



Nutritional Guide for Cancer Patients

Authors:



Support from:



Nutritional Guide for Cancer Patients

With the support of Danone Nutricia Unipessoal, Lda. The contents of this publication are the sole responsibility of its Authors. The collaboration of Danone Nutricia Unipessoal, Lda. is limited to the printing of this publication and shall not, in any way whatsoever, be deemed to be its Author.

The data used in this publication were collected by the Authors from the sources found in the Bibliographic References section and/or obtained from scientific information in accordance with the rules of the profession and should therefore be interpreted as merely indicative and potentially applicable only in Portugal. This publication is not, nor can it be understood to be, a diagnostic tool, instrument or the basis for making a diagnosis. The information and content provided in this publication should under no circumstances replace individual medical or nutritional advice: the responsibility for the treatment will rest with the health professional in all cases.

Furthermore, Danone Nutricia Unipessoal, Lda. shall not be held responsible for the diagnosis or treatment resulting from the interpretation of the contents of this publication, nor for the use of drugs and treatments and/or health recommendations that are not covered in the technical data sheet or in the usual clinical practice.

Table of Contents

Introduction	2
1. The importance of good nutrition for cancer patients.....	4
2. What is the impact of poor nutrition?.....	6
3. What are the warning signs?	7
4. How can the healthcare professionals accompanying you help you?.....	8
5. What can you do to be sure you're eating properly?.....	9
5.1. Steps you should take.....	9
5.2. Myths about eating.....	10
6. When what you eat isn't enough, then what?.....	12
6.1. Oral nutritional supplements.....	12
7. What symptoms can affect your eating?.....	14
7.1. Diarrhoea.....	15
7.2. Constipation	18
7.3. Intestinal obstruction.....	20
7.4. Nausea and vomiting.....	22
7.5. Dry mouth (Xerostomia).....	24
7.6. Taste changes (Dysgeusia).....	26
7.7. Mucositis	28
7.8. Difficulty swallowing (Dysphagia).....	31
7.9. Lack of appetite (Anorexia).....	34
7.10. Fatigue.....	36
7.11. Neutropenia.....	37
8. What to do after the treatments are over.....	41
9. Don't forget, stay active!.....	43
10. Bibliographical references.....	44

Introduction

Nutrition is fundamental in the therapeutic process of cancer patients throughout the entire journey of the disease. Nutritional intervention is adapted to the objectives and therapeutic aim for each phase of the disease, using curative, palliative or rehabilitative approaches, as appropriate.

Food plays a social role in our culture that should not be underestimated. It is therefore essential that the family/caregivers be involved in education and counselling to adjust expectations and attitudes towards nutritional therapy and to demystify some concepts they may have.

Nutrition is a specific component of the approach to the cancer patient and is an overarching and recurrent theme in the concerns of patients and their carers.

This guide has been compiled by healthcare professionals who provide daily care to people who are going through or have gone through treatment for cancer.

It is designed for use by cancer patients, family members and caregivers as a useful tool that provides guidance and practical tips on diet management, side effects, treatments and the symptoms of the disease.

The guidelines given by the patient's cancer care team should always prevail, and this guide is only a complementary support.

Panel of the guide authors from Associação de Investigação
de Cuidados de Suporte em Oncologia (AICSO)



Andreia Capela

President of AICSO and Oncologist at the
Centro Hospitalar Vila Nova de Gaia/
Espinho (CHVNGE)



Elsa Madureira

Dietitian at the Centro
Hospitalar e Universitário de
São João



Luciana Teixeira

Dietitian at the Centro
Hospitalar e Universitário de
São João



Sara Torcato Parreira

Nurse Coordinator at CUF Oncology



1. The importance of being well nourished when you have cancer

During the course of the oncological disease, your nutrient requirements are higher than normal, so good nutrition is essential. There are many myths and a lot of misinformation regarding diet, and it is important that you are aware of these and that you seek credible information from your healthcare professionals.

People with cancer, although they may be very different from each other depending on the type, location and stage of the disease, are at a high risk of malnutrition and often are malnourished at diagnosis.

What is malnutrition?

It is characterised by a complex situation in which there is **weight loss, lack of appetite, muscle loss** and other changes in the body caused by various factors. On the one hand, symptoms caused by the tumour or treatments, such as lack of appetite or nausea, **lead to insufficient food intake**. On the other hand, the very presence of the tumour may induce an **inflammatory response** that results in muscle loss, which may or may not be accompanied by a loss of fat.



Malnutrition may affect 20-70% of people with cancer, depending on the type of tumour, age and the stage of the disease, and can have an impact on clinical outcomes.

As such, throughout your journey with the disease, it is important to be well nourished, seeking help from your care team whenever needed.

