

Cholecystectomy (Gallbladder Removal Surgery)

Information for patients and their care partners

Disclaimer

This patient education resource is not medical advice. It shares common health facts, advice and tips. Some of the information provided in this resource may not apply to you. Please talk to your doctor, nurse or other health-care team member to see if this information will work for you. They can also answer any questions or concerns that you might have.

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The General Surgery team at The Ottawa Hospital is a group of doctors who specialize in surgery of organs in the belly like gallbladder, small and large bowel, appendix, etc. These experts work together as a team with other healthcare professionals to support you through your surgery and recovery. This booklet will help you understand:

- Your surgery
- How to care for yourself when you get home
- What problems to look out for
- Who to call or talk to if you have questions.

Please read the booklet carefully and share it with your care partners.

Understanding your surgery will help you to get more involved in your care.

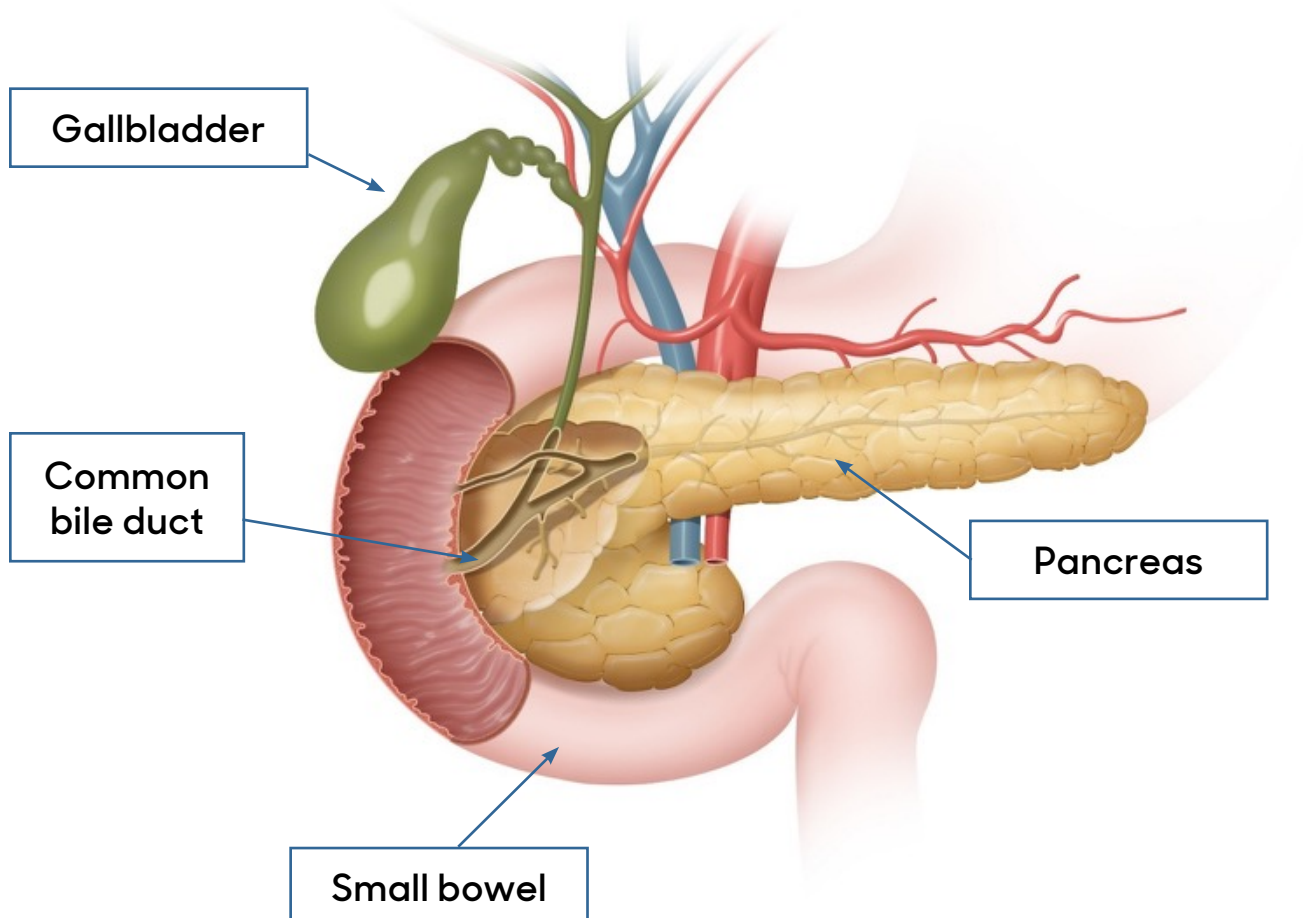
The gallbladder

What is the gallbladder and what does it do?

The gallbladder is a muscular sac about the size of a kiwi. It stores and thickens the bile (fluid important for digestion that is made by your liver). When the body needs bile, the gallbladder squeezes. As a result, the bile passes through the bile duct and enters the small bowel to help with digestion.

When the gallbladder is not working properly, bile cannot flow to your small bowel to help with digestion. The job of the bile is to:

- break down fats
- help absorb vitamins A, D, E, and K
- prepare food coming from the stomach for further digestion



What is gallbladder disease?

Gallbladder disease describes medical conditions that affect the gallbladder.

There are different types of gallbladder conditions, including:

- Cholelithiasis (gallstones)
- Cholecystitis (inflammation of gallbladder)
- Cholangitis (inflammation of bile ducts)
- Biliary Colic (temporary blockage of the gallbladder)
- Biliary dyskinesia (bile duct motility disorder)
- Gallbladder polyps
- Gallbladder cancer

These conditions are explained below. **Please speak to your doctor if you would like to learn more about your specific condition.**

