

NUTRITION DURING CANCER TREATMENT

A GUIDE FOR PATIENTS AND FAMILIES



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Nutrition During Cancer Treatment

Introduction



Good nutrition is very important when you are undergoing treatment for cancer. The disease itself and the treatment might pose a challenge to eating well, especially if you are experiencing bad side effects from the treatment. This booklet lists some of the common eating problems during treatment and provides some general tips to help optimise your nutrition intake.

Why is it important to optimise your nutrition during cancer treatment?

Eating well during cancer treatment might help you to:

- Feel less fatigue
- Keep up your strength and energy
- Prevent excessive weight loss and preserve the storage of nutrients in the body
- Tolerate treatment-related side effects better
- Lower your risk of infection
- Heal and recover faster



Nutrition During Cancer Treatment

What to eat during cancer treatment?

You should eat a variety of foods to get all the nutrients your body needs to fight cancer. These include carbohydrates, proteins, fats, water, vitamins, and minerals.



Try your best to achieve your nutritional needs with healthy whole foods which are rich in nutrients that are readily absorbed and used by our body. For example, vegetables, fruits, whole grains, beans and lentils, dairy, nuts, meat, chicken, fish and seafood.



Consider taking nutritional supplements to boost your nutrient intake if you are not able to eat enough to meet your needs. Speak to your doctor or dietitian for dietary advice or suitable supplements if you:

- Have unintended weight loss of more than 5% of your usual weight
- Eat less than 50% of your usual food intake
- Have little or no interest in food

Cancer treatment and possible dietary-related side effects

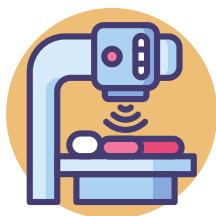


There are several different methods to treat cancer. Each may affect your nutritional needs and eating habits.



- **Surgery**

- Surgery is done to remove the tumour and the nearby tissue that may contain cancer cells. Surgery may lead to temporary and/or permanent nutritional challenges based on the removed body part. You will need extra calories and protein for wound healing and recovery after the operation.



- **Radiation therapy**

- Radiation therapy uses high-energy rays to damage or shrink cancer cells. The side effects depend on the specific site of the body receiving therapy, dose and duration of treatment. Radiation therapy usually leads to eating problems when the treatment area involves our gastrointestinal tract (from mouth to rectum). Some of the common side effects include sore mouth, tongue and throat, dry mouth, milk intolerance, nausea, vomiting, diarrhoea, constipation, swallowing difficulty, and bloated stomach.

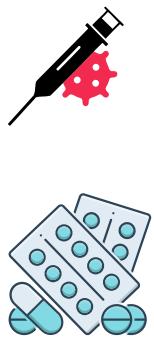
Nutrition During Cancer Treatment

Cancer treatment and possible dietary-related side effects (Continued)



- **Chemotherapy**

- Chemotherapy treatment uses drugs to destroy cancer cells. It can be in the form of oral medication, injection, or infusion. The treatment can affect the entire body. Common side effects of chemotherapy include low blood counts of platelets, red blood cells and white blood cells. As a result, you will feel fatigued and have a higher risk of getting an infection. Other side effects that might affect your intake include nausea, vomiting, constipation, diarrhoea, change of taste or smell, and bloating.



Tips to overcome dietary-related side effects

During cancer treatment, you might experience days with good appetite and days with not-so-good appetite. Try to eat more when you have a good appetite. Be liberal with your diet restrictions on the bad-appetite days and eat food you most enjoy, even if they are not the healthiest.



Tips to overcome dietary-related side effects

What to do if you experience the symptoms below?



I have no appetite!
I feel full quickly!
I am losing weight!

- Eat small and frequent meals. Aim for five to six meals throughout the day. Try not to skip meals.
- When eating a meal, eat high protein food first, when your appetite is strongest. Examples of high protein food are fish, poultry, pork, beef, beans, tofu, yoghurt, egg, and nuts.
- Choose calorie-dense food. Enrich your food and make every mouthful count.
- *For example:*
 - Add minced meat, fish, egg, tofu or taukwa to porridge, followed by 1 to 2 teaspoons of cooking oil or sesame oil to increase the protein and calorie content of the dish.
 - Spread soft margarine, peanut butter, or kaya to your biscuit or bread.
 - Add condensed milk, sugar, honey, peanut butter or dry fruits (raisin, cranberry) to your oats.