2. What is the impact of poor nutrition?



Loss of weight
and/or muscle
mass



Decreased immunity and
increased risk of infections



Increased psychological stress
and surgical complications



Diminished
quality of life



Increased risk
of toxicity and decreased
response to treatment



Increase in the number of
consultations, visits to
emergency services and the
length of stay in hospital

3. What are the warning signs?



Unintentional
weight loss



Lack of appetite



Loss of muscle strength



Decreased food intake



Fatigue/tiredness



4. How can the healthcare professionals that accompany you help you?

The oncologist and the nursing team accompanying you are your allies throughout the process. Besides administering the treatments, they can help clarify your doubts and support you in better managing possible side effects of the disease and/or treatment. They will also be able to carry out a nutritional screening to find out if you are at risk of malnutrition and, if so, refer you to the nutrition team. **The dietitian will make a complete assessment of your nutritional status and will establish a nutritional therapy adapted to the nature of your case and nutritional needs.**

The intervention will always be individualised, regularly reassessed and readjusted according to the evolution of your clinical condition. Intervention should consist of nutritional counselling, the treatment of symptoms with a nutritional impact and addressing other factors that compromise your nutritional intake, such as physical activity and psychological and socio-financial factors. This approach should be multidisciplinary, involving different professionals.

You should always report to your team:

- If you have any of the warning signs mentioned above
- If you are on a particular diet or if you have changed your usual eating pattern
- Any side effects you have experienced
- If you take oral nutritional or herbal/vitamin supplements or other types of treatment
- If you feel more distressed, worried or depressed

5. What can you do to be sure you're eating properly?

5.1. STEPS YOU SHOULD TAKE

When you have cancer, it is important that you realise that your **daily energy and protein requirements are higher than normal**. So, if you are not eating enough to maintain your nutritional status, you should focus on strategies to increase your food intake, such as:

- Increase the number of meals you eat each day (for example: include a morning and afternoon snack and/or supper);
- Increase, whenever possible, the amount of food in your meals;
- Fortify meals with energy and protein foods (e.g. adding meat/fish/egg to soup);
- Adapt the consistency of foods to your ability to chew, swallow and digest;
- Adapt your diet to the symptoms and side effects of your treatments (see how in [chapter 7](#) "What symptoms can affect your diet?");
- Adapt your diet to your tastes, preferences and dislikes;
- Seek to clarify myths, fears and interactions between foods, medicines, dietary products and herbal or nutritional supplements.

5.2. MYTHS ABOUT EATING

Food is a subject that causes many doubts, myths and fears. Due to misinformation and confusion between what is prevention and what is treatment, people often make wrong eating choices.

- Don't believe everything you read or hear.
- What is recommended for one person may not be suitable for you (this varies greatly depending on the location of the disease, the patient's symptoms and particular condition, etc).
- Don't be afraid to eat.
- The right diet for your case is a very important contribution to your recovery and to your quality of life.



Some of the most common myths:



 Myths	 Truths
<ul style="list-style-type: none"> • Alkaline water is the best. • Sugar feeds the cancer. • Any physical effort should be avoided. • Beetroot cures anaemia and low platelets. • Acidic foods are prohibited. • Don't drink milk. • Wine is beneficial for health. • Raw foods (fruits and vegetables) are prohibited. • You cannot eat heated meals. • Lactose should be excluded. • Gluten is bad for you. 	<ul style="list-style-type: none"> • There are no foods that cure cancer. • Drinking water is fundamental. • Physical activity helps in dietary management. • Emotional well-being is key. • Help from family is indispensable. • Social support helps to overcome difficulties. • Vinegar is not a disinfectant.

Table 7. Myths and truths about eating

But there are many others ...

If you have any questions, ask an experienced oncology dietitian or other member of your healthcare team to clarify your doubts.

6. When what you eat isn't enough, then what?

When your usual diet is not enough to maintain a good nutritional balance, your healthcare professional may advise you to take an oral nutritional supplement.

6.1 ORAL NUTRITIONAL SUPPLEMENTS

What are oral nutritional supplements?

- Specialised foods that provide additional nutrients, including energy and protein.
- They should be used as a complement to your usual diet (although some can be used as a sole food source if necessary).
- Available in liquid, pudding and powder forms.



liquid



pudding



powder

What are the benefits of oral nutritional supplements?

They help you meet your daily nutrient requirements



They allow a better control of your weight



They contribute to an improved quality of life and response to treatment

Some recommendations for taking oral nutritional supplements:

- These supplements should be recommended by a healthcare professional and taken like any other medicine - following the professional's instructions;
- They should be taken between meals and not as a substitute;
- They are better when eaten cold, although they can be eaten at room temperature;
- It is important to vary the flavour of the supplement. If your sense of taste has been altered, there are flavours adapted to this condition;
- They can be taken in small doses throughout the day (they can be kept in the refrigerator and consumed within 24 hours of opening);
- It is also important to vary how you prepare them - some supplements can be chilled, frozen, heated (without boiling) or even added in recipes - always follow the manufacturer's directions.

You can consult the separate insert "Recipes using oral nutritional supplements", which gives some suggestions on how to incorporate oral nutritional supplements in recipes.



7. What symptoms can affect your diet?

For many of the symptoms listed below, your healthcare team may have already recommended regular or SOS medication. Always check the instructions with the professionals accompanying you and clarify any doubts you may have. Never forget to mention any symptoms you experience, so that the intervention can be tailored to you.

The dietary changes suggested for each of the symptoms should be adopted for only as long as the symptom persists. Once the symptom goes away, gradually resume normal diet.

7.1 Diarrhoea

Diarrhoea is an increase in the number of daily bowel movements and a decrease in stool consistency. The occurrence of watery bowel movements more than 3 times a day is usually considered diarrhoea.

