GUT CANCER FOUNDATION

Diet & nutrition for
people living with

LIVER CANCER

GUT CANCER FOUNDATION

About Gut Cancer Foundation

The Gut Cancer Foundation funds innovative research, is the voice of cancers of the digestive system, and provides vital information and education to improve and save the lives of all New Zealanders affected by cancers of the digestive system which pancreatic, liver, stomach, biliary, oesophageal, bowel and anal cancers.

The information in this booklet has been repurposed from our partners at Pancare Foundation Australia. We would like to extend our sincere gratitude to Pancare for generously sharing their patient support material and providing permission for us to adapt it to support Kiwis and whānau with liver cancer in Aotearoa New Zealand.

Note to the Reader

The information contained in this handbook is appropriate to follow if you are undergoing or have recently completed treatment for liver cancer and are underweight or losing weight.

The medical profession and research community are continually updating information about liver cancer.

We have taken care to ensure that the information in this handbook is reflective of the clinical best practice as at the time of publication. Sponsoring organisations have not had input into the contents of this document.

This handbook is not intended as a substitute for professional help or advice by doctors, nurses or dietitians. It is important to discuss any medical (physical, emotional, and/or general) symptoms, questions or concerns with your healthcare professional as soon as possible.

Gut Cancer Foundation excludes itself from all liability for any injury, loss or damage incurred by use of, or reliance on, the information provided in this handbook.

First published by Pancare Foundation Australia, 2015
Republished by ©Gut Cancer Foundation, 2026

Supporting you on your Cancer Journey

A cancer diagnosis can come as a terrible shock, but we're here to help you every step of the way and support you, your family and friends.

Learn more about a recent diagnosis, your treatment options, working with your care team and ways you can nurture your health and wellbeing through diet, exercise and strengthening your mental health.

Talk to our specialist support team today

To discover more, email support@gutcancer.org.nz
or call 0800 112 775 to talk with our specialist support team,
or visit www.gutcancer.org.nz/support-service

What is this handbook about?

Cancer is life-changing, but recent advances in medicine mean that people living with cancer are now enjoying longer, fuller and healthier lives after treatment. These advances include a broader understanding of nutrition and how your diet can help you feel better.

This handbook highlights important information about managing your diet if you have, or recently have had, liver cancer. Liver cancer may also be called gallbladder cancer, bile duct cancer or cholangiocarcinoma (kol-an-geeoh-car-sin-oh-ma).

Cancer, its treatments and side effects of treatment can affect how you live day to day. This handbook explains the function of your liver, and how liver cancer and its treatments may affect your body. It also provides ideas on what you can do to feel better during and after treatment.

The potential symptoms of liver cancer and treatment side effects include:

- problems with maintaining or gaining weight
- problems with eating and swallowing
- changes in taste and smell
- differences in bowel habits
- loss of appetite
- feeling full quickly
- nausea (feeling like you are going to throw up) and vomiting
- muscle loss and reduced strength
- fatigue.

You may encounter all, some, or none of the above.

We share dietary tips to help manage the unpleasant effects of treatment. If you have liver cancer, you should be referred to an Accredited Practising Dietitian, who will tailor advice specifically for you. If you have not seen a dietitian and would like to, please discuss this with your treating team. Your doctor may prescribe medication, such as anti-inflammatory or antinausea (anti-emetic) medication, to help with some of your symptoms.

Eating is a daily pleasure, but a good diet is essential to optimising your health outcomes during and after treatment. By using strategies and tips offered in this handbook, you may find eating, maintaining your weight and managing your side effects easier.

Your guide for using this handbook

This handbook contains key detail in colour coded boxes.

ADDITIONAL DETAILS

HELPFUL TIPS

PATIENT STORIES

FOOD IDEAS

Contents

How does the liver work?

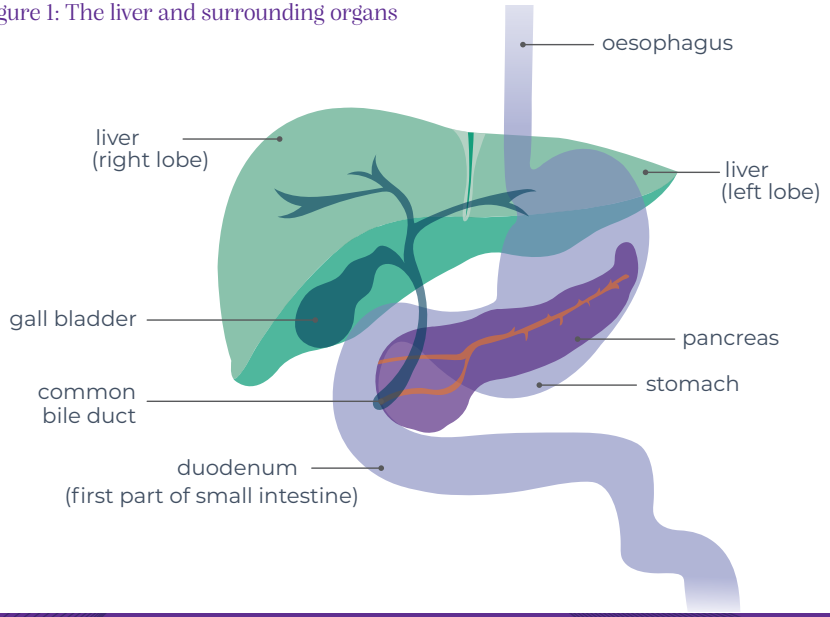
People with liver cancer often struggle to maintain a healthy weight. Cancer treatments and the associated side effects can also make it hard to take in, digest and absorb your food.

The liver is the largest organ inside of the body and forms part of the digestive system. The main functions of the liver are to help digest food and remove toxic substances from the body.

The liver sits just under the ribs on the right side of the abdomen. It has two large sections called the right and left lobes. Under the liver is the gallbladder, as well as parts of the pancreas and intestines *(Figure 1)*. These organs work together to digest, absorb and process food.

The liver makes bile, a fluid that helps break down fats in food. Bile is made from cholesterol, water, bile salts and bilirubin (a yellow pigment formed when red blood cells break down). Bile is made in the liver and stored in the gallbladder until there are fats in the small intestine that need digesting.

Figure 1: The liver and surrounding organs



The liver also:

- stores nutrients (carbohydrates, fats, proteins and vitamins)
- removes toxic chemicals from the blood
- metabolises drugs and alcohol
- makes proteins that are important for blood clotting and other functions
- helps regulate blood sugar levels by storing and releasing sugar.

Biliary obstruction and jaundice

A blockage (obstruction) in the bile ducts can cause bilirubin to build up in the blood – this is called jaundice. Jaundice can cause the skin and whites of the eyes to turn yellow. You may also have itchy skin, pale stools (faeces) or dark urine.

Some common causes of biliary obstruction are:

- gallstones – these are the most common cause
- inflammation (swelling) of the bile ducts
- a biliary stricture (narrowing of the bile duct)
- pancreatitis (inflammation of the pancreas)
- gallbladder or liver surgery
- tumours that have reached the liver, gallbladder, pancreas or bile ducts
- infections, including hepatitis
- cirrhosis (scarring) of the liver
- severe liver damage.

It is important to see your doctor if you have symptoms of jaundice. Your doctor may send you for tests to work out the cause.

What therapies are used to treat liver cancer?

Common treatments for liver cancer include surgery, chemotherapy, radiation therapy and immunotherapy. You may need to have just one of these or a combination of treatments, depending on your diagnosis.

Prehabilitation

Prehabilitation (prehab) means getting ready for cancer treatment in whatever time you have before treatment starts. This includes increasing your awareness of what you are eating, doing regular physical activity and looking at ways to improve your mental wellbeing through mindfulness. If you can stop smoking and cut down on your alcohol intake, it will benefit your cancer treatment, recovery and overall health.

Prehabilitation can be a program with your healthcare team (including doctors, nurses, dietitians, physiotherapists, exercise physiologists and psychologists) or something you do by creating your own plan at home by yourself.

By getting support early to change health habits and ensure that you are as healthy as possible before treatment, you are more likely to:

- leave hospital sooner after surgery
- cope better with the side effects of cancer treatment
- have fewer side effects
- have more treatment choices
- have better long-term health.

Prehabilitation continues as rehabilitation to help you recover from cancer treatment.