Cholelithiasis

The term "cholelithiasis" describes the condition of having gallstones. "Chole" also means bile, and "lithiasis" means stones forming. Gallstones are the most common reason people have a gallbladder removal surgery. Gallstones form when bile sediment collects and crystallizes. Many people have gallstones and never know it. The problem happens when the gallstones block flow of bile from the gallbladder or get stuck in the biliary tract (bile ducts). Symptoms can include pain in the right upper part of your belly, nausea (feeling like throwing up), vomiting (throwing up), fever, chills, and jaundice (yellowing of the skin and the whites of the eyes).

Cholecystitis

This is inflammation of the gallbladder. Symptoms can include pain in the right upper part of your belly, fever, nausea/vomiting and belly tenderness.

Cholangitis

This is inflammation of the bile ducts usually because something is blocking them. This blockage allows bacteria to come up from the bowel. Symptoms include pain in the right upper part of your belly, fever, jaundice.

Biliary colic

This happens when gallstones temporarily block the bile from flowing out of the gallbladder, causing it to contract painfully. This blockage can cause strong belly pain that lasts for a few hours and then goes away.

Biliary dyskinesia

This is when bile does not flow out of the gallbladder properly. Sometimes there is abnormal muscle coordination of the gallbladder, or the bile empties into the small bowel too slowly. Symptoms include pain in the right upper part of your belly, pain after eating, nausea and vomiting, bloating, or trouble digesting fatty foods.

Gallbladder polyps

These are small growths out of the inner lining (wall) of the gallbladder. Most polyps are not cancer (benign) but if they are large or block the bile flow, the gallbladder may need to be removed.

Gallbladder cancer

Gallbladder cancers are rare and need surgery from doctors who have special training in treating liver and gallbladder problems (hepatobiliary surgeons). They often require surgery along with chemotherapy.

Gallbladder removal surgery

A cholecystectomy (gallbladder removal) surgery is a surgery to remove the whole gallbladder to treat some types of gallbladder disease. This can be done with a minimally invasive (laparoscopic) or open surgery.

