

Whipple Surgery (Pancreaticoduodenectomy)



#### 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.

P1522 EN (12/2024)

Designed and printed by The Ottawa Hospital Print Services department.

# **Contents**

The Pancreas	2
Whipple surgery	4
Pre-Admission Unit (PAU) Visit	9
	10
What can you do to prepare for surgery	10
What can you expect after surgery	12
· · · · · · · · · · · · · · · · · · ·	
What to expect on the day that you leave the hospital	19
After you leave the hospital	20
When to get urgent medical help	24
Your follow up appointment	25
For more information	26

HPB stands for Hepato-Pancreato-Biliary. The HPB surgery team at The Ottawa Hospital is a group of doctors who specialize in surgery of the liver, pancreas, gallbladder and biliary tree. These experts work together closely in a team with other health-care professionals to support and guide you through your surgical experience.

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

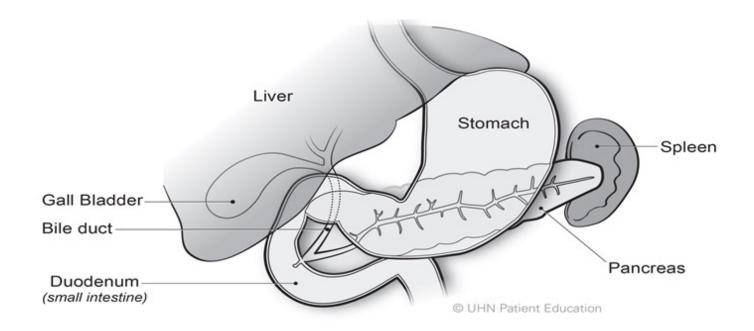
Please read the booklet carefully and share it with your care partners. Understanding your surgery will help you to get more involved in your care.

# The pancreas

#### What is the pancreas and what does it do?

The pancreas is a 6 to 10 inch (18 to 25 cm) long gland that is found behind your stomach. The pancreas is part of your digestive system that makes important hormones and enzymes that help you to digest your food.

- It is shaped like a fish with a head, body, and tail.
- The head of the pancreas is attached to the duodenum (part of small intestine of your bowels). The bile duct (a drainage tube) runs from the liver through the head of the pancreas.
- There is another duct that runs through your pancreas and empties into the duodenum. This duct drains the enzymes made by the pancreas.
- The tail is toward the left side of your body, next to your spleen.



#### The pancreas has a few main jobs:

- ✓ It releases digestive juices and enzymes through a duct into the duodenum (part of the small intestine of your bowels) to break down carbohydrates, protein, and fats.
- ✓ It makes hormones to help with digestion. Hormones are chemical messengers released into the bloodstream. For example:
  - Insulin and glucagon are hormones that manage the level of sugar in your blood.
  - Other hormones that help with appetite, make stomach acid for digestion, and tell the stomach when to empty.

# Whipple surgery

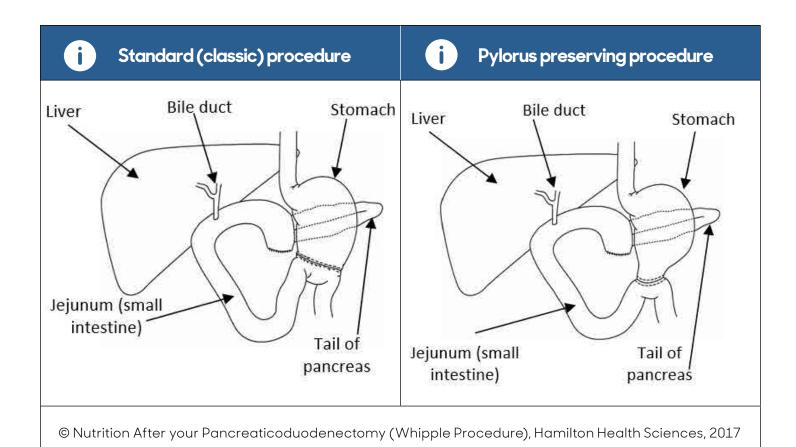
Whipple surgery is also called a pancreaticoduodenectomy. This surgery is most often done to remove cancerous tumors in the pancreas. This surgery can also be done to remove and/or treat:

- Cancer of the distal bile duct (a tube that drains bile into the small intestine).
- ✓ Cancer of the duodenum (part of the small intestine of the bowel).
- Cancer of the Ampulla of Vater (a muscle where the pancreatic and bile duct join to enter the duodenum).
- ✓ Pre-cancerous cysts or tumors.
- Chronic conditions that are not cancerous, like pancreatitis (inflammation of the pancreas).