Surgery

If you have been told that surgery to remove your cancer is possible, you may have been diagnosed with a cancer that has not spread to other organs and is not significantly attached to major vessels. Your doctor may call your cancer operable or resectable.

If the tumour partly surrounds some major vessels, it may be referred to as borderline operable. You may be offered surgery in these cases, depending on the vessels involved, but it is more likely that you will be offered preoperative treatment, such as chemotherapy, before surgery is considered.

Liver resection (hepatectomy)

Surgery that removes part of your liver is called a liver resection or hepatectomy. This can be done as a minimally invasive (keyhole) surgery or open surgery. The amount of liver that is removed depends on the size and location of the cancer. The liver can regenerate and adapt to work normally after a resection. Sometimes, the gallbladder and part of the diaphragm will also be removed.

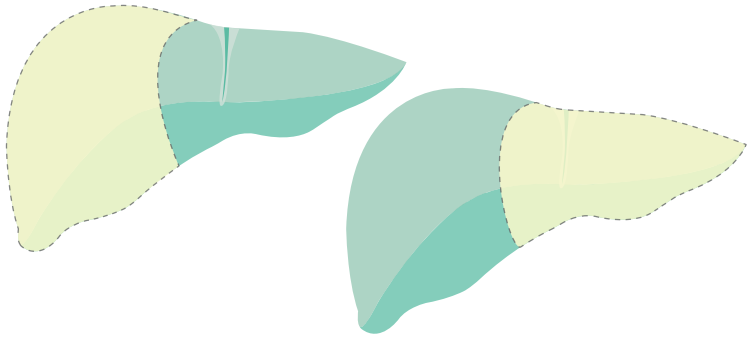
There are three types of liver resection *(Figure 2)*, based on how much of the liver is removed:

- **Right-sided or left-sided liver resection** is when the right or left part of the liver is removed
- **Extended right-sided or left-sided liver resection** involves removing a large section of liver. This surgery is only recommended if there is enough healthy liver remaining to continue performing the liver's essential functions
- **Segmental liver resection** is when a small section of the liver is removed.

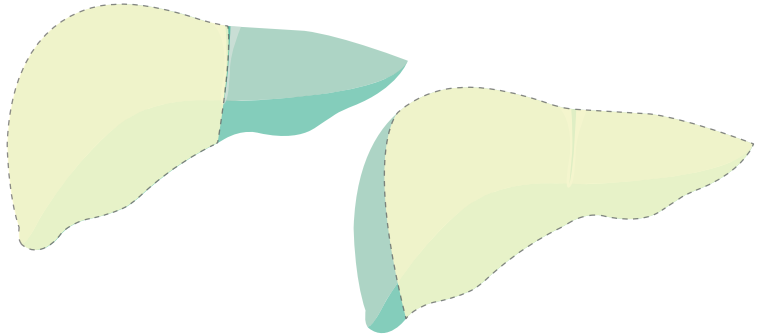
A hepatectomy is a complex surgery, and you may need to stay in hospital for 5 to 10 days. The liver has the ability to regenerate after surgery. In most people, the remaining healthy liver grows over time and is able to perform the functions needed to support the body.

Figure 2: Types of liver resection

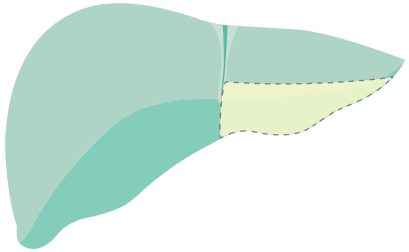
A: Right-sided or left-sided liver resection



B: Extended right-sided or left-sided liver resection



C: Segmental liver resection

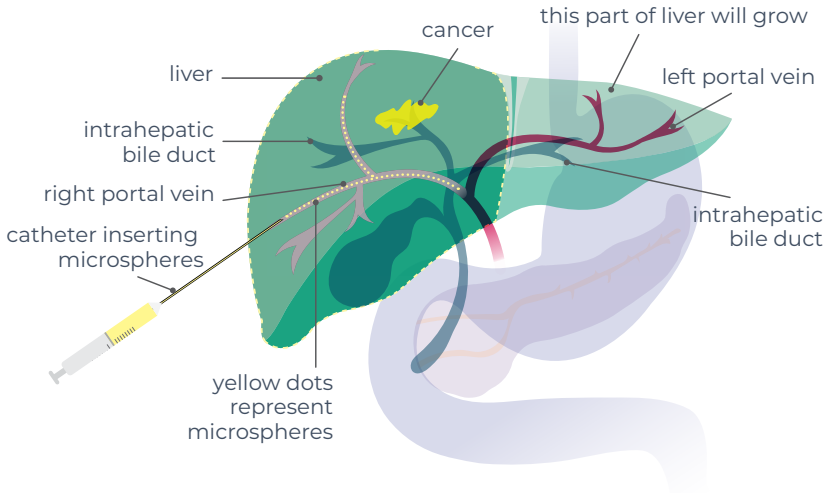


Parts of the liver removed

Portal vein embolisation (PVE)

Before major liver surgery, the surgeon may suggest you have a procedure called portal vein embolisation (PVE) *(Figure 3)*. PVE means blocking off part of the blood flow to the area of the liver that has liver cancer. During PVE, the blood supply to the part of the liver that will be removed is blocked by injecting tiny particles into a branch of the portal vein (the main blood vessels in the liver). This directs blood flow to the healthy part of the liver, encouraging it to grow before surgery. This is done about a month before you have surgery to remove the cancer.

Figure 3: Portal vein embolisation



Liver transplant

If your tumour has not spread to other parts of your body but your liver is damaged, you may be referred to the liver transplant unit where decisions are made by a multi disciplinary team. This is when the whole liver is removed and replaced with a healthy liver from another person (called a donor).

Donor livers are rare, and it may be many months before a suitable liver is available. You may have other treatments to control the cancer while you wait for a transplant. A liver transplant is a complex surgery.

You may need to stay in hospital for up to 3 weeks, and it may take 3 to 6 months to fully recover. Your treatment team will watch you closely for signs that your body is rejecting the new liver or that the tumour has returned. You will need to take medications called immunosuppressants for the rest of your life to stop your body from rejecting the new liver.

Tumour ablation

If your tumours are less than 3 cm across and you can't have surgery or are waiting for a liver transplant, you may have a tumour ablation. Ablation destroys the tumour without removing it.

The most common type of ablation is thermal ablation. A needle that uses radio waves or microwaves to create heat is inserted into the tumour and destroys it. This requires anaesthetic and requires a short hospital stay.

Bile duct stents

If you have a blockage in your bile duct, you might need to have a bile duct stent placed.

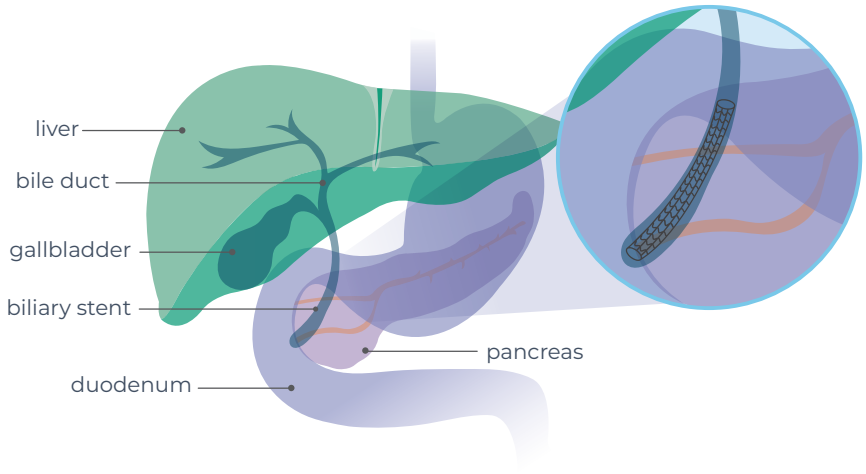
A stent won't treat the cancer, but it will help to relieve the blockage caused by the cancer so that you are more comfortable.

A bile duct stent is a small tube that sits in the bile duct. It helps keep your bile duct open so that bile can pass through the bile duct to the duodenum *(Figure 4 on page 16)*.