It can be caused by the treatments, infections and/or by the disease. This symptom compromises the digestion and absorption of nutrients and can lead to dehydration and malnutrition.

Check whether you have been advised to take any antidiarrheal drugs such as loperamide. If you have blood loss, immediately contact the team that monitors you.

- Reinforce hydration with water, herbal teas, infusions, barley, gelatine, diluted sports drinks, diluted apple juice, for example;
- Avoid drinks containing caffeine (coffee, black and green tea, colas, cocoa), fizzy or alcoholic drinks;
- Drink slowly, steadily, avoiding very cold or very hot liquids.



Adopt a diet low in fibre, fat and lactose

Type	Choose these foods	Avoid these foods
Cereals	<div>Non-whole grain and seed cereals:</div> <ul style="list-style-type: none">• White bread;• Biscuits or crackers low in fiber and fat - e.g. water crackers;• White rice, pasta, potatoes;• Oats;• Rice flour or porridge.	<ul style="list-style-type: none">• Wholemeal products (e.g. wholemeal bread and toast, corn bread, brown rice, wholemeal pasta, etc.)• Granola and other whole grain breakfast cereals.
Fruits and Vegetables	<ul style="list-style-type: none">• Ripe bananas, apples or pears (cooked or baked peeled), peach (if in syrup, well drained), persimmon.• Boiled carrots;• Rice soup (rice, potato and carrot).	<ul style="list-style-type: none">• All other fruit and vegetables (including pickles, olives,...).
Dairy Products	<ul style="list-style-type: none">• Lactose-free milk;• Cured cheese;• Yoghurt (without pieces of fruit/seeds/cereals; with Bifidus).	<ul style="list-style-type: none">• Foods with lactose, such as milk and cottage cheese;• Yoghurt with pieces of fruit/seeds/cereals;

Table 1. Foods to choose and to avoid in case of diarrhoea

Adopt a diet low in fibre, fat and lactose

Type	Choose these foods	Avoid these foods
Meat, fish and eggs	<ul style="list-style-type: none"> Egg, fish and meat (without visible skin or fat). 	<ul style="list-style-type: none"> Sausages, smoked meats and fatty meats.
Other Foods		<ul style="list-style-type: none"> Legumes (e.g. beans, chickpeas, lentils, broad beans, peas, lupins, etc.); Dried fruit (e.g. figs, dates, sultanas, etc.); Nuts (e.g. walnuts, peanuts, cashew nuts, ...); Seeds (e.g.: flaxseed, chia, sunflower, ...); Cocoa and chocolate.
Culinary Methods	<p>Cook simply:</p> <ul style="list-style-type: none"> Boiled, grilled; Plain stews (without sauteing); Plain roasts. 	<ul style="list-style-type: none"> Excessively fatty foods/ preparations (e.g. fried foods) Spicy seasonings (pepper, chilli, piri-iri, curry); Sauces (e.g. mustard, mayonnaise, ...).

Table 1. Foods to choose and to avoid in case of diarrhoea

7.2 CONSTIPATION

Constipation is a slowing down of the intestinal function. It may be caused or made worse by some medications, dietary changes, inadequate water intake and inactivity. It may be accompanied by abdominal pain, bloating, flatulence and nausea.

Constipation should be prevented or addressed early on, otherwise its complications and discomfort become more difficult to resolve.

If you have been unable to have a bowel movement for more than 48 hours (compared to your usual pattern) you should contact your oncology team.

The first approach should be to reinforce hydration, encourage physical activity and diet management. Your care team may have recommended a laxative or enema.

Dietary Recommendations:

- Reinforce hydration with water, herbal teas, infusions, barley, gelatine, water with lemon or other fruits, for example;
- On an empty stomach, drink hot or warm liquids;
- Increase your intake of fibre-rich foods (whole grains, vegetables, fruit, nuts, seeds, etc.);
- Engage in regular physical activity;
- Caution, if you have a risk of intestinal obstruction do not follow these recommendations (see recommendations for risk of bowel obstruction).



Contact your healthcare team.

Adopt a diet rich in fibre

Type	Choose these foods	Avoid these foods
Cereals	<p>Whole grain cereals:</p> <ul style="list-style-type: none"> • Dark bread (mixed or wholemeal, with grains or seeds); • Wholemeal biscuits and toast, • Granola; • Oats; • Whole grain breakfast cereals • Brown rice, wholemeal pasta, potatoes. 	<ul style="list-style-type: none"> • White bread; • Biscuits and toasts with refined flour; • Rice flour or porridge.
Fruits and Vegetables	<ul style="list-style-type: none"> • All fruits (except those listed in the "foods to avoid"); • All vegetables. 	<ul style="list-style-type: none"> • Ripe banana, cooked apples or pears; • Rice soup (with rice, potatoes and carrots).
Dairy Products	<ul style="list-style-type: none"> • Milk; • Cured cheese and fresh cheese; • Yoghurt with pieces of fruit/seeds/cereals. 	
Meat, fish and Eggs	<ul style="list-style-type: none"> • Egg, fish and meat (without skin and visible fats). 	<ul style="list-style-type: none"> • Sausages, smoked meats and fatty meats.
Other Foods	<ul style="list-style-type: none"> • Legumes (e.g. beans, chickpeas, lentils, broad beans, peas, lupins, etc.); • Dried fruit (e.g. prunes, figs, dates, sultanas, etc.); • Nuts (e.g. walnuts, peanuts, cashew nuts, ...); • Seeds (e.g. flaxseed, chia, sunflower, ...); • Cocoa and chocolate. 	