Sometimes, even after many tests, the cause of your symptoms is unclear. In these situations, your surgeon may still suggest that you have surgery, especially when there is a chance that cancer is causing your symptoms.

#### What is removed?

- ✓ Part of the small intestine.
- ✓ The head of the pancreas.
- ✓ The common bile duct.
- ✓ The gallbladder.
- ✓ Surrounding lymph nodes.
- ✓ The bottom part of the stomach (sometimes).



### The benefits of Whipple surgery for people with cancer

- ✓ Removing the tumour and the area around the tumour increases your survival time. It also lowers your chances of your cancer coming back. The chance of your cancer coming back depends on the type of tumour and stage of cancer that you have.
- ✓ The organs and tissues removed during your surgery are tested by a doctor called a pathologist. The pathologist will tell the surgeon the type and stage of your cancer. Your surgeon will talk with you about your pathology results and any other treatments that are necessary.

### What should you expect?

- An intravenous (IV) will be put into your vein to give you medicine and fluids.
- A health-care team member will bring you to the operating room (OR).
- To help with pain, you may get an epidural (a small tube that is put in your back to give you pain medicine).
- The anesthesiologist will put you to sleep. This will not be painful.
- You will get antibiotics to help lower your chance of infection and anticoagulants (blood thinners) to prevent you from getting blood clots.
- A nurse will put a tube (catheter) into your bladder to drain urine.
- Usually, this surgery is done by making a longer incision (surgical cut) on your belly.
- This surgery normally takes 6 to 8 hours.

The goal of Whipple surgery is to completely remove the tumour and affected tissues around the tumour, including the lymph nodes. This is called leaving clear margins. This lowers your chance of the cancer coming back.

After everything that needs to be removed is taken out, the surgeon attaches what is left of the pancreas, bile duct, and stomach to the small intestine. This allows pancreatic juice and bile to flow back into the intestine so that you can digest food.

The surgeon will put 1 or 2 drainage tubes around the surgical cut in your belly, these drainage tubes will come out through the skin. Your surgeon will use stitches that dissolve on their own inside your belly. To close your incision (surgical cut), the surgeon will use surgical staples or stitches that dissolve on their own. You will have a dressing on top.

### When is Whipple surgery not possible?

Before surgery, your surgeon asks for many different tests to learn about your cancer or condition. In 5 to 20 out of 100 surgeries (or 5 to 20% of the time), the surgeon finds problems that they couldn't predict before starting the surgery. If your cancer has spread to other organs or is attached to important body parts that cannot be removed, the surgery will not be done.

In these situations, there may be other treatment options available. You may be referred to a doctor who specializes in other cancer treatments. Usually, this treatment involves chemotherapy or radiation therapy.

### What are the risks and possible complications?

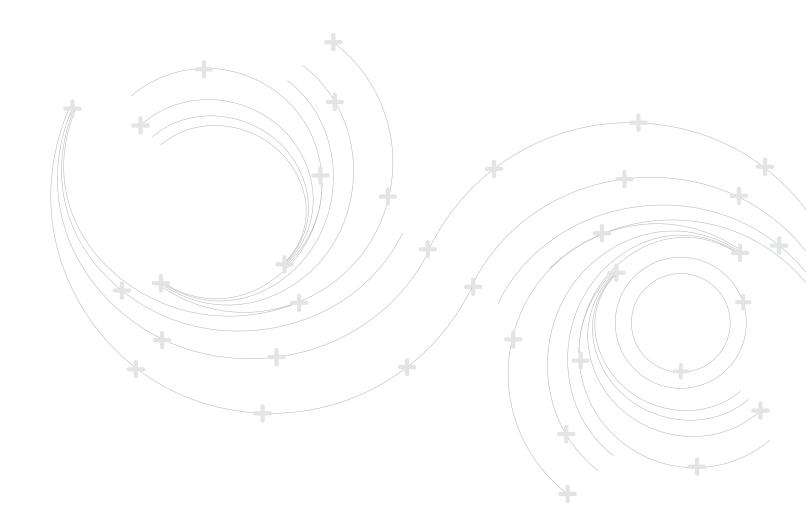
During any surgery, there is a chance that things might not go as expected. Your health-care team will do their best to keep you safe and prevent any issues (complications). Your surgeon will talk with you about the possible complications and risks of this surgery. Ask as many questions as you need to fully understand. Whipple surgery is major surgery. Some possible complications are:

Incisional hernia	When part of the tissue or organ pushes through a weak spot in your muscles, making a little bulge on your skin. This can happen when the belly muscles are weak from the surgical cut.			
Complications linked with anesthetics	Anesthetics are the medicines used to put you to sleep for your surgery. The anesthesiologist will speak to you about the risks linked with these medicines before your surgery.			
Chest infections and/ or problems breathing	Illness caused by an infection and/or fluid buildup around or in your lungs.			
Bleeding	This can happen during or after your surgery. A blood transfusion may be needed.			
Surgical site infection (SSI) or abscess	Illness caused by infection at the incision (surgical cut) or inside the belly.			
Blood clots	Blood clots can happen anywhere in the body. These are also known as deep vein thrombosis (DVT) or pulmonary embolism (PE).			

Pancreatic leak	When fluid from the pancreas leaks into the belly.		
Fistula	A fistula is when there is an abnormal passage between organs or to the outside of the body. This can lead to infections.		
Paralytic ileus gastroparesis or constipation	These can happen when the gut takes longer than usual to start working again after surgery. After a Whipple surgery, it is common for the stomach to be slow to empty at first. When this happens, people feel bloated and may have nausea and/or vomiting. Sometimes people need a tube put in through the nose into the stomach to remove fluids or gas that does not empty normally.		
Diarrhea	Watery or loose bowel movements. This can happen when what is left of the pancreas cannot make enough digestive enzymes. This is often treated with medications that you take by mouth with food.		
Hyperglycemia or hypoglycemia	Uncontrolled sugar levels in your blood. When a part of your pancreas is taken out, you are more likely to develop diabetes or have worsening of your diabetes.		

# Pre-Admission Unit (PAU) visit

Before your surgery, you will have an appointment at the Pre-Admission Unit (PAU). During this appointment, the nurses and/or anesthesiologist will review your medical history and give you more information about what you can do to prepare for your surgery. They will also talk to you about pain control.



# What can you do to prepare for surgery?

It is important to prepare your body for surgery. Ask your health-care team for support and consider the following:



#### Stop smoking and vaping

- Stop smoking before your surgery. This includes vapes, pipes, cigars, marijuana, and cigarettes.
- At a minimum, do not smoke on the day of your surgery.
- Stopping smoking will lower your risk of lung problems and infections after surgery. If you are interested in stopping smoking, the Ottawa Model for Smoking Cessation (OMSC) can help. Their services are free. Call 1-888-645-5405 or email omsc@ottawaheart.ca to speak to someone at OMSC.



#### Reduce alcohol intake

- Stop drinking alcohol 4 weeks before your surgery.
- If you drink 4 to 8 alcoholic drinks per day, do not stop drinking abruptly. Discuss reducing your alcohol intake with your health-care team.



 Reducing your alcohol intake will help you to get better after surgery.



#### Be active

Preparing your body for surgery through physical activity can speed up your recovery. If you are able to:

- Maintain or increase your daily activity (i.e., walk for longer periods of time than usual).
- Stretch and do mobility and balance exercises.
- Take deep breaths and cough several times a day.



#### Eat well

To speed up your recovery, it's important to eat enough protein and energy-rich foods to maintain your usual body weight. If you find it difficult to eat or you are losing weight before your surgery, ask your surgeon for help. Consider the following:

- Eat 3 small meals and 3 snacks each day.
- Eat protein-rich foods (meat, fish, eggs, dairy, tofu, nuts, Greek yogurt, etc.).
- Consider taking a nutritional supplement to prevent weight loss before surgery.

For more information about what to expect before your surgery, read the Preparing for Your Surgery and Admission at The Ottawa Hospital patient education booklet. Ask you healthcare team for a copy if you have not received one.

# What can you expect after surgery?

After your surgery, the health-care team will take you to the recovery room (also known as the Post-Anesthesia Care Unit or PACU). You will stay here until you wake up and your pain is under control. When your room is ready, the health-care team will take you to the inpatient unit, 7 East (the Hepatobiliary Unit).



Usually, someone who has Whipple surgery stays in the hospital for 7 to 10 days.