The two ways a stent can be inserted are:

- endoscopic retrograde cholangiopancreatography, where an endoscope (a thin, flexible tube with a camera on the end) is used to see the blockage and place the stent
- percutaneous stent placement, where the stent is placed through the skin of the abdomen using a long, thin needle, and an ultrasound or X-ray is used to guide the needle.

Figure 4: Bile duct stent



Paracentesis (ascitic tap)

If you have ascites (a swollen abdomen caused by a build-up of fluid), you may need to have a procedure called paracentesis, or an ascitic tap.

Paracentesis won't treat the cancer, but it will help to relieve pressure in the abdomen caused by the cancer so that you are more comfortable.

Your doctor will insert a plastic tube into your abdomen that is connected to a drainage bag outside the body. When all the fluid has drained, the tube is removed. You may be prescribed medications called diuretics to slow down the build-up of fluid.

Drug Therapies

TACE

TACE is a treatment most commonly used for hepatocellular carcinoma (HCC). In some situations, it may also be used to treat other liver cancers, including selected cases of intrahepatic cholangiocarcinoma. TACE delivers high doses of chemotherapy straight into the tumour.

A catheter (a thin, flexible, hollow tube) is inserted through an artery in your inner thigh to a large artery in your liver. Medicines are injected through the catheter and into the artery. Small particles are then injected into the artery to block the flow of blood for a short time, so the chemotherapy stays in the tumour *(Figure 5 on page 18).*

Depending on the type of liver cancer, TACE may be the only treatment used, or it could be given before a liver transplant or major liver resection to control the cancer (known as bridging TACE).

Chemotherapy

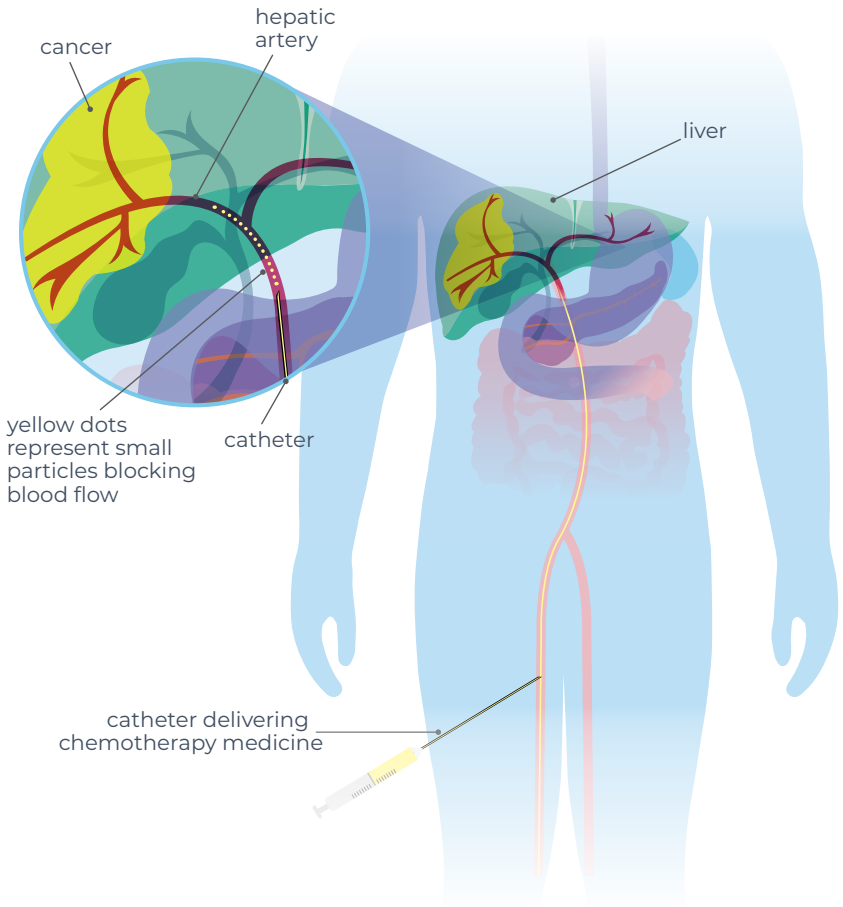
Chemotherapy may be offered to patients with intrahepatic cholangiocarcinoma either alone or in combination with other therapies. Chemotherapy is not recommended for HCC.

Chemotherapy could be given at different times, including:

- before surgery (known as neoadjuvant chemotherapy) – in these cases, the chemotherapy is given with the aim of shrinking the tumours or controlling the cancer growth for some time, to make surgical treatment more feasible or beneficial
- after surgery (known as adjuvant chemotherapy) – this has been shown to reduce the risk of cancer recurrence and is routinely offered after surgery
- both before and after surgery.

Chemotherapy is usually given intravenously (through a drip into the veins) at a hospital or cancer clinic, or can be given orally (swallowed as a pill or tablet). Because chemotherapy medicines travel throughout the bloodstream (systemic treatment), side effects can affect many parts of the body. Chemotherapy can also be used for palliative treatment, to relieve symptoms and slow progression of the disease.

Figure 5: Trans-arterial chemoembolisation (TACE)



Radiation therapy

Radiation therapy uses high-energy radiation to damage or destroy cancer cells while limiting damage to surrounding healthy tissue. It may be used to treat liver cancer, relieve symptoms, or help control the growth of cancer. Some radiation therapy is funded in New Zealand and some is not, your treatment team will advise you.

External beam radiation therapy (EBRT)

External beam radiation therapy delivers radiation from a machine outside the body directly to the tumour. Before treatment, you will have a planning appointment, which may include a CT scan, to help your radiation therapy team accurately target the cancer while protecting as much healthy liver tissue as possible.

Some people may receive a specialised form of external beam radiation therapy called stereotactic body radiation therapy (SBRT). SBRT delivers a high dose of radiation very precisely to the tumour over a small number of treatments.

Radiation therapy is painless. Each treatment usually takes only a few minutes, although your appointment may last 15–30 minutes to allow time for positioning and treatment preparation. The number of treatments you need will depend on your individual treatment plan.

Side effects vary depending on the area being treated and the dose of radiation. Common side effects may include tiredness, nausea, reduced appetite, diarrhoea, or discomfort in the treatment area. Most side effects improve after treatment has finished.

Selective Internal Radiation Therapy (SIRT)

Selective Internal Radiation Therapy (SIRT), also known as radioembolisation, is a treatment that delivers radiation directly to liver tumours from inside the body. It may be an option for some people with liver cancer when surgery is not suitable. Your multidisciplinary team will discuss whether this treatment is appropriate for your individual situation.

During the procedure, an interventional radiologist inserts a thin tube (catheter) into an artery, usually in the groin or wrist, and guides it to the blood vessels supplying the liver tumour. Tiny radioactive beads are then injected through the catheter. These beads become trapped in the small blood vessels feeding the tumour, delivering radiation directly to the cancer while limiting exposure to the surrounding healthy liver.

Before SIRT, you will have tests to assess whether the treatment is suitable and safe for you. The procedure is usually performed as a day procedure or may require an overnight stay in hospital.

After treatment, you may experience tiredness, nausea, mild abdominal discomfort, or a low-grade fever for a few days. Your healthcare team will explain what to expect after the procedure and arrange follow-up appointments to monitor your recovery and assess how well the treatment has worked.

Targeted therapy and immunotherapy

Targeted therapy works by blocking proteins or blood vessels that cancer cells need to grow and spread. Immunotherapy helps the body's immune system recognise and attack cancer cells more effectively.

In New Zealand, a combination of atezolizumab (an immunotherapy medicine) and bevacizumab (a targeted therapy medicine) is funded for those with advanced hepatocellular carcinoma (HCC). Both medicines are given by intravenous (IV) infusion, usually every three weeks.

Lenvatinib is available for those who are not able to have atezolizumab/bevacizumab. Lenvatinib is a targeted therapy taken as tablets once a day.

Both medicines aim to stop the cancer growing and spreading for a period of time.

The availability of these and other medicines depends on the type and stage of liver cancer, your liver function, your general health, and current funding criteria. Your hepatologist or medical oncologist will discuss which treatment options are most appropriate for your individual situation.