Table 2. Foods to choose and to avoid in case of when constipated

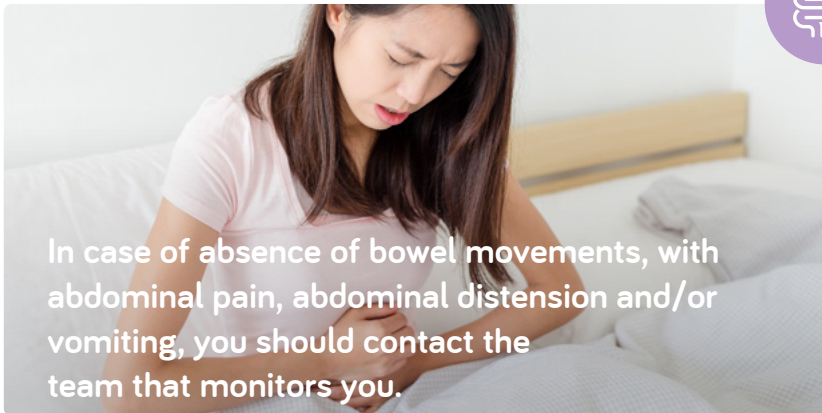
7.3 INTESTINAL OBSTRUCTION

Intestinal obstruction is a partial or complete blockage that prevents the passage of food, liquid, faeces or gas through the small or large intestine.

It may be partial or complete and symptoms include:

- Alternating periods of constipation and diarrhoea;
- Absence of transit for gases and/or faeces;
- Abdominal pain and distension;
- Fullness;
- Nausea and vomiting (foul smelling and faecal in appearance).

It can be caused by the presence of tumours, adhesions, intestinal inflammation or hernias



In case of absence of bowel movements, with abdominal pain, abdominal distension and/or vomiting, you should contact the team that monitors you.

Increase your water intake and have frequent, small meals.

Foods to choose and to avoid in case of intestinal obstruction

Type	Choose these foods	Avoid these foods
Cereals	<ul style="list-style-type: none"> • White bread, toast, biscuits and crackers low in fat and fibre (e.g. water crackers); • Rice, pasta and potatoes; • Wheat flour; • Tapioca. 	<ul style="list-style-type: none"> • Whole grain cereals; • Dark bread (mixed or whole grain or seeds); • Wholemeal biscuits and toast; • Granola; • Whole grain breakfast cereals; • Rice and wholemeal pasta.
Fruits and Vegetables	<ul style="list-style-type: none"> • Peeled fruit or seeds; • Cooked vegetables (without stem, peel or seeds). 	<ul style="list-style-type: none"> • Unpeeled fruit or seeds; • Raw vegetables (except peeled and seedless tomatoes); • Cooked vegetables with stem, peel or seeds
Dairy Products	<ul style="list-style-type: none"> • Milk; • Cheese; • Flavoured yoghurts 	<ul style="list-style-type: none"> • Yoghurt with pieces of fruit/seeds/cereals.
Meat, fish and eggs	<ul style="list-style-type: none"> • Egg, fish and meat (without skin and visible fat). 	<ul style="list-style-type: none"> • Sausages, smoked meats and fatty meats.
Other foods		<ul style="list-style-type: none"> • Legumes (e.g. beans, chickpeas, lentils, broad beans, peas, lupins, etc.); • Dried fruit (e.g. prunes, figs, dates, sultanas, etc.); • Nuts (e.g. walnuts, peanuts, cashew nuts, ...); • Seeds (e.g.: flaxseed, chia, sunflower, ...); • Olives and pickles; • Spices and hot sauces.

Table 3. Foods to choose and to avoid in case of intestinal obstruction

7.4 NAUSEA (SICKNESS) AND VOMITING

These symptoms are feared by cancer patients and their risk varies with the type of treatment they are given. Medication to take during and after treatment may be prescribed by your oncologist. You must strictly adhere to your medication as prescribed and report your symptoms and the effect of the prescription to your doctor.

If you have a significant decrease in your food intake due to nausea or if you have more than 3 episodes of vomiting within 24 hours, you should contact your oncology team.

Dietary recommendations:

- Eat several small meals throughout the day;
- Avoid skipping meals and going too long without eating;
- Avoid drinks during meals;
- Do not lie down right after meals, or if you do, keep your head raised;
- Eat your meals in a pleasant environment (outside the kitchen, without smells);
- Add aromatic herbs, fruit, etc. to your meals to make them look more appetising;
- Ginger can help control the symptoms:
 - Prepare infusion/flavoured water with ginger root and drink throughout the day;
 - Add ginger to soups, dishes, smoothies and juices;
 - You can drink ginger-ale.

Choose these foods:

- Easy to digest (low in fat and fibre);
- Drier (e.g. toast, biscuits, bread, ...);
- Citrus fruits (e.g. orange, lemon, tangerine, flavoured water - lemon/orange, ...);
- Salty snacks (e.g. cheese, ham, crackers, toast, soups, ...);
- At room temperature, cold or iced.