### While you are on the inpatient unit

The nurse will check on you often to make sure that you are comfortable and doing well. Your temperature, heart rate, blood pressure, pain level, and incision (surgical cut) will be checked. The nurse will also listen to your lungs to check your breath sounds and your belly to check your bowel sounds.

#### Pain

- It is normal to feel some pain after your surgery.
- The health-care team will ask you about your pain at least every 4 hours.
  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, turn, get out of bed, and walk.
- Before you leave the hospital, you will be taking pain medications by mouth. You will need less pain medicine as you heal.
- The Acute Pain Services (APS) team helps to manage your pain while you are on the inpatient unit.
- To learn more about Managing your pain after surgery you can read the APS booklet or visit the Ottawa Hospital's MySurgery website to find this information.

#### **Medications**

- When you are in the hospital, the health-care team may make changes to the medications you were taking at home.
- You may receive additional medications to:
  - » Help thin your blood to prevent blood clots
  - » Reduce stomach acid
  - » Prevent constipation
  - » Prevent the spread of infection
  - » Help control unwanted symptoms, like nausea or vomiting
- Please speak to your health-care team if you have questions or concerns about your medications.

### Intravenous (IV)

- You will have a 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 your IV pole.
- The IV tube is often left in place until you go home so that the health-care team can give you IV medications when 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 in your 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 health-care team if you need more or less oxygen.

### Blood sugar checks

- The nurse will check your blood sugar level regularly by pricking your finger with a small needle to get a small amount of blood.
- If you have diabetes (a condition where you have high sugar levels in the blood), the nurse will check your blood sugar regularly.
- If you do not have diabetes, the nurses will check your blood sugar level until it is normal.

#### Drain care

During your surgery, the surgeon put 1 or 2 small drains inside your belly. Drains remove the extra blood and fluid that can sometimes collect around the area where you had your surgery.



© UHN Patient Education

- The drains are attached to tubes that come out through the skin in your belly. They may be needed for a few days.
- Nurses will check on the drains often and send the drainage for tests to make sure that pancreatic drainage is not leaking into your belly.
- Sometimes patients need to go home with these drains. In this situation, the health-care team will arrange home care for you. The health-care team will teach you how to take care of these drains before you leave the hospital.

 If the drains are not needed, a nurse will remove them before you go home.

### Incision and dressing

You will have a longer surgical cut (incision) on your belly. The incision will be covered by a dressing.

- The dressing should stay on for 3 days. After 3 days, if the incision is not leaking, the health-care team will take off your dressings.
- The health-care team will check the dressings for drainage or bleeding.
- The surgeon used staples and/or stitches to close the incision.
  - Staples should be removed 10 to 14 days after your surgery by your family doctor or at your follow up appointment with the surgeon. Call the HPB office 613-739-6979 if you have any issues with staple removal.
  - » The stitches that the surgeon used are often self-dissolving and do not need to be removed.

### **Urinary catheter**

During surgery, you will have a urinary catheter put in to drain your urine. A urinary catheter is a small tube that is put into your bladder through your urethra (where you pee). The tube is connected to a collection bag.

- The catheter is cleaned using a wet face cloth and mild soap.
- The catheter is normally taken out by a nurse 3 days after your surgery. When you no longer have the catheter, you can move around more easily. It also lowers your chance of getting a bladder infection.
- The nurse will make sure that you are able to pee with no issues after the catheter is removed. Urinary retention can occur after your catheter is taken out. Let your nurse know if you have a weak stream of urine, your bladder feels full after peeing, or if you are leaking urine unintentionally.

### **Eating and drinking**

After your surgery, you can have sips of clear fluids. You will start by drinking fluids and then start to eat food that is easy to digest. A Registered Dietitian will meet with you after your surgery to talk about a detailed nutrition plan.

- Until your appetite is back to normal, eat 3 small meals plus 2 to 3 snacks every day.
- Drink plenty of fluids. Drink mostly water. Avoid sugary drinks like soda and soft drinks.
- Eat foods that are high in protein and give you energy, like meat, fish, eggs, dairy/non-dairy alternatives, tofu or nuts.
- Eat some healthy fats like vegetable oils, avocado, olives, and nuts.
- Avoid deep-fried, greasy foods.

#### **Bowel movements**

- Your health-care team will ask you if you are "passing gas" and having bowel movements. This tells the health-care team that your bowels are working and that you are moving towards going home safely.
- Walking, drinking fluids, and chewing gum can help to get your bowels moving.
- Tell the health-care team if you are having any nausea, vomiting, or bloating in your belly.