About Immunotherapy and Targeted Therapy for Liver Cancer

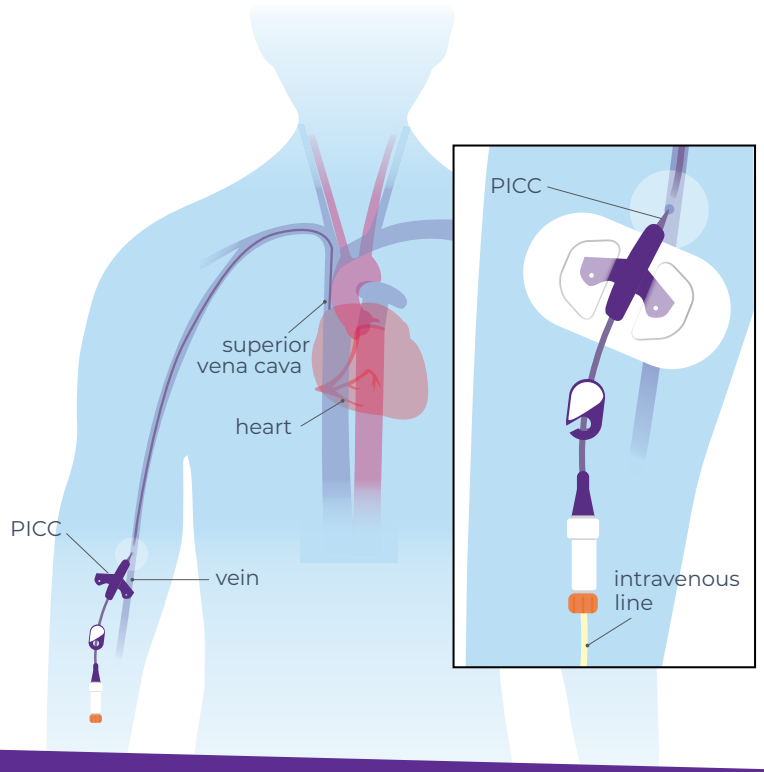
Atezolizumab is an immunotherapy drug called a checkpoint inhibitor. Atezolizumab can make the immune system too active. This can cause varied side effects. Some of them are rare. But it is important to know about them. Your treatment team will give you written information before you get started.

Bevacizumab belongs to a group of targeted therapy drugs known as monoclonal antibodies. It is also an angiogenesis inhibitor which makes it difficult for the cancer tumour to develop the blood vessels it needs to get a blood supply. It can cause high blood pressure and increases both clotting and bleeding risk.

Lenvatinib belongs to a group of targeted therapy drugs called angiogenesis inhibitors. These stop the cancer developing new blood vessels. It is also a cancer growth inhibitor which blocks signals in the cancer cells that make them grow.

Lenvatinib can cause fatigue, nausea, diarrhea, sore mouth, changes in taste, high blood pressure and skin changes. Your treatment team will give you written information before you get started.

Figure 6: Peripherally Inserted Central Catheter (PICC)



What is a PICC line?

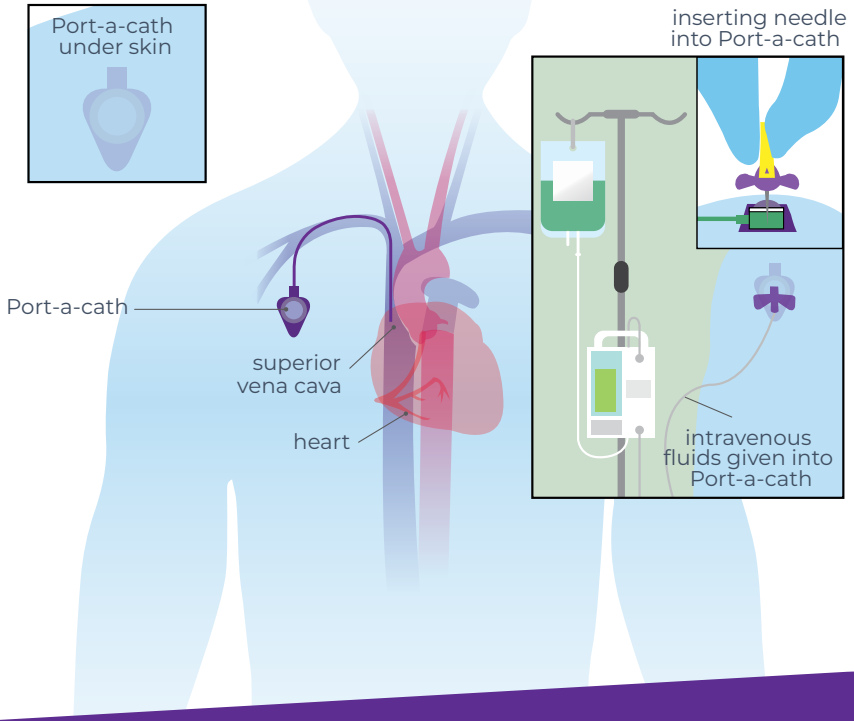
A PICC is a peripherally inserted central catheter. It is used to give treatments, fluids, medicines or blood transfusions into your bloodstream and to take blood samples. A PICC is used instead of intravenous (IV) cannulas (needles in your arm) for your treatments. IV cannulas are put in for each treatment, but a PICC stays in for the duration of your treatments. This makes having frequent, repeated, continuous or at-home cancer treatments easier.

A PICC is a long, flexible, hollow tube. The tube is called a catheter. All PICCs have one end that goes through a vein in your upper arm up to a large vein near your heart *(Figure 6 on page 23).* Outside your body, the PICC divides into 1, 2 or 3 smaller tubes, called lumens. Each lumen may have a small clamp and has a cap on the end. A length of the PICC stays on the outside of your inner upper arm and is covered by a dressing. Your nurse will give your treatment, or take blood from you, through the lumen. Your treatment travels through the tube straight into your bloodstream.

Your PICC line will be put in by a specially trained member of your healthcare team. This can happen in a day unit or in the radiology department. A dressing keeps the area clean and dry, which is very important. A member of your healthcare team will advise of any restrictions on your activities.

Your PICC line can stay in as long as it is needed. This can be weeks, months or longer.

Figure 7: Port-a-cath (Port)



What is a chemo port?

A chemotherapy (chemo) port is a small device that is implanted under the skin, usually on the right side of the chest. It has a thin tube that is guided into a large vein above the heart *(Figure 7)*. Chemotherapy medicines can be delivered straight into the port.

A port will make a visible 'bump' under the skin, but this can be easily covered with regular clothing. Many people who receive chemotherapy choose to have a port implanted, if recommended by their treatment team.

How can I manage the symptoms of liver cancer and the treatment side effects?

Liver cancer and the associated treatments may change how you eat. Managing these changes is important for your nutritional health and recovery, and to make you feel better in general. Treatments can affect people differently. You might have no side effects, or some or all of them, but there are plenty of things you can do to improve your general wellbeing.

This handbook describes several common side effects of cancer treatments, and how to manage them.

Liver cancer and its treatments may impact:

- your nutritional requirements and what you need to eat
- how much you eat
- your appetite
- your ability to digest and absorb food, nutrients and fluids
- your ability to maintain your weight and muscle mass
- your energy levels, strength and general wellbeing.

Table 1 lists the most common side effects from the most common treatment options for all liver cancers: surgery, TACE, chemotherapy, radiation therapy, and targeted therapy and immunotherapy.

Rare, but serious, side effects can also occur with immunotherapies, such as immune-related symptoms, hormone changes and inflammation (swelling) of organs. It is important to contact your doctor and report these symptoms as soon as you are aware of them.

Table 1: Common side effects of liver cancer treatments

Surgery	TACE and Chemotherapy	Radiation therapy	Targeted therapy and immuno-therapy
• Fatigue • Pain • Diarrhoea and malabsorption • Weight loss • Malnutrition • Loss of appetite • Feeling full quickly.	• Nausea and vomiting • Pain • Fatigue • Fever • Flu-like symptoms • Malnutrition.	• Nausea and vomiting • Loss of appetite • Feeling full quickly • Diarrhoea or constipation • Fatigue • Weight loss • Malnutrition • Skin changes in the area (redness or peeling).	• Skin rash • Flu-like symptoms • Abdominal pain • Diarrhoea • Weight changes • Malnutrition • Joint pain • Shortness of breath.