Avoid cooking:

- If possible, ask a relative/friend to prepare the meals;
- If you must cook, prepare larger quantities of food on days when you are not nauseous and freeze in individual portions to heat on days when you have more symptoms.

Avoid food:

- Drinks and sauces with strong odours (e.g. curry, sautés, coffee, ...);
- With a lot of fat (e.g. butter, cream, fried food, ...);
- That is sweet (e.g. honey, desserts, cakes, chocolates, ...);
- That is creamy or mushy.

7.5 DRY MOUTH (XEROSTOMIA)

This symptom can occur due to the disease itself or as a consequence of treatment (chemotherapy, radiotherapy or surgery). Xerostomia may be aggravated by some concomitant medication.

It impairs chewing, swallowing, tasting and communication skills and increases the risk of infections. In some circumstances the use of artificial saliva may be considered.

Dietary recommendations:

- Increase fluid intake throughout the day;
- Drink liquids during meals to make chewing and swallowing easier;
- Put lemon/orange drops in drinks and food (the citrus flavour is able to stimulate saliva production);
- Eat fruit with a high water content (e.g. watermelon, melon, ...);
- Choose culinary preparations with more sauce (e.g. stews, casseroles, soups, etc.);
- Give preference to soft and moist foods;
- Chew sugarless gum and sweets (preferably citrus/mint flavoured);
- Dissolve small portions of frozen drinks in the mouth (e.g. water, juices, infusions, ...).



Avoid:

- Dry, rough or hard food (e.g. bread, biscuits, toast);
- Spicy food and seasonings;
- Dense foods (example: peanut butter, honey, thicker puree, ...);
- Alcoholic drinks;
- Soft drinks (e.g. cola, ice tea, ...).



7.6 CHANGES IN TASTE (DYSGEUSIA)

This symptom, which is very common in cancer patients undergoing head-neck radiotherapy, can persist for months or years after the end of treatment. It is also very common in some chemotherapy regimens. It may lead to food refusal or aversion.

Dietary recommendations:

- Prepare colourful and visually pleasing dishes;
- Try new foods or foods you didn't like before;
- Choose cold and citric foods;
- Use herbs, spices, lemon and marinades in food preparation and cooking;
- At mealtimes include foods with contrasting flavours and textures (for example: mix meat/fish with fruit, include crunchy foods or seeds in cooking preparations, mix sweet and salty foods, ...);
- Drink water with lemon/orange;
- Chew sugarless gum and sweets (preferably citrus flavoured);
- Cleanse and stimulate the taste buds before a meal by rinsing mouth with lemon/orange water, sparkling water, ginger tea or citrus fruit juices.



Avoid:

- Ingesting foods/drinks with a very intense flavour (red meat, coffee, chocolate, etc.);
- Using metal cutlery (to minimise metallic taste)
- use plastic or silicone cutlery instead;
- Insisting on eating foods that do not taste good to you.



7.7 MUCOSITIS

Mucositis is an inflammation of the mucous membranes, which can affect any mucous membrane in the body, including the entire digestive tract. Its occurrence in the oral cavity and throat can greatly compromise food intake.

Dietary recommendations:

- Cook food so that it is soft and easy to chew;
- It may be necessary to change the consistency of the food to soft, creamy or liquid in order to minimise pain when chewing/swallowing;
- Choose foods at room temperature or cold;
- Boost hydration throughout the day - drinking through a straw can help minimise pain;
- Maintain good oral hygiene.



Foods to choose and to avoid in case of mucositis

Type	Choose these foods	Avoid these foods
Cereals	<ul style="list-style-type: none"> Moist/soft bread (e.g. sliced sandwich bread, soft bread rolls, bread soaked in milk, tea or barley); Biscuits soaked in milk, tea or barley; Cereal porridge; Rice and pasta with sauce (example: soupy rice, steamed pasta, ...); Mashed potatoes. 	<ul style="list-style-type: none"> Dry bread, toast and dry biscuits; Dry rice, pasta and boiled potatoes without sauce.
Fruits and Vegetables	<ul style="list-style-type: none"> Very ripe fruit, pureed, juiced or cooked; Cooked or pureed vegetables; Vegetable soup. 	<ul style="list-style-type: none"> Hard fruits and citrus fruits; Raw or pickled vegetables.
Dairy Products	<ul style="list-style-type: none"> Milk; Soft cheeses or spreads; Yoghurts; Milkshakes with milk/yoghurt, biscuits/cereal porridges and fruit. 	

Table 4. Foods to choose and to avoid in case of mucositis

Foods to choose and to avoid in case of mucositis

Type	Choose these foods	Avoid these foods
Meat, fish and eggs	<ul style="list-style-type: none">• Fish and meat cooked very well done, with sauce, minced or pureed;• Scrambled eggs.	<ul style="list-style-type: none">• Fish without sauce;• Dry, tough meat and in large pieces;• Sausages, smoked meats and fatty meats.
Other foods/ drinks	<ul style="list-style-type: none">• Legumes, pureed or included in stews (e.g. beans, chickpeas, lentils, broad beans, peas, etc.);• Ice creams and sorbets;• Sweet desserts (e.g. pudding, creme brulee, caramel flan, ...).	<ul style="list-style-type: none">• Dried fruit (e.g. prunes, figs, dates, sultanas, etc.);• Nuts (e.g. walnuts, peanuts, cashew nuts, ...);• Seeds (e.g.: flaxseed, chia, sunflower, ...);• Cocoa and chocolate;• Vinegar and mustard;• Alcoholic and carbonated drinks;• Salty foods;• Spices and hot sauces.