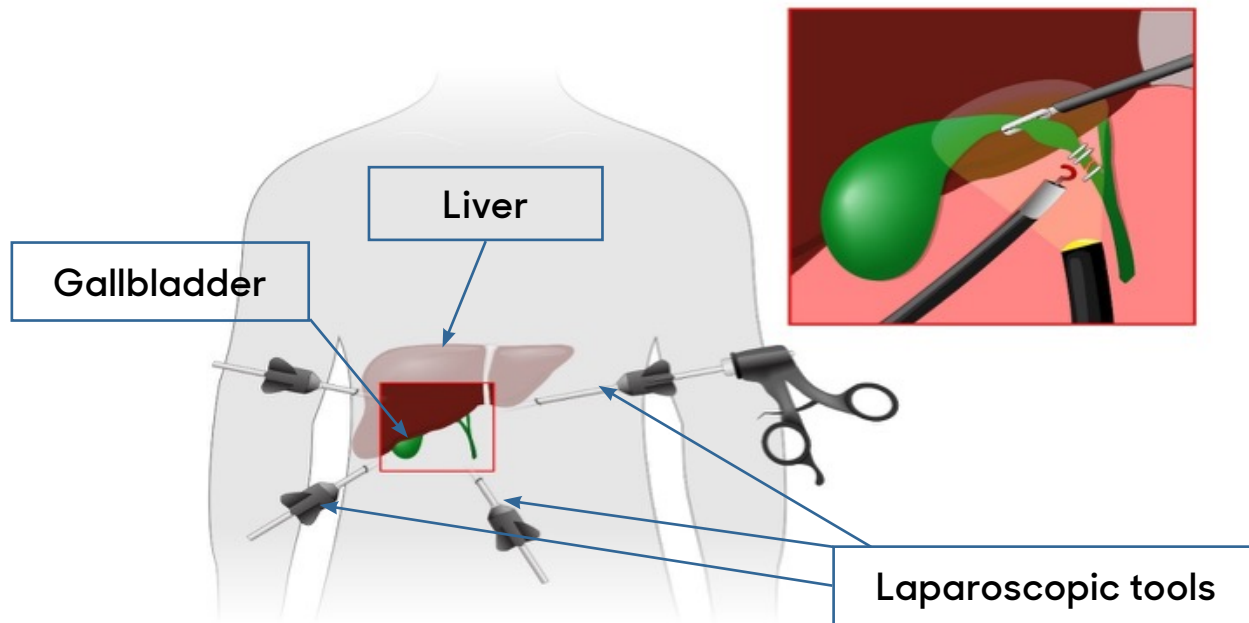
A cholecystectomy can be done in 2 ways:

Minimally invasive/Laparoscopic surgery

During a laparoscopic surgery, the surgeon makes 3 or 4 small cuts in the belly. They insert long, thin tools through the cuts. One of the tools has a camera (called a "laparoscope") on the end, which sends a live video to a monitor and is used by the surgeon to guide the surgery. A harmless gas (carbon dioxide) is pumped into your belly to help separate the lining of your belly from your organs. Using the video monitor as a guide, the surgeon will use the long tools placed through the cuts to do the surgery. The gas will be released from your belly before the surgeon stitches your small cuts closed.

In some cases, the surgeon may have planned and started with a laparoscopic surgery but needed to change to an open surgery.

Laparoscopic cholecystectomy



Open surgery

During an open surgery, the surgeon makes an incision (surgical cut) on the right side or middle of the belly to remove the gallbladder. The surgeon will stitch and staple your incision closed.

During the surgery, if the surgeon sees that there is a risk to the bile duct or duodenum (first part of the small bowel), they might leave a small piece of gallbladder behind. This surgery is called a **subtotal cholecystectomy**. It can be done as a laparoscopic or open surgery.



After surgery

You can live and eat normally without a gallbladder. Bile will continue to flow from your liver to your small bowel without stopping in the gallbladder. Digestive processes can continue normally.