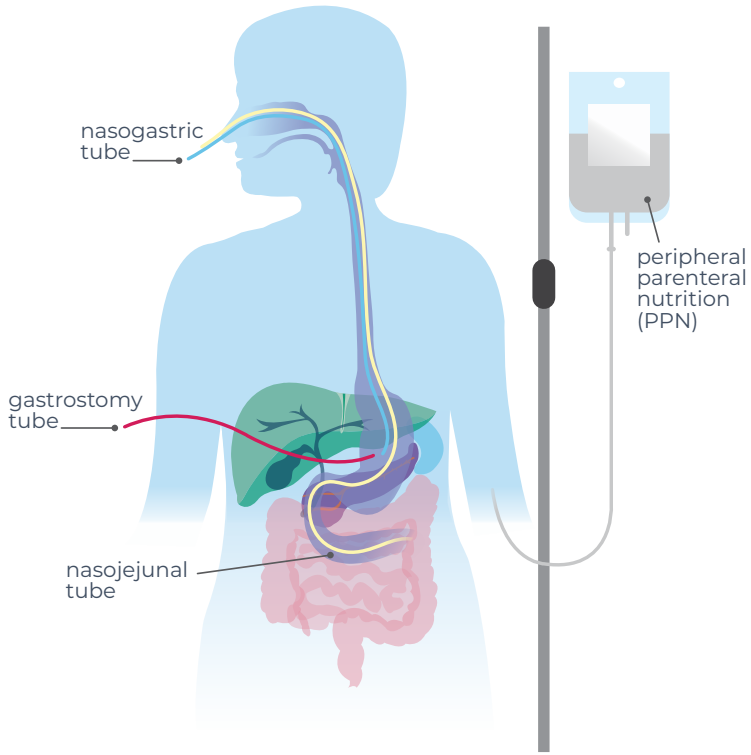
Nutritional support after surgery

Your ability to eat and drink after your operation will depend on which surgery you have had and what the hospital recommends.

It is often difficult to meet your elevated nutritional needs with food alone. Your healthcare team may recommend a feeding tube for nutrition support. You may have a feeding tube placed directly into your stomach or small intestine before your surgery (called a gastrostomy or jejunostomy). This is used to ensure that you can meet your nutritional needs. You may have a temporary feeding tube up your nose (called a nasogastric or nasojejunal tube) during or after surgery if you are struggling to eat and drink *(see Figure 8)*.

Feeding tubes are an important way to ensure that your body receives the nutrition it needs to prepare for and recover from surgery. You can be given specially prepared feeding formula (called enteral formula) through this tube that will help you maintain weight and get the nutrients you need for a speedy recovery.

Figure 8: Possible feeding tube options after surgery



Once you begin eating, your surgeon or dietitian may guide you on any specific dietary needs or changes to follow.

Your surgeon or dietitian might guide you to eat several small meals or snacks throughout the day, rather than a few big meals. The hospital dietitian can prepare eating plans and work out whether you need any supplements to help meet your nutritional needs.

Fatigue

Fatigue and tiredness are common side effects of liver cancer and treatment. Your food choices can help to balance your energy levels across the day.

Some tips to help optimise your energy levels include the following:

- Eat regular meals. Try six smaller meals to spread your energy across the day
- Include complex, low–glycaemic index carbohydrates that provide you with a sustained release of energy across the day. Choose wholegrain breads and cereals, legumes, vegetables, fruit, and fullcream dairy products such as milk and Greek or natural yoghurts
- Limit your intake of simple sugars and carbohydrates, such as soft drinks, juices, sweets, biscuits, cakes, white bread and other refined grains, cordial and sugar. These cause a spike in your energy levels, followed by a drop that leaves you feeling tired
- Ensure that you are well hydrated, aiming for two litres of fluids per day. Water, herbal tea, milk and milk drinks are good choices
- Have some nutritious ready meals in your fridge or freezer, you can buy these from the supermarket or from meal delivery services.

Mouth dryness

Some chemotherapy medicines and some pain medicines can reduce the amount of saliva (spit) in your mouth and make it feel dry. This is a condition called xerostomia. A dry mouth can increase your risk of tooth decay and infections such as oral thrush, which can make eating even more difficult.

Tips to help with a dry mouth

- Use mouthwash regularly to prevent infections (an alcohol-free mouthwash will reduce irritation).
- Gargle water mixed with a little salt or bicarbonate of soda
- Use a soft toothbrush when cleaning your teeth
- Ask your dietitian, speech pathologist, doctor or chemist about suitable mouth rinses, oral lubricants, artificial salivas and saliva stimulants
- Moisten the inside of your mouth at night with a small amount of grapeseed oil, coconut oil or olive oil
- Soften dry food by dipping it in milk, soup, tea or coffee, or add sauce, gravy, cream or custard
- Cut, mince or puree food with sauce or gravy so that it does not dry out when chewed
- Sip fluids with meals and throughout the day, or suck on ice cubes or frozen grapes to moisten your mouth
- Chew sugar-free gum or sour drops to stimulate the flow of saliva
- Limit alcohol and coffee, as these remove fluids from the body
- Avoid smoking.

Changes in taste and smell

Changes in taste and/or smell are common during cancer treatment, especially when having chemotherapy. You may find that you don't enjoy eating the foods you used to or that food has lost its taste.

Tips to help you cope with changes in taste

- If food tastes bland, try adding flavour by using herbs, lemon, lime, ginger, garlic, soy sauce, honey, chilli, pepper and other spices, sauces or pickled vegetables. You may also find that you can no longer stomach these things, and that bland food is more appetising. Do whatever works for you
- If you have a bitter or metallic taste in your mouth, eat fresh fruit or suck on hard lollies. Eat your food with plastic or wooden (not metal) utensils, and drink out of glass or plastic cups. Don't store food in metal containers
- If food is too sweet, add small amounts of lemon juice or instant coffee granules. Try plain breakfast cereals (for example, oats or wheat biscuits) that don't have any added sugar
- Try using a straw, where possible, as this can help food bypass the taste buds
- Continue to try different foods to assess your taste preferences. Variety is key!
- Ensure that you keep your mouth clean by cleaning your teeth and rinsing your mouth out regularly. Using mouthwash throughout the day can also help. If you use mouthwash, try to ensure that it is alcohol-free. Having a fresh, clean mouth before your meals can help.

Tips to help you cope with changes in smell

- Choose cold food or food at room temperature to minimise strong smells
- If cooking odours make you feel unwell, ask family or friends to help prepare food for you at their house, or when you are in another room or outside
- If you can't tolerate meat, chicken or fish, try it in different ways, such as in a mince dish, slow cooked with vegetables or blended through soups. If this doesn't help, try other protein sources, such as cheese (including ricotta and cottage cheese) and other dairy foods, eggs, nuts, tofu, or other legumes and pulses (including lentils and beans).
- If you use a slow cooker or crock pot to cook, try placing it in your garage or out of the main areas of the house.

Swallowing problems

Swallowing may be painful after liver cancer treatment, especially after chemotherapy. Painful swallowing is called odynophagia.

You may also cough while eating or feel as though food is 'going down the wrong way'. If you feel as though food is going down the wrong way, or you are coughing or spluttering when eating or drinking, you should see your doctor right away, as these problems can be serious.

Tips to make swallowing easier

- Chop, mince or puree food to make smaller pieces that are easier to swallow
- Snack on soft foods between meals, such as avocado, yoghurt, custard, ice cream, diced tinned fruit and milkshakes. These are easier to swallow
- Try eating soft, nutritious foods, such as scrambled eggs, porridge, soup and casseroles
- Make tough food softer. Try using a slow cooker to keep food soft and moist, mash your food with a fork, or add extra gravy or sauce to your meals
- Sit upright, and chew carefully and slowly. Avoid lying down within 30 minutes of eating or drinking
- Wash food down with small sips of a drink
- Make changes in texture of food and thickening of fluids as guided by your dietitian and speech pathologist.

Loss of appetite and feeling full

Loss of appetite and early satiety (feeling full quickly) are common problems in people with liver cancer and during treatment.

Try the following to help with loss of appetite and early satiety:

- Eat small, nourishing meals throughout the day. Try to eat every 2 to 3 hours, rather than having three large meals. Eat by the clock. Regular meals can help to stimulate your appetite
- Try to eat the most nourishing part of the meal first (before you become full), such as high-energy and high-protein foods and fluids *(see 'How do I maximise my nutritional intake' on page 44)*
- When you do feel hungry, eat! If you feel hungrier at certain times of the day or week (for example, between chemotherapy cycles), eat a bit more
- Prioritise nourishing fluids, such as milk-based drinks, to help you get enough nutrition as well as hydration. Remember to keep hydrated by sipping on fluids between meals and snacks
- Make your eating environment relaxed, positive and enjoyable. Distract yourself with family, friends or a good book.