Table 4. Foods to choose and to avoid in case of mucositis

7.8 DIFFICULTY SWALLOWING (DYSPHAGIA)

The term dysphagia can refer to both the difficulty in initiating swallowing and the feeling that solid food and/or liquids are somehow retained in their passage from the mouth to the stomach.

Dysphagia, therefore, is the perception that there is an impediment to the passage of swallowed food.

It can occur as a result of: the presence of a tumour, surgery, radiotherapy or chemotherapy. It can occur for all foods or only for those of a certain consistency (liquid/solid).



Always discuss this symptom with your healthcare team.

- Change the consistency of food as instructed by your speech and language therapist and according to your swallowing ability;
- Eat several meals throughout the day;
- Opt for moist foods that are easy to chew and swallow;
- Cook the food until it is soft and tender;
- Cut the food into small pieces and, if necessary, chop them with the help of a chopper or hand blender;
- Eat while sitting down and put small amounts on your fork;
- You may have to use a cup with a spout to drink liquids;
- In the case of dysphagia for solid foods it may be necessary to adapt the consistency to soft, creamy or liquid;
- In the case of dysphagia for liquid, semi-liquid and creamy foods, the use of thickener is recommended:
 - In this case, liquid foods or foods that liquefy in the mouth (e.g. jelly, ice cream, sorbet, ...) are not allowed.



Avoid:

- Dry and hard foods (e.g. toast, bread, nuts and oilseeds, etc.);
- Fibrous foods (e.g. cod, pineapple,...);
- Sticky foods (e.g.: toffee, chewing gum, honey,...);
- Alcoholic drinks;
- Drinking liquids through a straw.

Foods to be eaten in the event of difficulty in swallowing solids

Type	Liquid/creamy diet	Soft diet
Cereals	<ul style="list-style-type: none">• Cereal porridge;• Rice and pasta with sauce and blended into puree;• Liquid mashed potato.	<ul style="list-style-type: none">• Moist/soft bread (e.g. flat bread, soft breach rolls, bread soaked in milk, tea or barley);• Biscuits soaked in milk, tea or barley;• Cereal porridge;• Rice and pasta with sauce (example: dirty rice, steamed pasta, ...);• Mashed potatoes.

Table 5. Foods to be eaten in the event of difficulty in swallowing solids

Fruits and Vegetables	<ul style="list-style-type: none"> • Fruit in purée or juice; • Pureed vegetables; • Stewed vegetable soup 	<ul style="list-style-type: none"> • Fruit that is overripe, pureed, juiced or cooked; • Cooked or pureed vegetables; • Vegetable soup.
Dairy products	<ul style="list-style-type: none"> • Milk; • Creamy or liquid yoghurts; • Milkshakes with milk/ yoghurt, biscuits/cereal porridges and fruit. 	<ul style="list-style-type: none"> • Milk; • Soft cheeses or spreads; • Yoghurts; • Milkshakes with milk/ yoghurt, biscuits/cereals and fruit.
Meat, fish and eggs	<ul style="list-style-type: none"> • Minced or pureed fish and meat; • Eggs used in soups or pureed. 	<ul style="list-style-type: none"> • Fish and meat cooked very well done, with sauce, minced or pureed; • Scrambled eggs.
Other foods/ beverages	<ul style="list-style-type: none"> • Legume puree; • Dried fruit (e.g. prunes, dates) and nuts (e.g. walnuts, peanuts, cashew nuts), as long as they are crushed and included in smoothies; • Ice creams and sorbets. 	<ul style="list-style-type: none"> • Legume puree; • Dried fruit (e.g. prunes, dates) and nuts (e.g. walnuts, peanuts, cashew nuts), as long as they are crushed and included in smoothies; • Ice creams and sorbets; • Sweet desserts (e.g. pudding, creme brulee, caramel flan, soft cakes, ...).

Table 5. Foods to be eaten in the event of difficulty in swallowing solids

7.9 LACK OF APPETITE (ANOREXIA)

Anorexia is one of the most frequent symptoms in cancer patients, regardless of the location of the tumour, and its causes are many.



Dietary recommendations:

- Eat several small meals throughout the day;
- Eat larger meals when you have more appetite;
- Avoid monotonous eating, opting for diversified, colourful dishes with different textures;
- Eat your meals in a pleasant environment;
- If necessary, change the texture of the food (e.g.: smoothies, purée, minced meat, etc.);
- On days when you feel better, cook in larger quantities and freeze in individual portions to heat up on days when you have less appetite;
- Always have convenience foods (ready-to-eat foods) on hand (e.g. boiled eggs, nuts and dried fruit and nuts, ice-cream, yoghurt, puddings, etc.);
- Fortify your dishes, sauces and soups with energy-dense foods (sugar, honey, chocolate, cream, powdered milk, yoghurt, cheese, olive oil, butter, mayonnaise, jams, jellies, preserves, etc.);
- Enhance the flavour of food by using herbs, spices and marinades;
- Start the meal with the main course and eat the soup afterwards;

- Increase the protein content of your meals:
 - Add meat, fish or eggs to the soup and the main dish;
 - Use egg whites to add to dishes or sweet desserts;
 - Opt for protein-rich yoghurt/puddings;
 - Put cheese and/or ham on your bread.
- Get regular physical activity - increased activity stimulates appetite.