Tips to overcome dietary-related side effects

(Continued)

- Drink beverages containing calories, such as smoothies, honey, barley water, milk, or soybean milk instead of plain water or plain tea.
- Instead of clear broth, take creamy soup.
- Eat buns with fillings, such as tuna, sardine, cheese, red bean etc., rather than plain.
- Keep snacks handy to eat such as pau, sandwiches, biscuits, fruits, chocolates, raisins on hand.
- Avoid drinking too many beverages or juices during mealtimes. Fluids can fill you up quickly and reduce the portion of solid food you can eat.
- Participating in light activities such as walking can help to stimulate your appetite.



Tips to overcome dietary-related side effects

I have constipation!



- Ensure adequate fibre intake from whole grains, lentils and legumes, nuts, vegetables, and fruits. Aim for at least 50% of whole grain and 5 servings of vegetables and fruits per day to get adequate fibre in your diet. Add fibre slowly for better tolerance.
- Drink 8 to 10 glasses of water and other liquids per day to promote bowel movement. You can hydrate yourself by drinking water, soup, juices, milk, and other beverages. (Please follow the doctor's advice on fluid restriction if any). However, drink caffeinated drinks (e.g., coffee, tea, caffeinated soft drinks etc.), and alcohol in moderation as caffeine is a diuretic that draws the fluid from your colon and leaves your stool hard.
- Do some light physical activity, such as walking, as tolerated to help stimulate bowel movement.
- Practice a regular bowel routine, do not ignore the urge to pass motion.
- If needed, follow the doctor's advice on laxative usage.

Tips to overcome dietary-related side effects

I have a bloated stomach!



- Aim for small frequent meals throughout the day. Avoid overeating.
- Space out water or a liquid intake with food intake. Drink beverages between meals rather than during meals.
- Avoid gassy, carbonated drinks. 
- If you are lactose intolerant, avoid lactose-containing dairy products.
- Chew food thoroughly before swallowing and eat at a slow pace.
- Limit intake of greasy foods, it takes longer to digest and makes you feel full.
- Certain foods might form more gas. E.g., cabbage, cauliflower, beans, lentils, sweet potato, onion, etc.
- A slow walk after meals may help to relieve stomach bloatedness.



Tips to overcome dietary-related side effects



I have bad diarrhoea!

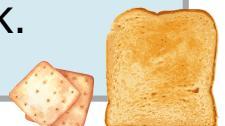
- It is important to drink adequately to prevent dehydration. Aim for at least 8 to 10 glasses of mild, clear liquid each day. You can choose to drink water, diluted juices, broth, sports drinks, or decaffeinated coffee or tea.
- Small frequent meals throughout the day might be better tolerated compared to three large meals.
- Avoid excessive fibre intake while having serious diarrhoea, as it might worsen the condition.
- Avoid greasy or fried food, and spicy or very sweet food.
- Change to lactose-free dairy products or nutritional supplements if you have lactose intolerance.
- Limit intake of sugar-free gum and candies with sorbitol.
- Take anti-diarrhoea medications as directed. Inform your doctor if your stools have an unusual colour or odour.



Tips to overcome dietary-related side effects



- Eat small and regular meals. Eat slowly.
- Do not skip meals even if you do not feel hungry. Having an empty stomach might make you feel more nauseous.
- Choose foods that do not have a strong odour if it makes your nausea worse. Keep your room well ventilated.
- Food at room temperature will produce lesser odours.
- Choose foods that are not overly sweet, spicy, or high in fat.
- Drink soups between meals rather than with a meal.
- Dry crackers and plain toast are usually well tolerated, and you can try to nibble on these foods as a snack.



Tips to overcome dietary-related side effects



I have uncontrollable vomiting!