Nausea and vomiting

Nausea and vomiting can be caused by liver cancer and its treatments. Here are some ways to settle your stomach:

- Talk to your doctor about trying an anti-nausea medicine. Make sure you read the instructions on how and when to take this medicine. For example, metoclopramide is best taken 30 minutes before eating
- Eat small, frequent meals throughout the day. Don't skip meals or snacks – not eating can make nausea worse
- Eat bland, starchy and salty snacks, such as dry crackers or toast with vegemite or cheese. However, you should not eat these foods if you have a dry mouth *(see 'Mouth dryness' on page 30)*
- Eat and drink slowly, and chew food well
- Choose cold food or food at room temperature to minimise strong smells
- Reduce fried, greasy or spicy foods if these make you feel unwell
- Avoid strong odours and cooking smells. If possible, stay away from the kitchen if someone else is cooking. It might also be easier if you cook and/or eat outside
- Suck on hard lollies, especially those flavoured with ginger, peppermint or lemon
- Try ginger-based foods and drinks, such as candied ginger, ginger beer, ginger ale or ginger tea. Talk to your dietitian, doctor or pharmacist about ginger supplements.

Vomiting is more serious than nausea. Vomiting can cause dehydration and increase the risk of malnutrition. See a doctor if you are vomiting for more than one day, especially if you can't keep water down.

Tips for managing vomiting

- Take small sips of water or clear liquids, such as ginger ale, soda water or sports drinks like Gatorade® or Hydralyte®. Dilute sweet drinks. If you feel like a fizzy drink, open it and let it sit for 10 minutes or so, and drink it when it's a bit flat
- Once you can keep clear liquids down, try adding different liquids such as smoothies and milkshakes. Have small amounts of these frequently throughout the day
- When you are ready to try solid foods, start with bland, starchy foods, and other foods that are easy to eat – for example, plain biscuits, bread or toast with honey or jam, peanut butter, rice, yoghurt and fruit. Try to have small, frequent servings
- Gradually increase your intake until you are eating a wellbalanced diet.

Reflux

You may have some reflux after your treatments. Reflux can cause heartburn, nausea and discomfort in your chest.

Tips for managing reflux

- Limit spicy foods, fatty foods, fizzy drinks and alcohol.
- Chew foods well, and eat slowly
- Remain upright for at least 30 minutes after eating. Try eating your evening meal earlier to allow more time for digestion before going to bed
- Try eating your main meal earlier in the day and have a small snack in the evening
- Avoid bending over or positions that worsen your reflux. Don't overexert yourself physically, as this can contribute to reflux
- Keep your chest higher than your abdomen when sleeping by using extra pillows or a foam wedge. Try to avoid lying on your left side, as reflux is often worse in this position
- Your doctor may prescribe medicines to reduce stomach acid, which may improve these symptoms. Over-the-counter antacids may also be helpful.

Weight changes

Cancer may result in weight changes – you may find it hard to gain weight or to keep weight on. This may be because of the treatments or the cancer itself.

It is important to maintain your weight and eat well. Maintaining your weight, particularly your muscle mass, will also help you to cope better, recover faster, feel less tired, and reduce the likelihood and severity of side effects. If you struggle to keep weight on, it is important to seek support from a dietitian.

Assess your risk of malnutrition

1. Have you lost weight recently without trying?
   No = 0
   Unsure = 2
   Yes, how much (kg)?
   Unsure = 2
   1-5 = 1
   6-10 = 2
   11-14 = 3
   > 15 = 4
2. Have you been eating poorly because of a decreased appetite?
   No = 0
   Yes = 1

If you scored 2 or more, you should visit a dietitian for a full assessment.

Speak to your treating team or find a dietitian locally using the resources page in this handbook.

(Reference the MST - Ferguson M, Capra S, Bauer J, Banks M. Development of a valid and reliable malnutrition screening tool for adult acute hospital patients. Nutrition 1999; 15: 458-64.)

Tips to help you maintain your weight and muscle mass

- Try to eat nourishing foods and fluids, such as those that are high in protein and energy. ***See 'How do I maximise my nutritional intake?' on page 44***
- Include regular sources of protein-rich foods, such as chicken, fish, meat, eggs, tofu, legumes, dairy products, nuts and seeds. Aim to base each main meal around a high-quality protein. You may need to cook and prepare these foods so they are soft and gentle – for example, soups and stews, scrambled eggs, yoghurt, milk drinks, hummus dip and smooth nut butters. ***See 'Swallowing problems' on page 33***
- Try to eat the most nourishing part of the meal first
- Take advantage of when your appetite is strongest. This might mean having a larger meal in the morning and a smaller meal in the evening
- Ask about using nutritional supplement drinks. When choosing a nutritional supplement for your needs, consider the different options, including milk based, juice flavoured, powder, yoghurt style, fortified foods and soups. You may need to try different products until you find one you prefer or tolerate better. Your dietitian can guide you. ***See 'When should I see a dietitian?' on page 52.***

Make sure you are eating a variety of healthy foods and maintaining a good weight.

What if I'm putting on weight?

Although weight loss is common in liver cancer, some people may find they gain weight instead. This can be caused by various factors, including:

- medicines
- fluid retention – ascites, a swollen abdomen caused by a build-up of fluid, is common in liver cancer
- changes in diet and food preferences
- altered taste
- fatigue and exercising less
- hormonal changes.

If you are worried about weight gain, speak with a dietitian.

Changes in bowel habits

Living with liver cancer and its treatments can result in changes to your bowel habits. This could be differences in the appearance, consistency and/or the smell of your stools. You may also have inflammation or damage to the lining of your digestive tract, called gastritis or enteritis, causing diarrhoea and discomfort in the stomach or bowel.

Diarrhoea

Diarrhoea is when you pass three or more loose, watery stools per day. Frequent loose stools can occur because:

- you are not digesting food or absorbing nutrients properly
- of treatment side effects, an irritated gut lining, gastroenteritis or surgical procedures
- of an infection
- of other causes, including stress and anxiety.

Diarrhoea can result in dehydration, so it's important to stay hydrated by drinking extra fluids. Every time you have a loose bowel movement you should drink an extra cup of noncaffeinated fluid. If you have diarrhoea for several days, see your doctor so they can determine the cause and help to manage your diarrhoea. Your doctor may decide to prescribe you over-the-counter anti-diarrhoea medicine.It is best to consult your doctor or dietitian before making big changes to your diet. Some foods can make diarrhoea worse or irritate your gut if you already have diarrhoea. You may be advised to limit some of the following until the diarrhoea stops:

- foods that have a lot of insoluble fibre, such as wholegrain breads and cereals, skins and seeds of fruits and vegetables, nuts, seeds and legumes
- foods and drinks that are high in sugar, such as cordial, soft drinks and lollies
- large quantities of foods sweetened with artificial sweeteners (also known as sugar alcohols), such as sorbitol, mannitol and xylitol. These are often marketed as 'sugar-free'. Be aware of foods that may contain artificial sweeteners, including diet drinks and sugar-free lollies and chewing gum.

We need to eat two types of fibre – soluble and insoluble – for a healthy diet. Both are beneficial to the body, and most plant foods contain a mixture of the two.

Soluble fibre is found in the cells of plants. It absorbs water, acting like a sponge in your bowel, and can help reduce the amount of loose or watery stools. Soluble fibre is a source of prebiotics, which means it provides food for the healthy gut bacteria that live in your bowel (large intestine/colon).

Sources of soluble fibre include:

- fresh fruit and vegetables
- legumes such as lentils and peas (but not the skins)
- wholemeal bread and cereals
- grains such as barley, flaxseed and oat bran
- psyllium
- soy products
- garlic, onions, spring onions, leeks and shallots.

Insoluble fibre is found in the structural walls of plants. It does not absorb water and adds bulk to your stools. This can help prevent constipation and associated problems such as haemorrhoids. If you have issues with inflammation or infection in your bowel, you might need to reduce your intake of insoluble fibre in the short term.