What to expect on the day of surgery

- A nurse or an anesthesiologist will start an intravenous (IV) in your arm so that they can give you medicine and fluids during the surgery.
- A healthcare team member will bring you to the operating room (OR).
- The anesthesiologist will give you medicine to put you to sleep and to control your pain during surgery.
- You may get antibiotics (medicine that kills bacteria) to help lower your chance of infection.
- You may get anticoagulants (blood thinners) to prevent blood clots.
- This surgery normally takes about 1 to 3 hours

What are the risks and possible complications

During any surgery, there is a chance that things might not go as expected. Your healthcare team will do their best to keep you safe and prevent any complications. Risks are generally low for this type of surgery and may depend on your overall health and other medical conditions. Ask your surgeon as many questions as you need to fully understand the procedure and its risks. Some possible complications are:

Complications with anesthetics	Anesthetics are medicines used to put you to sleep for your surgery. Before your surgery, the anesthesiologist will speak to you about the risks of these medicines.
Chest infections and/or problems breathing	<p>Chest infection is an illness caused by germs such as bacteria in your chest. You may need antibiotics to help clear the infection.</p> <p>Problems breathing can happen when fluid is collecting around or in your lungs. If the fluid starts collecting around or in your lungs, you may need a tube put into the space around your lungs to help you breathe.</p>
Bleeding	Bleeding can happen during or after your surgery. If there is too much bleeding, you may need a blood transfusion to replace the blood your body lost during the surgery.
Surgical Site Infection (SSI) /Abscess or Infection	Illnesses caused by germs, such as bacteria at the incision or inside the belly. This can happen because you are more likely to get a serious infection from germs that your body would normally be able to fight off. You may need antibiotics to treat the infection.
Blood clot	Blood clots can happen anywhere in the body. These are also known as deep vein thrombosis (DVT), which usually happen in the legs or arms, or pulmonary embolism (PE), which happens when a clot travels to the lungs. To help prevent or treat a blood clot, you may need a medicine called blood thinner.

Structural injury	<p>Structural injury is accidental injury to the structures around the gallbladder during its removal. Surgeons always do their best to avoid injury. With any surgery, there is always a risk of an accidental injury. Sometimes, this injury can happen to the bile duct, blood vessels, the liver or other organs in your belly. Your surgeon will talk to you and your family if this happened during the surgery.</p> <p>An injury to the common bile duct is a serious complication. If it happens you may need another surgery to fix it.</p>
Acute kidney injury	<p>When your kidneys suddenly stop working normally as they did before. Your kidneys are important because they filter your blood and remove waste and excess salt and water from your body.</p>
Diarrhea (Bile Acid Malabsorption)	<p>When your gallbladder is removed, your bile is less thick than it was before. This may cause diarrhea (liquid stools) in some people. It usually gets better with time as your body adjusts to the thinner bile. There are also medicines that can help with the diarrhea.</p>

Pre-Admission Unit (PAU) visit

Before your surgery, you may have an appointment at the Pre-Admission Unit (PAU) in-person, over the phone or as a video call. The nurses and/or anesthesiologist will review your health history and give you more information about what to do to prepare for your surgery. They will also talk to you about pain control options.

What can you do to prepare for surgery

Plan ahead for your surgery and after, if you can. Read about important tips about what to bring to the hospital, your ride home, planning your meals and self-care support in the [Preparing for Your Day Surgery at The Ottawa Hospital](#) booklet. You can find it on My Surgery website of The Ottawa Hospital or ask your healthcare team for the booklet if you have not received one.

In the weeks leading up to your surgery it is important to prepare your body. Ask your healthcare team for support and consider the following:

- Stop smoking and vaping.
- Reduce or stop drinking alcohol.
- Be active.
- Eat well leading up to your surgery. The night before your surgery and the day of your surgery, follow the instructions of your healthcare team about when to **stop eating and drinking**.

What can you expect after surgery

After your surgery, the healthcare team will take you to the Post Anesthesia Care Unit (also known as the recovery room or PACU). You will stay here until you wake up and your pain is under control.

Most people who have had this type of surgery go home the same day (this is called day surgery). After you leave PACU you will be brought to the surgical day care unit (SDCU). Each person recovers from surgery differently. Your doctor and nurse will decide when it is safe for you to leave the hospital.

If your surgery is more complicated or if you have other health problems, you may need to stay in the hospital longer. If you do need to stay, the healthcare team will bring you to a hospital room in the inpatient surgical unit.

While you are recovering

Nurses will check on you often to make sure that you are comfortable and doing well. They will check your temperature, heart rate, blood pressure, pain level, urine output, and incision (surgical cut) regularly.

Pain

- It is normal to feel some pain after your surgery.

- Your healthcare team will ask you about your pain level often. Our goal is to control your pain enough for you to take part in your care. You should be able to rest comfortably, deep breathe, cough, and get back to being able to move like you did before surgery.
- Before you leave the hospital, you will be taking pain medications by mouth. You will need less pain medicine as you heal.
- If you need admission to the hospital, the Acute Pain Services (APS) team may help manage your pain while you recover from surgery.
- To learn more about [managing your pain after surgery](#) you can read the APS booklet or visit the Ottawa Hospital's [My Surgery website](#) to find this information.

Medications

- When you are in hospital, the healthcare team may make changes to the medications that you normally take.
- You may also get additional medications to:
 - » Help thin your blood to prevent blood clots.
 - » Prevent constipation or diarrhea.
 - » Prevent or treat an infection.
 - » Help control unwanted symptoms, like nausea or vomiting. Nausea is a common side effect of anesthesia and some pain medications.
- Please speak to your healthcare team if you have questions or concerns about your medications.

Intravenous (IV)

- You will have a small flexible tube inserted into your vein to give you fluids until you are able to drink and eat well. This is called an 'intravenous' or 'IV.'
- Do not pull on the IV tubing.

- When you are walking, use your hand that does not have the IV to push the IV pole.
- The IV tube is often left in place until you go home so that you can be given IV medications as needed.

Oxygen

- Sometimes patients need extra oxygen after surgery. Oxygen is given through a mask placed over the nose and mouth or through small tubes placed into the nose.
- The health care team measures the amount of oxygen in your blood by putting a small clip on your finger. This is called pulse oximetry, and it does not hurt. This measurement will tell the healthcare team if you need more or less oxygen.

Incision and dressing

- The surgeon used staples and/or stitches to close the incision(s).
- You will have either one longer incision on your belly or 3 to 4 smaller ones. These cuts will be covered with a dressing to help them heal.
- In the hospital, the healthcare team will check the dressing(s) regularly.

Eating and drinking

- Immediately after your surgery, you will not be able to have anything by mouth. This is called NPO. You will be getting fluids through your IV. Slowly you can drink clear fluids (fluids you can see through) and then progress to eating regular food.
- Until your appetite is back to normal, aim to eat 3 small meals plus 2 to 3 snacks every day.
- Drink plenty of fluids, especially water. Avoid sugary drinks like soda, juice and soft drinks.

- Eat foods that are high in protein to give you energy, like meat, fish, eggs, dairy/non-dairy alternatives, tofu or nuts.
- Limit dairy and caffeine. Some people may experience sensitivity to dairy or caffeine after gallbladder removal. Monitor your intake and adjust if necessary.

Bowel movements

Your healthcare team will ask you if you are “passing gas” and having bowel movements. This tells the healthcare team if your bowels are working and that you are recovering well from your surgery.

- Walking, drinking fluids and chewing gum can help your bowels moving.
- Tell your healthcare team if you are having any nausea (feeling like throwing up), vomiting (throwing up), or bloating in your belly.

Activity

It is very important to start moving after your surgery.

- Start doing foot and ankle and deep breathing and coughing exercises while you are in bed. See the exercises on page 20 and 21 .
- Sit on the side of the bed and dangle your legs. Your nurse can help you as needed.
- Get out of bed for a short time to walk around or sit in a chair.
- The healthcare team will help you get out of bed, sit in a chair, or walk if needed.

What to expect when you leave the hospital

Arrange for someone to pick you up. You will not be able to drive yourself home.

Before going home, you should:

- **Not** have nausea and vomiting.

- Be able to eat and drink as usual.
- Be peeing well (be passing urine).
- Have the list of medications you need to keep taking after your leave the hospital.
- Be able to get in and out of bed and walk like you did before surgery. You may not be able to walk as far as you did before surgery and that is fine.
- Have all your questions or concerns about healing at home addressed and answered by your healthcare team.
- Know when your follow-up appointment with your surgeon is.

After you leave the hospital

Activity

It is important to continue to get up and keep moving while you are at home.

Your surgeon will tell you when you can return to work. This will depend on your recovery and the type of work that you do.

General recommendations include:

- Continue to do foot and ankle exercises and deep breathing and coughing exercises once you leave the hospital. See the exercises on page 21 .
- Rest as often as you need to. Let your body be your guide.
- Do light activities until you are seen by your doctor at your follow-up visit.
- Increase how far you walk comfortably every day.
- Gradually return to your usual activities.

In the first **2 weeks after surgery**:

- Do **not** drive a vehicle (i.e. car, snow mobile, truck). After the first 2 weeks, you may start driving again if you can do a shoulder check and you are not taking opioid medications for pain (for example, morphine or hydromorphone [Dilaudid]).
- Do **not** lift more than 15 pounds (i.e. one laundry bin or 2 small bags full of groceries).
- Do **not** do any strenuous exercises including aerobics, weight training, skiing, snow shovelling, pushing a lawn mower or belly exercises.

Sexual activity after surgery

Talk to your doctor about any specific questions or concerns that you have about having sex after surgery. Usually, people wait to start having sex again until about 2 weeks after surgery, when they have less pain and more energy to have sex. Choose positions that do not put pressure on the muscles of your belly and start slowly.

Medications

You will get a prescription for any new medications that the doctor has ordered before you go home. The nurse will review these medications with you to make sure that you know what they are for and when you need to take them.

- Fill your prescription as soon as you leave the hospital and take your medications as ordered by the doctor.
- Take your pain medication when needed, like before bedtime, or before doing an activity.

Incision

It is normal to have some pain around your incision(s) for some time after leaving the hospital. It is important to take care of yourself, so that your incision(s) can heal.

- You will have a dressing covering your incision(s), this can be removed after 2 days.

- Once the dressing is off, clean your incision with mild soap and water.
- Gently pat the area dry.
- Call the surgeon if you have any signs of infection. These include swelling, redness, warmth over the incision area, and/or any discharge (liquid oozing out) from the incision. **Do not ignore these signs.**
- Do **not** soak in a tub. This may slow down healing. Take showers only and do not rub over the incision or pick at the scab, until it is completely healed.
- Do **not** go in a hot tub or swimming pool until the skin has completely healed over your incision.

If you have staples keeping your incision closed, they should be removed 7 to 10 days after your surgery. You can have the staples removed at your family doctor's office or at your follow up appointment with your surgeon.

Eating and drinking

It is important that you eat enough food and drink enough fluids to get proper nutrition. This will help you to heal. Here are some important tips:

Food preparation

- If you are cooking for yourself after surgery look for meals that are quick and easy to prepare such as healthy pre-prepared frozen foods, soups, or stews that are low in sodium (salt).
- Have healthy, easy to grab snacks ready. For example: granola or protein bars, canned tuna, cheese and crackers, Greek yogurt, peanut butter toast, commercial supplements or protein shakes, cereal with milk, nuts and fruits, or a boiled egg on toast.
- Ask the healthcare team about the meal services available in your community like Meals on Wheels.

Important tips:

- Drink at least 6 to 8 cups (1500 to 2000 mL) of fluid per day. Good fluid choices are water, milk/non dairy alternatives, low salt vegetable juice, broth, herbal tea or decaffeinated coffee. Limit your caffeinated drinks such as regular coffee, tea or energy drinks.