- Take medicine as prescribed by the doctor to control your vomiting.
- Once vomiting is under control, try small amounts of clear liquids. For example, apple juice, cranberry juice, clear broth etc.
- Slowly progress to soft foods like pudding, jelly, cereals etc, if you can keep down clear liquids.
- Once you can tolerate soft foods, progress to eating a regular diet.



Tips to overcome dietary-related side effects

Things taste weird
in the mouth!



- Choose food that tastes or smells good to you.
- Serve food cold or at room temperature, food may taste or smell better then.
- Adding sugar to some foods can help decrease salty, bitter, or unpleasant tastes.
- A sourish flavour might be better tolerated. Try seasoning food with lemons, oranges, or vinegar.
- Rinse your mouth and brush your teeth and tongue before or after eating. This will help to clear your taste buds and eliminate bad tastes.
- Compared to a metal spoon, plastic or porcelain cutlery might reduce the metallic or bitter taste in your mouth.
- Chew lemon drops, mint, sour plums, or preserved orange peels to remove undesirable lingering tastes after eating.



Tips to overcome dietary-related side effects



I've got a sore mouth and tongue!

My throat and gums are in pain!

- Bland, soft foods are usually better tolerated. For example, banana, watermelon, pear, mashed potato, porridge, oatmeal, milk, soy milk, puddings, scrambled eggs, steamed fish, ground meat, squash, and pumpkin.
- Avoid sour, acidic, spicy, and saltish foods which can irritate your mouth. Examples of such foods are citrus fruits like orange and lemon; pickled or vinegary foods; tomato or chilli-based food; or food cooked with hot spices, such as pepper, chilli powder, nutmeg, cloves, curry etc. 
- Avoid rough, coarse, or dry foods that are hard to chew and swallow.
- Cold food or food at room temperature will not irritate your mouth and throat as much as hot or warm food.
- Drink with a straw and use a smaller spoon to eat if it is difficult to take big bites.
- Cut food into smaller pieces and cook until soft.
- Avoid alcohol, caffeine, and carbonated beverages. Avoid smoking. 
- Rinse your mouth several times a day with water or mild mouthwash. Avoid mouthwash that contains alcohol.

Tips to overcome dietary-related side effects

My mouth is so dry
that it makes
swallowing difficult!

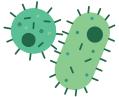


- Sip water and fluids throughout the day. This helps to moisten your mouth and eases swallowing and talking. 
- Moist and soft food like porridge, mashed potato, steamed or stewed dishes, and soupy food are easier to swallow.
- Use soup, gravy or sauces to moisten your food. Dip dry food like biscuits, cereal or bread in beverages before eating. 
- If your mouth is not sore, try to eat sourish foods like lemon water, frozen grapes or sugar-free candies, that can stimulate saliva production.
- Avoid alcohol and do not smoke. 
- Rinse your mouth frequently. However, avoid mouthwash that contains alcohol.
- Check with your doctor for oral lubricant or saliva substitute to coat and protect your mouth.
- Take oral nutrition supplements to top up your intake of nutrients and calories. 

Food Safety



Take note of Food Safety



As your body's immune system can be weakened by cancer and its treatment, your body might not be able to defend itself effectively against infection and disease. Thus, it is important to pay extra attention to food safety and try to minimise your exposure to infection-causing germs.

You or your caregivers can do so by following the food hygiene practices listed below:

- Wash hands thoroughly with soap and water before and after preparing food, and before eating.
- Keep hot food hot and cold food cold.
- Eat fully cooked food. Avoid raw food like sashimi, salad, undercooked meat, or clams, raw or half-boiled egg etc.
- Avoid pre-cut fruits at the grocery store.
- Consume cooked food as soon as possible. Cooked food stored at room temperature should be consumed within four hours.



Food Safety (Continued)

- Thaw meat, fish, or poultry in the refrigerator or microwave. Avoid thawing at room temperature.
- Use different chopping boards for raw meat, and fruits and vegetables.
- Throw away moldy food, blemished fruit and vegetables, eggs with cracked shells, and foods that look or smell strange.
- Do not use expired goods.



It's important to focus on eating a balanced, adequate meal during and after treatment. Talk to your doctor or dietitian if you need more help.

NOTES:

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SOCIETY**

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