Sources of insoluble fibre include:

- skins and seeds of fruits and vegetables
- nuts and seeds, including quinoa
- legumes
- wholegrains.

Some foods have been found to help improve diarrhoea (depending on the cause of the diarrhoea) and may be worth including in your diet.

These are:

- soft, well-cooked, peeled vegetables and fruit
- white bread, white rice and pasta
- corn- or rice-based cereals.

It may also help to eat small, frequent meals throughout the day, rather than three large meals.

Pale, floating or foul-smelling stools (steatorrhoea)

Stools that are smellier than usual, floating, oily, pale-coloured (often beige, tan, cream or white) or difficult to flush often indicate that your body is not absorbing fat and other nutrients in your food well. Instead, these nutrients are passing through the bowel undigested, which can cause cramping, pain, bloating or changes in stool consistency. This can be a side effect of jaundice. If you notice these symptoms, speak with your dietitian or doctor.

Food safety

If you are having chemotherapy, you will likely be immunocompromised, which means your body might not fight infection as well as before. This makes food safety important.

Check that everything you eat and drink is prepared and stored hygienically to minimise any risk of food poisoning.

You can find easy-to-read information about food safety and food poisoning at www.mpi.govt.nz/food-safety-home

How do I maximise my nutritional intake?

People with liver cancer often struggle to maintain a healthy weight. Cancer treatments and the associated side effects can also make it hard to eat, swallow and absorb nutrients from food.

A complete, nutritionally balanced diet is essential for everyone, but it's even more important if you are going through cancer treatment. There will be many times when you don't feel like eating, but it is really important that you are well-supported to maximise your intake.

A nourishing diet is one that contains enough kilojoules (or calories / energy), protein, nutrients, vitamins and minerals to meet your needs. You may hear the term 'high-energy, high-protein diet'. By including foods rich in energy and protein, and by fortifying the food that you already eat, you can make every mouthful more nourishing. This is often easier than eating extra food if you have a poor appetite.

Good nutrition is also important for wound healing. If you have had surgery, you want to make sure the wounds heal well. Make sure you get enough energy, choose foods rich in protein, and speak to a dietitian if you are concerned about meeting your vitamin and mineral needs.

High-energy and high-protein foods

STEP 1:

Build your meal around a good source of protein, such as:

- meat, poultry and fish
- eggs
- tofu
- beans, chickpeas, lentils and legumes
- full-cream dairy such as milk, yoghurt, cheese and custard
- evaporated milk, condensed milk, skim milk powder or fortified milk (see recipe below).

STEP 2:

Add extra kilojoules with high-energy foods, such as:

- avocado
- nuts, seeds and nut butters/pastes
- butter, margarine and oils
- cream and creamy sauces
- gravy (made with meat juices)
- dips made with cream cheese, or hummus
- dried fruit
- honey, maple syrup, golden syrup or jam
- trail mix (a snack of mixed nuts, dried fruit and seeds, and sometimes chocolate bits).

Make your own fortified milk

Fortified milk is easy to make yourself with the following steps:

- Sprinkle 2/3 cup (or 75g) of skim milk powder onto 2 cups (or 500 ml) of full-fat milk
- Mix until the powder is dissolved.

Try to make the fortified milk two hours before using it and store it in the fridge. Use fortified milk whenever you'd use regular milk – on your cereal, in your tea or coffee, or to make a milkshake or smoothie.

Nutritional supplement drinks

Nutritional supplement drinks are high in energy and protein. They may also contain additional vitamins and minerals. They can help you meet your nutritional needs because:

- they're often easier to tolerate when you don't feel like eating a meal
- they can be consumed between meals for extra nutrition, or can be taken as a meal replacement
- you can buy them in powder form or ready-made, so they can be a quick and simple snack or meal for when you are feeling too unwell or tired to cook food
- you can easily make your own at home; use combinations of fruit, dairy products and sweeteners such as honey or maple syrup (for some inspiration, see *'Smoothie and milkshake ideas' below).*

A dietitian can provide advice on which supplement is best for you.

Milkshake and smoothie ideas

Drinking milkshakes and smoothies is an easy way to increase your energy and protein intake.

Smoothie ideas:

- Start with a base of Greek or natural yoghurt
- Add fruit(s) such as bananas, berries or mango. Frozen fruit works well
- Fortify with nuts, seeds, peanut butter, coconut, coconut cream, protein or a nutritional supplement powder
- Add cinnamon, cocoa or cacao to taste
- Blend together with fortified milk and ice.

Milkshake ideas:

- Start with a base of fortified milk
- Add ice cream
- Include cocoa, chocolate powder, protein powder and/or peanut butter to taste.

How can I eat a nourishing diet?

We know there'll be many times when you don't feel like eating, but it is really important that you do.

Tips to help you eat a nourishing diet include:

- Eat a variety of foods
- Explore your preferred foods – try something new, even if it's something you didn't like before you had cancer. You may find your tastes and food preferences have changed
- Try eating six small meals spread throughout the day instead of three large main meals
- Eat at specified meal times, even if you are not really hungry. It is important not to miss meals. Take snacks with you if you are not going to be at home at a meal time
- Make the most of when you feel well and have an appetite, even if it's not when you would usually eat
- Figure out when you seem to have the best appetite and plan larger meals for those times. For example, you might find you are hungrier in the morning, so plan larger breakfasts and eat a bit less later on, and visa versa if you are hungrier in the evening
- Use ready-made frozen and tinned foods to reduce the need to cook. Enlist the support of family and friends. You may find you are too tired to make a meal, so keeping a supply of pre-made food on hand is important. You can also make large batches and freeze meals in small portions
- If you feel full quickly, eat the most nourishing (high energy/protein) part of the meal first and try not to drink beforehand (leave an hour in between). If you are used to drinking with your meals, make sure you sip on nourishing fluids such as a smoothie or milkshake. Fluids take up room in your stomach, making you feel full, so it's best to drink fluids separate from mealtimes.

SAMPLE MEALS

The following sample meals provide tips on how to increase the amounts of energy and protein in your diet. If you need a soft or pureed diet, you will need to consider which foods suit you best.

BREAKFAST

- Cereal or muesli with fortified milk, yoghurt, fruit or honey
- Eggs (poached, scrambled, fried, boiled, omelette) with cheese, plus wholegrain or rye toast
- Buttered wholegrain, rye or sourdough bread or toast, with cheese, avocado or nut butter
- Baked beans or four-bean mix on buttered toast with grated cheese.

MORNING TEA

- Smoothie or milkshake – ***see smoothie and milkshake ideas on page 46***
- Nutritional supplement drink
- Yoghurt with fruit and nuts, or nut butter
- Fruit toast with butter or nut butter
- Boiled egg
- Bliss balls made with dates, nuts, seeds, cacao and oats (all well processed to form smooth balls)
- Wholegrain pita bread or wraps with dip, avocado, cream cheese or nut butter.

LUNCH

- Meat, chicken or fish with a creamy sauce or gravy
- Mashed vegetables mixed with butter, extra virgin olive oil, cream or cheese
- Wraps or sandwiches made with meat, chicken, fish, eggs, beans or lentils, avocado, mayonnaise, hummus or cheese
- Omelette made with your favourite vegetables and cheese
- Frittata made with eggs, vegetables, cheese and lentils
- Vegetable and lentil soup with grated cheese.

AFTERNOON TEA

- Smoothie or milkshake – ***(see smoothie and milkshake ideas' on page 46)***
- Wholegrain wrap with shaved turkey breast, tuna, avocado and ricotta
- Falafel or protein ball
- Hummus or tzatziki dip with wholegrain crackers, wholemeal pita bread or vegetable sticks.

DINNER

- Pasta with meat sauce, such as spaghetti bolognese with grated cheese
- Burritos with meat, beans and cheese, topped with avocado and sour cream
- Meat, chicken or fish with gravy, or cream or cheese sauce; mashed potato with butter; and vegetables or salad with a dressing made with extra virgin olive oil
- Lentil or bean salad, with cold chicken, tofu or tinned fish, avocado, corn, cheese and a dressing made with extra virgin olive oil
- Stir-fried vegetables with tofu, soy sauce and sesame seeds, served with basmati rice or soba noodles.

EVENING SNACK

- Hot chocolate or chai made with fortified milk
- Protein ball
- Yoghurt and fruit
- Frozen yoghurt
- Crème caramel, pudding, rice pudding, ice cream or chocolate mousse.