- Eat protein with every meal and snack. After surgery, your body needs more protein to help you heal and stay strong. Foods high in protein are meat, chicken, fish, eggs, milk/non-dairy alternatives, cheese, tofu, yogurt and smooth nut butters like peanut or almond butter.
- Avoid eating high-fat foods, fried or greasy items, and fatty sauces and gravies for at least a week after surgery. Choose fat-free or low-fat alternatives instead. Low-fat foods are those containing no more than 3 grams of fat per serving.
- Add water-soluble fibre to your diet gradually to avoid constipation (trouble having bowel movements) from pain medication. Some healthy water-soluble fibre foods are oats, whole grains, nut butters, fruit and vegetables.
- If you feel constipated, you may take a mild laxative. Ask your pharmacist to help you choose a mild laxative.
- Avoid drinking alcohol for at least 8 weeks after your surgery. If you drink 4 to 8 alcoholic drinks per day, do not stop drinking alcohol suddenly. Instead, talk to your healthcare team about how much alcohol you drink and what you should do.



When to get urgent medical help

Get medical help right away if you have any of the following:

- Chills (feeling cold, shivering, or shaking)
- Fever (temperature greater than 38.5°Celsius or 101°Fahrenheit)
- More pain than usual or any new pain
- Redness, swelling, or leakage around the incision
- The incision is opening up
- Trouble peeing, blood in your urine, or your urine dark in colour
- New or unexplained symptoms like a rash, itchy dry, or discoloured skin
- Sudden shortness of breath or chest pain
- Feeling like throwing up or throwing up, trouble having a bowel movement, blood in your bowel movements and/or swelling in your belly.

Your follow up appointment

After you leave the hospital, you may see your surgeon in 2 to 4 weeks. You will be able to ask a nurse and your surgeon any questions that you have about your recovery.

If you have any questions or concerns about your surgery or condition, please call:

Dr. _____ at _____.