Avoid:

- Drinking during meals;
- Low-fat foods (e.g. milk, cheese, yoghurt, ...);
- Beverages without energy or protein density (e.g. coffee, barley, tea, ...);
- Alcoholic drinks.

7.10 FATIGUE

Fatigue is one of the most prevalent symptoms in cancer patients.

It is a state of generalised weakness with the inability to muster sufficient energy to carry out daily life activities.

- Prioritise your activities - do the most important activities when you have the most energy;
- Ask friends/family members to help with the purchase, preparation and cooking of your meals;
- Always have meals ready to eat (refrigerated or frozen) for those days when you feel less energetic;
- Always have ready-to-eat convenience foods available for those days when you feel less energetic (e.g. boiled eggs, nuts and dried fruit, ice cream, yoghurt, puddings, etc.);
- Maintain good hydration - dehydration can make your feelings of fatigue worse;
- Maintain a dietary intake that is adequate in energy and protein content;
- Get regular physical activity - studies show that the more physical activity you get the less fatigue you feel related to the disease and treatments.

7.11 NEUTROPENIA

If your doctor has told you that your defences (white blood cells) are low, you should take extra care with food hygiene as you are more susceptible to infections and food can be a vector for micro-organisms.

There are no specific foods to increase defences. However, it is important to maintain a diet that is sufficient, varied and adequate in energy, protein, vitamins and minerals.

Include, if possible, meat, fish, eggs, vegetables, fruit, cereals, dairy products and olive oil in your daily diet and maintain good hydration.



Hygiene care and food safety

When buying food:

- Avoid buying food with damaged packaging;
- Buy refrigerated and frozen food last and transport it in a thermal bag;
- Do not buy frozen food packages with loose ice;
- Always check the expiry date of packaged foods;
- Always buy products in good condition;
- Avoid buying food from places that are unsafe from a sanitary point of view.



When preparing/making/storing food:

- Always wash your hands before eating and before preparing food;
- Maintain the proper hygiene of the place where food is prepared and also of the utensils used in its preparation;
- Wash the kitchen utensils in the washing machine or using detergent and disinfectant;
- Clean your refrigerator regularly;
- Defrost food in the refrigerator or microwave, never at room temperature;
- Wash raw vegetables and fruit under running water and soak them in a disinfectant solution for about 20 minutes (commercial solution or solution prepared with one tablespoon of bleach in one litre of water);
- Clean the outside of cans and bottles before opening them;
- Avoid contact between cooked and raw food;
- Consume the food immediately after preparation or store it in the refrigerator until you are ready to eat it;
- If you prepare extra food, divide it into individual portions, packing it properly in closed containers and store them in the refrigerator or freezer;
- When reheating food, make sure it is heated through and not just a part of it, stirring frequently (you can heat it in the microwave, oven or cooker). Only heat once and dispose of whatever is left over;
- Do not leave perishable food (meat, fish, dairy products), whether raw or cooked, at room temperature.

Foods to choose and to avoid in case of neutropenia

Type	Choose these foods	Avoid these foods
Cereals	<ul style="list-style-type: none"> • Bread, biscuits; • Breakfast cereals; • Rice, pasta and potatoes. 	<ul style="list-style-type: none"> • Breakfast cereals with dried and/or oily fruits; • Cereals, rice and bulk pasta.
Fruits and Vegetables	<ul style="list-style-type: none"> • Raw fruit and vegetables provided that they have been washed well and disinfected; • Cooked fruit and vegetables; • Vegetable soup. 	<ul style="list-style-type: none"> • Raw fruit and vegetables not properly sanitised (disinfected).
Dairy Products	<ul style="list-style-type: none"> • Milk, cheese, yoghurts and pasteurised cream; • Sliced packaged cheese. 	<ul style="list-style-type: none"> • Raw milk; • Unpasteurised/homemade yoghurts and kefir; • Mouldy cheese (example: Roquefort, Brie, Camembert, ...); • Freshly sliced cheese.
Meat, fish and eggs	<ul style="list-style-type: none"> • Fish and meat cooked, well done; • Packaged ham; • Well-cooked eggs. 	<ul style="list-style-type: none"> • Undercooked or raw fish (e.g: sushi); • Shellfish and by-products; • Raw or undercooked meat; • Sausages; • Smoked meats or fish; • Freshly sliced ham; • Raw or undercooked eggs.

Table 6. Foods to choose and to avoid in case of neutropenia

Type	Choose these foods	Avoid these foods
Other foods	<ul style="list-style-type: none"> • Spices should be cooked; • Sauces (ketchup, mayonnaise, mustard) in individual portions; • Dairy desserts, provided they are cooked; • Cakes without creams; • Packaged industrial ice creams. 	<ul style="list-style-type: none"> • Uncooked spices added after cooking; • Mayonnaise and other homemade sauces; • Cakes with creams and fillings; • Sweets with raw eggs (such as mousse); • Dried fruit and nuts.
Drinks	<ul style="list-style-type: none"> • Bottled water; • Pasteurized juices and nectars. 	<ul style="list-style-type: none"> • Untreated water from springs or wells; • Non-pasteurised/homemade juices and nectars.