### Being active

It is very important to start moving after your surgery.

- The nurse will help you to sit on the side of the bed and dangle your legs.
- You may get out of bed for a short time to walk around or sit in a chair.

The day after your surgery:

- Health-care staff will help you get out of bed so that you can sit in a chair while you are eating.
- They will also help you walk in the hallway.
- While you are in the hospital, do the following exercises:



#### 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.



© UHN Patient Education



#### 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').

#### Coughing

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



© UHN Patient Education

# What to expect on the day that you leave the hospital

	Arrange for someone to pick you up by <b>10:00 a.m.</b>				
Befo	Before going home, you should:				
	Not feel like throwing up (nausea) or be throwing up (vomiting).				
	Be able to eat and drink as usual.				
	Be passing gas and/or having bowel movements.				
	Be peeing well (be passing urine).				
	Know how to empty and take care of your drains at home if you have them.				
	Have the list of medications that you need to keep taking after your leave the hospital.				
	Know how to give yourself a blood thinner injection if it is needed. Your care partner can help to give you this injection if needed.				
	Have help arranged for you at home. For example, food to eat and people to help you with your daily activities.				
	Have all your questions or concerns about healing at home answered by your health-care team.				
	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.				
	Be able to recognize the signs of high blood sugar (hyperglycemia) and low blood sugar (hypoglycemia). The signs can be dry mouth, extreme thirst, blurry vision, frequent urination, headache and weakness.				
	Be able to recognize the signs of not getting enough fluids (dehydration). The				



If you are ever worried about leaving the hospital, let the health-care team know.

signs are dry mouth, lips and/or eyes, feeling dizzy, dark or strong-smelling

urine, peeing less than 4 times a day, feeling tired, and/or headaches.

# After you leave the hospital

### Being active

It is important that you 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.

- ✓ Rest as often as you need. 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 every day.
- ✓ Return to your usual activities. Do this gradually.
- ➤ **Do not** drive for at least 2 weeks after your surgery. You may start driving again 2 weeks after your surgery 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 of groceries) for the first 4 to 6 weeks after surgery.
- **Do not** do any strenuous exercises including aerobics, weight training, skiing, snow shovelling, pushing a lawn mower, or abdominal exercises for 4 weeks after surgery.

### Having sex after surgery

Talk to your doctor about any concerns that you have about having sex after surgery. Usually, people can start having sex again when they are able to climb 2 flights of stairs comfortably. Often, people choose to wait a few weeks until they have less pain and more energy to have sex. Choose positions that do not put pressure on the muscles of your belly.

#### **Medications**

You will receive 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 and take your medications as ordered by the doctor.
- ✓ You will likely be taking new medications.
- ✓ A multivitamin should be added to your medication routine.
- Take your pain medication as needed, before going to bed, or before doing an activity.

### Taking care of your incision

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

- ✓ Clean your incision with mild soapy water.
- ✓ Gently pat the area dry.
- ✓ Take pain medication as needed.
- ✓ Tell your surgeon if you have any signs of infection. These include swelling, redness, warmth over the incision area, and/or 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.
- **Do not** go in a hot tub or swimming pool until the skin has completely healed over your incision and where your drains were.
- **Do not** rub over the incision until it is completely healed.

### **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. Follow the advice that the Registered Dietitian gave you on the inpatient unit. 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 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 health-care team about the meal services available in your community like Meals on Wheels.

#### Important tips:

- Eat at least 3 small meals and 3 snacks each day. Eat slowly. Chew your food well.
- ✓ Drink fluids 30 minutes before or after meals, instead of with meals. Only take sips with meals as needed. This may help you to not feel full as quickly.
- ✓ Drink at least 6 to 8 cups (1500 to 2000 mL) of fluid per day.
  - » Good fluid choices: water, milk/non dairy alternatives, V8, broth, herbal tea or decaffeinated coffee.
  - » Limit your intake of caffeinated drinks such a regular coffee, tea, or energy drinks.

- ✓ Eat protein with each meal and snack. Your body will need more protein that usual after surgery. Protein is important for healing and maintaining your strength.
  - » Foods high in protein: meat, chicken, fish, eggs, milk/non dairy alternatives, cheese, tofu, yogurt and smooth nut butters like peanut or almond butter.
- ✓ Eat some healthy fats like vegetable oils, avocado, olives and nuts.
- ✓ Add water-soluble fibre to your diet gradually, to avoid constipation (trouble having bowel movements) from pain medication.
  - » Water-soluble fibre foods: oats, whole grains, nut butters, fruit and vegetables
- ✓ If you feel constipated, you may take a mild laxative. Ask your community pharmacist for help to choose a mild laxative.
- Limit high fat, fried and greasy foods.
- \* 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 health-care team about your alcohol intake and what you should do.