Oral health and hygiene

Some treatments for liver cancer can cause side effects that affect your mouth and teeth. These conditions can make it hard to eat, and poor oral health can make them worse. It is important to have a check-up with your dentist before treatment starts so that they can check the health of your teeth and identify any problems early.

Some chemotherapy and targeted therapy medicines can damage healthy cells in the mouth, causing mouth sores or infections.

Your healthcare team will talk with you about the possible side effects of treatment and how to manage them. Most mouth problems gradually improve and go away after treatment is over.

It is a good idea to visit your dentist before starting treatment, especially if you already have mouth problems or tooth decay. There is a higher risk of infection and bleeding if you have dental work during cancer treatment.

Make sure to tell your dentist about the type of treatment you will be having so that they can develop an oral health care plan. This sets out any dental work you need before you start cancer treatment, and lets you know how to look after your mouth before, during and after treatment to help prevent tooth decay and manage any side effects that affect your mouth.

Tips to help you take care of your mouth before, during and after cancer treatment

- Try to eat a balanced, nutritious diet; limit how much alcohol you drink; and quit smoking
- Check your mouth, tongue and teeth daily during treatment for changes to the inside of your mouth. Tell your healthcare team if you notice any changes
- Clean your teeth with a mild toothpaste and a soft-bristled toothbrush. Replace the toothbrush at least every 3 months to prevent infection
- Rinse your mouth several times a day with an alcohol-free mouthwash (ask your doctor or nurse about what type of mouthwash to use and how often to use it). Use a mild mouthwash if your mouth is too sore or bleeds when you clean your teeth
- Check with your dentist before flossing, as this may not be recommended during treatment. Ask your dentist if they can apply fluoride treatments to help slow tooth decay
- If you wear dentures, make sure they fit properly, only wear them while eating, and clean them well using denture cleaning products that will not irritate your mouth.

When should I see a dietitian?

An Accredited Practising Dietitian (APD) is trained to guide your food choices. Cancer will usually affect a person's food and fluid intake, and the impact is greater for people suffering from liver cancer because it can be harder to take in, digest and absorb food and fluids.

Cancer and its treatment can affect each person differently. What works well for one person may not work for another.

If you have liver cancer, you should be referred to a dietitian. They will explore your unique situation, challenges and needs, and provide you education regarding your current food and fluid intake.

Accredited Practising Dietitians (APDs) are health professionals who are trained to provide evidence-based nutrition and dietary advice. APDs understand how a healthy diet can optimise health and minimise risk. They are uniquely placed to support people with complex and individual dietary needs.

Note that the term 'dietitian' is used throughout this handbook to refer to accredited practising dietitians. The term 'nutritionist' used on its own does not refer to a regulated profession in New Zealand.

If you need to see a dietitian, ensure they are an Accredited Practising Dietitian.

Tips to finding an Accredited Practising Dietitian

- Request a referral to a dietitian through your treating hospital. Ask your doctor or nurse for more information
- Find a dietitian in your local area through Dieticians NZ at www.dietitians.org.nz
- Request a referral to an oncology dietitian through your doctor
- Ask the Gut Cancer Foundation team for more information on local services.

How do I decide which diet is right for me?

If you are already on a restricted diet because of a previous medical condition, such as a low-cholesterol or low-salt diet, or if you have various symptoms that require different approaches, make sure you talk to a dietitian. You will need more personalised advice than this handbook provides.

If you were following a diet for non-medical reasons before your diagnosis (for example, if you were vegetarian or vegan), your dietitian will help you to adjust your intake to meet your needs within your personal preferences. The key goals are to eat a nutritionally balanced diet and to maintain your weight.

Glossary

- **Adjuvant treatment** is when cancer cells have spread from where they first grew to other parts of the body. Advanced cancer is also known as metastatic or secondary cancer.
- **Advanced cancer** is when cancer cells have spread from where they first grew to other parts of the body. Advanced cancer is also known as metastatic or secondary cancer.
- **Bile** is a fluid that is made in the liver, stored in the gallbladder and secreted into the small intestine. Bile is transported through bile ducts. Bile is made from cholesterol, water, bile salts and bilirubin (a yellow pigment that is formed when red blood cells break down), and is used to help digest fats.
- **Calories** see *Kilojoules*
- **Chemotherapy** is treatment that uses toxic medicines to destroy cancer cells.
- **Diagnosis** is working out what condition you have based on test results – in this case, whether you have liver cancer. Diagnosis also includes working out the exact location of the tumour, and its grade and stage.
- **Dietitian** is someone who specialises in promoting health through food and nutrition.
- **Exercise physiologist** is someone who specialises in clinical exercise interventions for people with health issues.
- **Gastrointestinal** is a term used to describe anything that has to do with the digestive system (for example, gastrointestinal tract).
- **General wellbeing** is how you feel overall, including physically, mentally and emotionally.
- **Hepatologist** is a specialist liver doctor who can diagnose, treat, and manage problems associated with your liver.
- **High-energy, high-protein diet** is a diet that has foods high in energy (or kilojoules) and protein. A high-energy, high-protein diet helps you to meet your increased nutritional demands, and preserve your weight and muscle mass.
- **Immunotherapy** is treatment that activates the immune system to find and attack cancer cells. The immune system protects the body against illness and infection. See also Targeted therapy
- **Jaundice** is yellowing of the skin and whites of the eyes caused by a build-up of bilirubin in the blood. The excess bilirubin also makes the skin itchy. This can happen when bile ducts are blocked.
- **Kilojoules** and calories are measures of how much energy is in a food. High-energy foods provide our bodies with lots of energy, and can help with managing weight loss and muscle wasting.
- **Localised treatment** is treatment that only affects a certain area of the body, such as radiation therapy.
- **Malnutrition** means that a person is not getting enough nutrients, such as proteins, vitamins, minerals and energy.
- **Metastatic cancer** see *Advanced cancer*
- **Multidisciplinary team** is a team of health professionals with different skills who plan cancer treatment and provide ongoing care; this ensures that all your needs will be considered.
- **Neoadjuvant treatment** is treatment given before surgery, such as chemotherapy or radiation therapy.
- **Nutritional supplements** are specially formulated drinks, powders and foods that increase calorie (energy) intake and help you maintain weight.

- **Oncologists** are specialists in treating cancer. The main types of oncologists are:
  - surgical oncologists, who specialise in operating on tumours
  - medical oncologists, who specialise in chemotherapy and other systemic therapies (such as immunotherapies and targeted therapies)
  - radiation oncologists, who specialise in radiation therapy.
- **Pathology** involves looking at samples from the body to work out if someone has a disease, and the nature of the disease. Pathology includes looking at tissue and cells from a biopsy under a microscope; testing blood, urine or stool samples; and genetic testing. A pathologist is a doctor specialising in pathology.
- **Radiation therapy** is treatment that uses high-energy X-rays to destroy cancer cells.
- **Supportive care** is improving comfort and quality of life by preventing, controlling or relieving disease complications and side effects. Supportive care includes psychological, social and spiritual needs.
- **Targeted therapy** is treatment that blocks pathways that cancer cells need to grow and survive. A targeted therapy might work for one person but not another. You will likely need pathology tests to work out whether a targeted therapy will work for you. Immunotherapies are a type of targeted therapy.
- **Upper gastrointestinal** refers to the upper part of the digestive system, including the oesophagus, stomach, liver, pancreas, gallbladder and bile ducts.

Further information and support

Best-practice care differs around the world, so this handbook focuses on resources and information available in New Zealand.

Our Gut Cancer Foundation website has information that complements what is in this handbook. You can get in touch with our specialist support team, ask specific questions, get connected with other supportive services and access other resources.

Please visit our website www.gutcancer.org.nz

Email support@gutcancer.org.nz or Call 0800 112 775

This booklet is available to download at www.gutcancer.org.nz/shop

Dietitians New Zealand

It is important that you receive nutritional advice and support from a trained health professional who understands your complex and unique dietary needs. Dietitians New Zealand makes it easy to search for an Accredited Practising Dietitian in your local area.

To find an Accredited Practising Dietitian near you, go to www.dietitians.org.nz


Making a difference to the
lives of people with cancers
of the digestive system.

Diet & nutrition for people living with liver cancer.

gutcancer.org.nz

GUT CANCER FOUNDATION