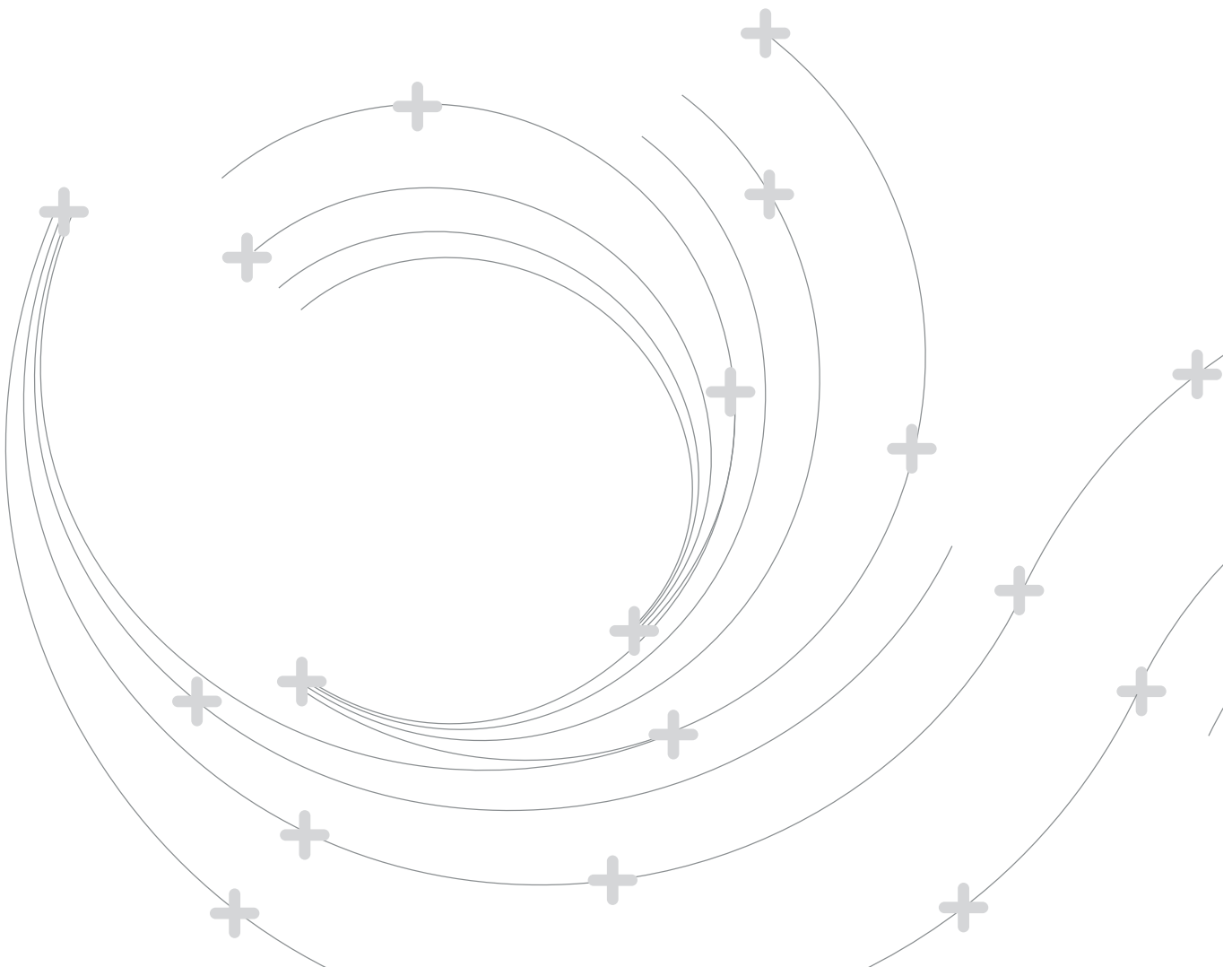
Exercises to do after surgery



Foot and ankle exercises

Foot and ankle exercises help to get your blood moving and will lower your chance of getting a blood clot.

1. Point your toes down (like you are pressing downwards on a gas pedal).
2. Then, point your toes up towards your chin.
3. You can make circle motions with your feet instead.
4. Repeat these movements 10 times every hour while you are awake until your activity level increases.



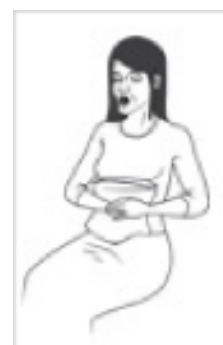


Deep breathing and coughing exercises

Deep breathing and coughing exercises will help to keep your lungs healthy. These exercises work best when you are sitting upright in a chair or on the side of the bed. Do these exercises 5 times each hour while you are awake until your activity level increases.

Deep breathing

1. Sit upright.
2. Support your incision by holding a blanket or pillow over your belly.
3. Take a deep breath in through your nose.
4. Hold your breath for 5 seconds.
5. Breathe out through your mouth slowly with pursed lips (make a 'kissy face').



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Coughing

1. Sit upright.
2. Support your incision by holding a blanket or pillow over your belly.
3. Take a deep breath and cough.

To learn more

For additional information you can visit the following websites by clicking on the links below or scanning the QR code on the right using your smartphone camera.

i For more information about digestive system:	
Canadian Digestive Health Foundation:	
Ontario Association of Gastroenterology You can find answers from specialists to frequently asked questions. Scroll down the page to read the answer about gallstones.	
i For more information about how to prepare for your surgery:	
The Ottawa Hospital Planning for my Surgery	
i For more information about pain management after surgery:	
The Ottawa Hospital Managing your pain after surgery	



or by phone: 310-2222 (no area code re-quired)

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Notes

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Do you have any feedback about this education resource?

Is it welcoming and respectful of your background, culture, and identity? Your opinion is important to us. Please fill out this [survey](#) or contact the Patient Education team at patienteducation@toh.ca



Do you need this information in a different format?

Please tell a member of your health-care team so that they can provide you with this information in a format that works for you. This resource is available in English and in French. Cette ressource est disponible en anglais et en français.



Booklet information

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