To learn more about what to eat and drink after surgery, ask to talk to a Registered Dietitian.

# When to get urgent medical help



### Get urgent medical help if you have any of the following:

	Chills (feeling cold, shivering, or shaking).
	Fever (temperature greater than 38.5°C or 101°F).
	More pain than usual or any new pain.
	A yellowing colour of the skin or white part of your eyes (this is called jaundice).
	Redness, swelling, or leakage around the incision.
	The incision is opening up.
	Trouble peeing, have blood in your urine, or your urine is dark color.
	New or unexplained symptoms like a rash, itchy dry, or discoloured skin.
	Signs of low or high blood sugar (like a fast heartbeat, sweating, shaking, dizziness, or irritability, peeing often, dry mouth, increased thirst, blurred vision).
	Sudden shortness of breath or chest pain.
	Feeling like throwing up (nausea) or vomiting, trouble having a bowel movement, blood in your bowel movements, and/or abdominal (belly area) swelling.

# Your follow up appointment

After you leave the hospital, you will 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.

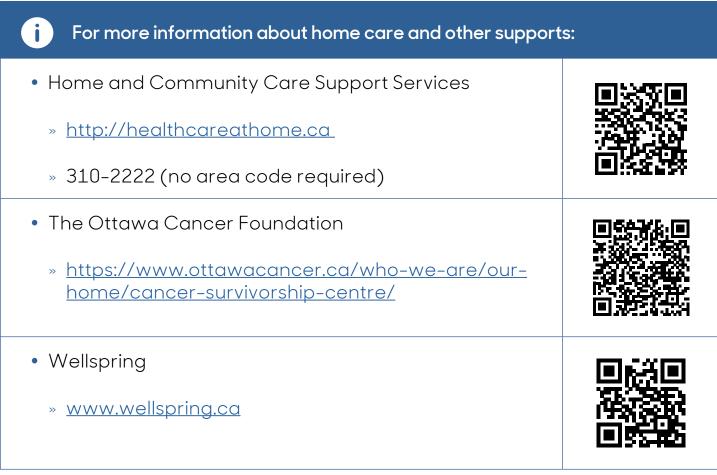
If you have questions about or are concerned about your surgery or condition, call the HPB office at 613-739-6979.

The HPB surgeon team includes:

- Dr. F. Balaa
- Dr. G. Martel
- Dr. K. Bertens
- Dr. J. Abou-Khalil
- Dr. R. Gilbert

# For more information

i For more information about Pancreatic Cancer:	
Pancreatic Cancer Canada  https://pancreaticcancercanada.ca/pancreatic-cancer/  cancer/	
Canadian Cancer Society   https://cancer.ca/en/cancer-information/cancer-  types/pancreatic	
Cancer Care Ontario   https://www.cancercareontario.ca/en/types-of-cancer/pancreatic	
Pancreatic Cancer Action Network  https://pancan.org/facing-pancreatic-cancer/	
Mayo Clinic   https://www.mayoclinic.org/diseases-conditions/  pancreatic-cancer/diagnosis-treatment/drc-  20355427	
Canadian Cancer Survivor Network  https://survivornet.ca	



Notes			



### 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 <u>survey</u> 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**

Reorder Number: P1522 FN

**Authors:** 

Nicole Pyl, Clinical Nurse Educator 7 East, Dr. Kimberly Bertens, HPB Surgeon

Service: HPB Surgery

Revision Date: 12/2024

© 2024, The Ottawa Hospital. Adapted with permission from "Whipple Procedure" (2019), UHN Patient Education & Engagement. The information in this booklet is based on current Enhanced Recovery After Surgery (ERAS) guidelines from Best Practice in General Surgery

(http://bestpracticeinsurgery.ca/guidelines/all/enhanced-recovery-aftersurgery/) and Health Quality Ontario (HQO) (www.hgontario.ca).

Image on page 5 adapted with permission from "Nutrition after your Pancreaticoduedenectomy (Whipple procedure)", Patient Education Library, Hamilton Health Sciences.

https://www.hamiltonhealthsciences.ca/patient-education-library.

