type: none"> <li>• Sprinkle on casseroles, vegetables, and salads.</li> </ul>
Nutritional supplements	<ul style="list-style-type: none"> <li>• Examples are Ensure® and Boost®.</li> <li>• Most people drink nutritional supplements straight from the bottle. But:               <ul style="list-style-type: none"> <li>› If you find them too sweet add a pinch of salt, blend in tofu, plain yogurt, water or milk</li> <li>› If you find them too thick, dilute with milk or water</li> <li>› If you prefer warmer liquids, you could heat the supplement up but not to boiling. You could also add instant coffee to chocolate or vanilla supplement for a café au lait or café mocha</li> </ul> </li> <li>• Milk shakes/smoothies are also supplements that you can make at home by adding skim milk powder/protein powder. Experiment with some of your favorite foods and new recipes.</li> </ul>

**Tips for increasing calories:**

<b>Food</b>	<b>How to Use</b>
Fruits and vegetables	<ul style="list-style-type: none"><li>• On soft cooked vegetables, add a cream sauce, cheese, margarine, butter, and/or oil.</li><li>• Use avocado in sandwiches and dips.</li><li>• Make fruit into crisps or cobblers and top with ice cream or whipping cream.</li><li>• Choose fruit packed in syrup.</li><li>• Add butter, margarine, heavy cream, plain yogurt, or sour cream to mashed potatoes.</li><li>• Use mayonnaise or salad dressings.</li><li>• Put peanut butter on apples, bananas, celery or carrots.</li><li>• Add fruit to smoothies.</li></ul>
Grain products	<ul style="list-style-type: none"><li>• Spread butter or margarine on soft bread and muffins.</li><li>• Use whole milk or yogurt on cereal.</li><li>• Add honey, brown sugar, or peanut butter to warm cereal.</li><li>• Add breadcrumbs, oatmeal, or wheat germ to mixes, meat loafs, or hamburgers.</li><li>• Use jams, jellies, honey, brown sugar, or syrup on cereals, pancakes, french toast and waffles.</li></ul>

## Tips for increasing calories (continued)

Food	How to use
Milk and alternatives	<ul style="list-style-type: none"><li>• Add powdered milk to whole milk, yogurt, mashed potatoes, puddings, custard, sauces, gravies, smoothies, milkshakes, soups, batters, cereals, and hot chocolate.</li><li>• Choose high fat yogurt and cheese.</li><li>• Add whipping cream to fruit, puddings, pies, gelatin, pancakes, waffles, french toast, and hot chocolate.</li><li>• Use cream instead of milk in recipes.</li><li>• Use cream cheese on breads and rolls.</li><li>• Add condensed milk to puddings and milkshakes.</li></ul>
Meat and alternatives	<ul style="list-style-type: none"><li>• Add gravies, sauces, or glazes to meat, poultry, and fish.</li><li>• Mix mayonnaise with chopped chicken, or fish to make sandwich filling.</li><li>• Use nut butters or hummus on soft breads or use as a dip.</li><li>• Use pesto sauce on fish or chicken.</li><li>• Add ground nuts and seeds to yogurt, puddings, ice cream, baked goods, and cereals.</li><li>• Choose high calorie options, such as fatty fish, or chicken legs or thighs.</li><li>• Add an extra egg to baking mixes.</li></ul>

## Tips for increasing calories (continued)

Food	How to use
Nutritional supplements	<ul style="list-style-type: none"><li>• Examples are Ensure® and Boost®.</li><li>• Most people drink nutritional supplements straight from the bottle. But:<ul style="list-style-type: none"><li>› If you find them too sweet, blend in tofu, plain yogurt, or milk</li><li>› If you find them too thick, dilute with milk</li><li>› If you prefer warmer liquids, you could heat the supplement up but not to boiling. You could also add instant coffee to chocolate or vanilla supplement for a café au lait or café mocha</li></ul></li><li>• Milk shakes/smoothies are also supplements that you can make at home by adding skim milk powder/protein powder. Experiment with some of your favorite foods and new recipes.</li></ul>

## Tips for managing your diet:

- Make every bite count by choosing foods that are high in calories and protein.
- Eat small meals and snacks often. Try to snack every 2 hours.
- Always have snack foods available so you can eat when you feel hungry.
- If your appetite changes during the day, try to eat your biggest meal when food is the most appealing.
- Improve your appetite by going for a short walk and enjoying fresh air and activity.
- If you are not eating solid food, aim for 6-8 cups of high calorie, high protein liquids each day. Try whole milk, milk shakes, smoothies, or nutritional supplements.

## How to help with a dry mouth:

- Eat foods that are moist or soft.
- Prepare foods in cream sauces.
- Soften foods with gravy, broth, sauces or melted butter.
- Moisten foods with lukewarm tea/coffee, or milk or milk alternative.
- Eat soft fruits with low acid such as melons.
- Eat canned fruits with low sugar.
- Drink low acid fruit juices such as peach, pear or apricot.

- Take 2-3 sips of liquid with each bite of food, to help foods go down.
- Try to drink 6-8 cups of liquid each day.
- Carry a bottle of water with you to help moisturize your mouth.
- Limit drinks containing caffeine (coffee, tea, cola drinks, energy drinks) as they can increase dryness of the mouth and throat.
- Avoid alcohol or mouthwash containing alcohol.

#### **How to make swallowing and chewing easier:**

- Grind, chop or puree meats. Mix with cream sauces, gravy, broth or mix with other foods in a casserole.
- Eat canned or cooked fruits, or fruits pureed in a blender. Infant strained fruits are an option.
- Make rich soups of creamed or blended meats and vegetables, or beans, peas and lentils.
- Cook cereals in milk or milk alternative instead of water and eat when lukewarm. Serve them with margarine, butter, or cream or alternatives.
- Have gelatin, ice creams, puddings, custards and milk shakes/smoothies.
- Cook vegetables until tender and puree in the blender. Infant strained vegetables are an option.

#### **Tips for eating/drinking with a sore mouth or throat:**

- Try drinking liquids with a straw unless it makes you cough or clear your throat. If this occurs, please discuss with the dietitian or speech language pathologist.
- Have 5 to 6 small meals a day, instead of 3 larger meals.
- Drink frequently throughout the day and with meals (high protein, high calorie).
- Food and drink should be at room temperature.
- Change the texture of foods to make them easier to chew and swallow (chop, mince, mash or puree).
- Avoid rough, dry foods that can scratch and irritate the mouth/throat.
- Limit foods such as citrus fruits and juices, tomatoes and foods made with tomato sauce, pepper, hot sauce, or spicy meat.

#### **Tips for taste changes:**

- Rinse your mouth out before and after meals to help clear your taste buds.
- Cold food has less taste and smell. If you find smells bother you, try cold foods. To strengthen tastes, try warm foods.
- Get rid of cooking smells by using an exhaust fan or cook on an outdoor grill.



- Try new foods- you might find something that tastes good.

If Food Tastes:	Try:
Salty	<ul style="list-style-type: none"> <li>• Adding sweet flavours, such as cinnamon, fruit, or sugar.</li> <li>• Low salt or low sodium products</li> </ul>
Sweet	<ul style="list-style-type: none"> <li>• A pinch of salt in puddings, ice cream, yogurts, and canned fruits.</li> <li>• Nutritional supplements with coffee flavor.</li> <li>• Buttermilk in smoothie recipes.</li> <li>• Adding acidity by using lemon, lime and vinegar as long as your mouth is not too sore.</li> </ul>
Bland	<ul style="list-style-type: none"> <li>• Alternating bites of different tasting foods during a meal.</li> <li>• Adding more salt, herbs and spices as long as your mouth is not sore.</li> <li>• Strong flavoured foods like spaghetti, and marinated meats.</li> </ul>
Metallic or bitter	<ul style="list-style-type: none"> <li>• Using glass pots and plastic utensils.</li> <li>• Fresh or frozen food instead of canned.</li> <li>• Marinating meats with fruit juices, vinegar, wine or soya sauce.</li> <li>• Using lemon candies, mints or gum after a meal as long as your mouth is not sore.</li> <li>• Eating meat, fish, or poultry at room temperature or cold.</li> <li>• Red meats can taste more metallic than fish and chicken.</li> </ul>

The Dietitian can provide recipes for you and guide you in the amount of supplements to use daily.



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For more information, go to <http://library.novascotia.ca>

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The information is not intended to be and does not constitute health care or medical advice.

If you have any questions, please ask your health care provider. The information in this pamphlet is to be updated every 3 years or as needed.