Table 6. Foods to choose and to avoid in case of neutropenia



8. What to do after the treatments are over

After the treatments, it is fundamental that you adopt a healthy lifestyle and/or adapt your diet according to the permanent sequelae that may have remained or may appear.



- If you have symptoms, see [chapter 7](#) "What symptoms can affect your eating?".
- If you have other sequelae from surgery or radiotherapy that impact on your diet, you should continue your follow-up with a dietitian.

Some recommendations for healthy eating:

- Follow the recommendations of the World Health Organisation;
- Eat several small meals a day;
- Eat slowly and chew your food well;
- Eat more fruit and vegetables:
 - Always include soup at lunch and dinner;
 - Include a good portion of salad or cooked vegetables at lunch and dinner;
 - Include 3 to 4 portions of fruit a day (choose regional fruit in season, if possible).

- Eat protein-providing foods moderately and opt for the leanest (meat, fish, eggs, milk, yogurt and cheese);
- Use only olive oil for cooking and seasoning, but very little and without boiling (avoid butter, margarine, coconut oil or others, ..);
- Avoid sugary, fatty and processed foods;
- Choose simple and tasty ways of cooking, such as stews, casseroles, pasta, ...);
- Avoid alcohol and soft drinks;
- Drink around 1.5 litres of water a day.

If you are left with no symptoms or sequelae, seek to:

- Achieve or maintain a healthy weight;
- Stay physically active;
- Adopt a healthy diet.



9. Don't forget, stay active!

Physical activity, including aerobic and resistance training, should be encouraged wherever possible as a way of improving muscle mass and functionality. This also has a beneficial influence on your emotional state and in controlling lack of energy and feelings of weakness.

If possible, try to stay active and, if necessary, ask your support team for help so that they can refer you to a specialised professional.



REFERENCES

1. Elad S, Cheng K, Lalla R, Yarom N, Hong C, Logan R, Bowen J, et al. MASCC/ISOO Clinical Practice Guidelines for the Management of Mucositis Secondary to Cancer Therapy. *Cancer*. 2020;126(19): 4423-4431.
2. Arends J, Bachmann P, Baracos V, Barthelemy N, Bertz H, Bozzetti F, Fearon K, Hütterer E, et al. ESPEN guidelines on nutrition in cancer patients. *Clin Nutr*. 2017. 36:11-48.
3. Arends J, Baracos V, Bertz H, Bozzetti F, Calder PC, Deutz NEP, Erickson N, et al. ESPEN expert group recommendations for action against cancer related malnutrition. *Clin Nutr*. 2017. 36: 1187-1196.
4. Roeland EJ, Bohlke K, Baracos V, Bruera E, Fabbro E, Dixon S, et al. Management of Cancer Cachexia: ASCO Guideline. *J Clin Oncol* 38:2438-2453.
5. J. Arends, F. Strasser, S. Gonella, T. S. Solheim, C. Madeddu, P. Ravasco, L. Buonaccorso, M. A. E. de van der Schueren, C. Baldwin, M. Chasen & C. I. Ripamonti, on behalf of the ESMO Guidelines Committee. Cancer cachexia in adult patients: ESMO Clinical Practice Guidelines. *ESMO Open*. 2021 Apr;6(3):100092.
6. Muscaritoli M, Arends J, Bachmann P, Baracos V, Barthelemy N, Bertz H, et al. ESPEN practical guideline: Clinical Nutrition in cancer. *Clinical Nutrition* 40 (2021) 2898 e 2913.
7. NCCN Guidelines. Antiemesis. Version 2.2022.
8. Mercadante S. Palliative care of bowel obstruction in cancer patients. *UpToDate*. Acedido em 28/07/2022.
9. Mendes J, Ruivo E, Simas A, Amaral T. Desenvolvimento da versão em português do Nutriscore. *Acta Port Nutr* 21 (2020) 46-49.
10. Horie LM, Barrere AP, Castro MG, et al. Diretriz BRASPEN de terapia nutricional no paciente com câncer. *BRASPEN J* 2019; 34 (Supl. 1):2-32.
11. Sociedade Brasileira de Nutrição Oncológica. I Consenso brasileiro de nutrição oncológica da SBNO / Sociedade Brasileira de Nutrição Oncológica; organizado por Nivaldo Barroso de Pinho. Rio de Janeiro: Edite, 2021. 164 p.
12. Nutrition for the Person with cancer during treatment – A Guide for Patients and Families. American Cancer Society. 2019. No 941000 Ver. 11/19.
13. Support for People with Cancer – Eating Hints: Before, during, and after Cancer Treatment. National Cancer Institute. 2018. No 18-7157.
14. Peñas R, Majem M, Perez-Altozano J, Virizuela J, Cancer E, Diz P, et al. SEOM clinical guidelines on nutrition in cancer patients (2018). *Clinical and Translational Oncology* (2019) 21:87-93.



Authors:



Support from:

