PATIENT INFORMATION

Pancreaticoduodenectomy (Whipples Surgery)

Please bring this book to the hospital on the day of your surgery.

THE OTTAWA HOSPITAL

CP 107 B (12/2015)

Disclaimer

The information discussed in this booklet has been put together by The Ottawa Hospital Hepatobillary Team. It is not intended to replace the expert advice of a qualified health care professional. Please consult with your health care professional who is able to determine the appropriateness of this information for your specific situation.

Table of Contents

Introduction

This education booklet will help you understand the Whipple procedure and give you information about the benefits and risks involved with this surgery and also what to expect in various stages of your recovery.

Using this booklet will help give you the knowledge and resources to be more actively involved in your care. Information is based on current Enhanced Recovery After Surgery (ERAS) guidelines from **Best Practice in General Surgery** www.bpigs.ca and also material adapted from the 'Whipple Procedure' booklet with permission from the University Health Network Patient and Family Education Program.

Such resources are used by your surgery team to ensure you receive the best possible care by:

- Standardizing and informing surgery practices based on the best scientific evidence available.
- Increasing your involvement and satisfaction with the care you are provided.
- Decreasing your chances of post-operative complications.
- Speeding your recovery and return to your baseline ability.

Please:

- Read the booklet carefully.
- Share it with your family.
- Ask questions if there is anything you don't understand.
- Pack this booklet with your belongings and bring it with you when you are admitted to the hospital.

Your Hepato-Pancreato-Biliary (HPB) Surgical Team

Your HPB surgeon specializes in surgery of the pancreas, liver, gallbladder and bile duct. These experts work together closely in a team with other health-care professionals to support and guide you through your surgical experience. Some or all may be involved in your care.

Your HPB team also consists of:

- Physicians including Surgical Fellows and Residents
- Registered Nurses
- Registered Dietitians
- Physiotherapists
- Pharmacists
- Social Workers
- Medical/Nursing Students

Whipple Surgery

What is a Whipple surgery and why is it done?

The Whipple procedure is also called a Pancreaticoduodenectomy. It is a surgery to help patients with pancreatic or bile duct cancer or cancer in the area of the pancreas. The Whipple procedure is most often used to remove a cancerous tumour in the pancreas but can also be used to treat:

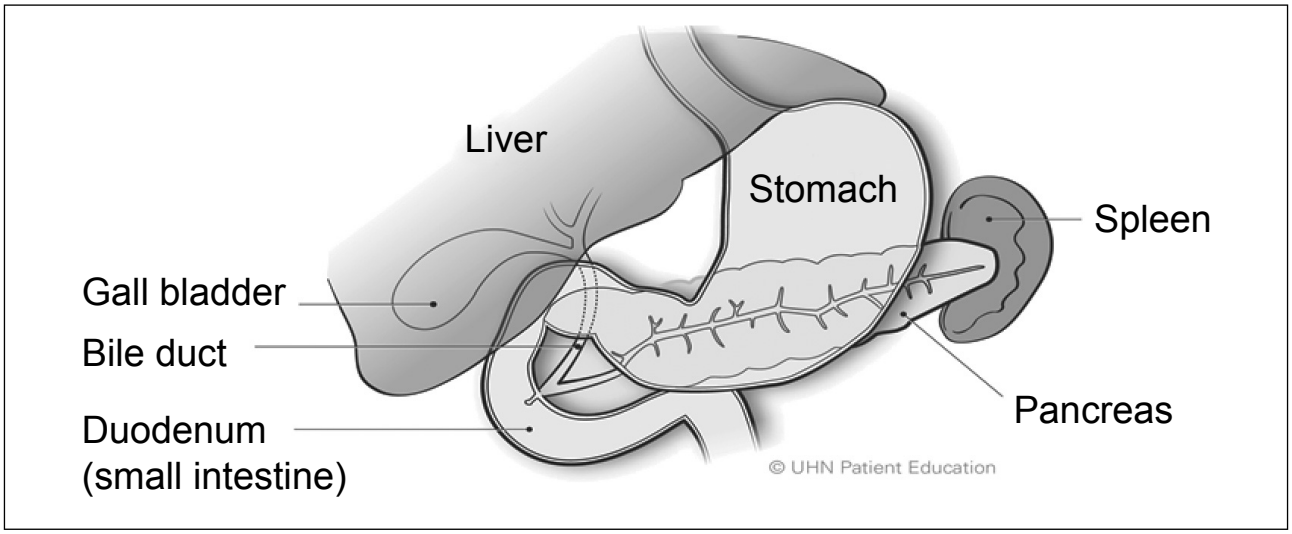
- Cancer of the distal bile duct (a duct that sends bile to the small intestine)
- Cancer of the duodenum (part of the small intestine)
- Cancer of the ampulla of vater (a specialized valve that joins the pancreatic and common bile ducts)
- Chronic conditions that are not cancerous, such as pancreatitis (inflamation of the pancreas)
- Pre-cancerous cysts and tumours

Sometimes the problem may not be clear and your surgeon may advise you to have surgery because there is a risk of cancer.

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 enzymes and hormones that help break down your food.

- It is spongy and shaped like a tadpole or a tear drop.
- The largest part is the head of the pancreas. It is attached to your duodenum (the first section of the small intestine).
- The body and tail of the pancreas are next to your spleen towards the left side of your abdomen.
- There is a duct or tube that runs along your pancreas. This duct is connected to a similar tube that comes from the liver which brings bile to your duodenum. Bile is an important fluid that digests fat.



The pancreas has 3 main jobs:

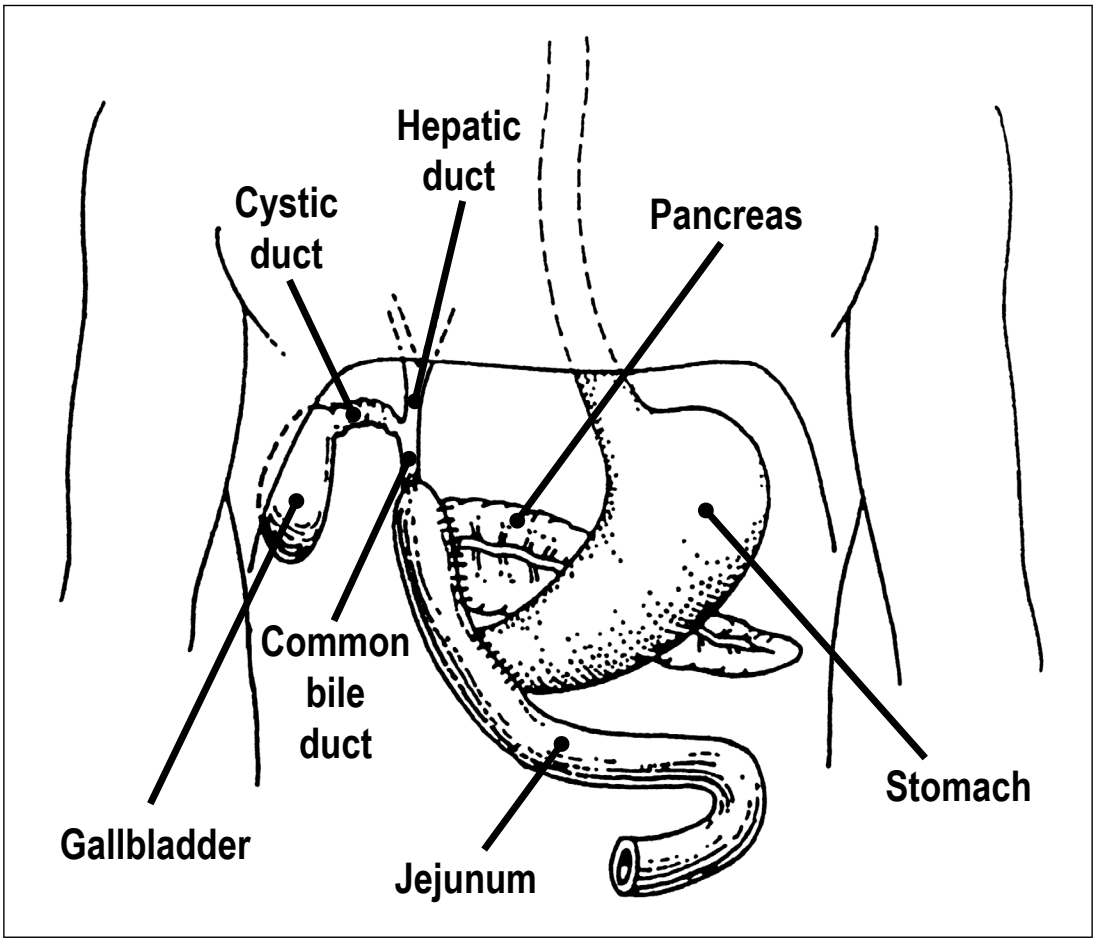
1. It releases digestive juices directly into your bloodstream and into the bile duct.
2. It releases digestive juices and enzymes into your small intestine to break down your food after it has left your stomach.
3. It makes the hormone called insulin, which controls the level of sugar in your blood.

During a Whipple procedure, the following are removed:

- part of the stomach
- part of the small bowel (duodenum)
- the head of pancreas
- the lower end of the common bile duct
- the gallbladder

After these organs are removed, the surgeon attaches the remaining pancreas, bile duct and stomach to the intestine. This allows pancreatic juice, bile, and food to flow back into the gut so that digestion can happen normally. Small drainage tubes will be inserted at the surgical site and brought out through the skin in your abdomen. It removes blood or fluid that can collect around the surgery site, and will be removed by the nurse during the postoperative period. Your surgeon may select surgical staples or sutures that dissolve, to close the incision.

The following diagrams illustrate the procedure.



Your Surgery

What should I expect to happen?

You will be wheeled in on a stretcher (bed) into operating room with a nurse or an orderly. You may receive an epidural (small tube in your back to control pain) it will be inserted before you are put to sleep. The anesthesiologist will put you to sleep, this is not painful. Antibiotics and anticoagulants (blood thinners) will be given to help decrease your chance of infection and blood clots. While you are asleep, you will have a tube (catheter) put into your bladder to drain your urine. An incision will be made on the abdomen. This surgery normally lasts between four to eight hours.

When is a Whipple procedure not possible?

Before the surgery, your surgeon asks for tests to find out if your cancer has spread. About 5 percent to 20 percent of the time (or 5 to 20 people out of 100) during the Whipple procedure, the surgeon finds problems that could not have been found before surgery, even with excellent imaging (radiology) tests. If your cancer has spread to other organs, or the cancer is attached to important parts of your body that cannot be removed, other treatment options may be available.

You may get a referral to a Medical Oncologist who will talk to you about other treatments for your cancer. Usually this treatment involves chemotherapy.

What are the benefits of a Whipple procedure for people with cancer?

The procedure is used to remove the cancer and give you the best possible outcome.

During a Whipple procedure, your surgeon removes tissue around the area that has cancer. This lowers the chance of your cancer coming back. The chance of your cancer coming back also depends on the type of tumour and stage of cancer that you have.

All tissues that were removed during your surgery are tested by a pathologist. They will tell your surgeon the type of cancer you have and its stage. Your surgeon then talks with you about your cancer and any other treatments available.

What are the risks and possible complications of the procedure?

A “risk” is the chance that something might go wrong during a procedure.

Your surgeon and anesthesiologist will talk with you about the risks and possible complications of the Whipple procedure and being put to sleep for the surgery. Ask as many questions as you need to understand the procedure and what to expect.

The Whipple procedure is major surgery. There is always the chance of complications with every surgery. Your interprofessional team will always try to reduce any of these risks and complications.

Some possible complications from a Whipple procedure are:

- Complications linked to receiving anesthetics
- Chest infection and problems with breathing
- Bleeding during, or after the procedure, where a blood transfusion may be needed
- Infection in the surgical cut (surgical site infection, "SSI")
- Blood clots
- Leaks where organs have been sewn together called, *anastomotic* leaks
- Paralytic ileus, where the gut takes longer than usual to start working again
- Fistulas, where abnormal passage occurs between organs or to outside the body
- Abcess, an accumulation of pus or an infection inside the body

The ends where the pancreas, bile duct and stomach were reconnected to the intestine are called an anastomosis. The anastomosis may not heal well. In this case, digestive fluids can leak into the abdomen. This is called an *anastomotic* leak.

Your surgeon will leave a two to three drains in your abdomen at the end of the procedure to watch for and remove any fluid after surgery. For most patients the leakage will heal on its own and the drains will be removed. Sometimes patients need another operation to fix this problem.

Other unexpected complications can happen in any patient having a major surgery. Your surgeon will talk with you about all possible risks and complications. Ask questions regarding your specific risks and potential complications.

Clinical Pathway – Whipples Surgery			
	Cancer Assessment Clinic/ Pre-Admission Unit (PAU)	**Day of Admission / Surgery Pre-Op**	**Post-Op Day of Admission**
Consults	• Anesthesiologist		• Dietitian
Tests	• Blood tests if required • Electrocardiogram if required • Chest x-ray if required • Urine test if required	• Blood tests if required	• Blood glucose monitoring
Medications		• Antibiotics • Follow physician's instruction on taking medication	• Epidural/IV pain medications • Antinausea medications • Anticoagulant (blood thinner) • Patient's own medications if required
Assessments and Treatments		• Vital signs (blood pressure, heart and respiratory rate, temperature) • Intravenous	• Vital signs (blood pressure, heart and respiratory rate, temperature) • Oxygen if needed • Pain assessment • Intravenous • Abdominal incision • Monitor drain/drainage
Activity			• Activity as tolerated • Deep breathing and coughing exercises • Foot and ankle exercises
Nutrition		• Clear fluids up to 2 hours before you arrive for your surgery or as per physician's orders	• Sips of clear fluids 2 hours post operatively
Elimination			• Urinary catheter
Patient and Family Teaching/ Discharge Planning	• Pre-op instructions • Plan for hospitalization of 7 days and expected discharge time of 10 a.m.	• Pre-op instructions	• Deep breathing and coughing exercises • Foot and ankle exercises • Pain management • Identify issues that could cause delay of discharge

Clinical Pathway – Whipples Surgery		
	Post-Op Day 1	**Post-Op Day 2**
Tests	• Blood tests • Blood glucose monitoring	• Blood tests • Blood glucose monitoring
Medications	• Epidural/IV pain medications • Gastric motility medications • Antinausea medications • Anticoagulant • Patient's own medications if required	• Epidural/IV pain medications • Gastric motility medications • Antinausea medications • Anticoagulant • Patient's own medications if required
Assessments and Treatments	• Pain assessment • Vital signs • Intravenous • Abdominal dressing • Monitor drain/drainage	• Pain assessment • Vital signs • Intravenous discontinued if drinking well • Abdominal dressing • Monitor drain/drainage
Activity	• Sit in chair for all meals • Walk/dangle legs at least 2 times	• Sit in chair for all meals • Walk/dangle legs at least 2 times
Nutrition	• Clear fluid diet • Chew gum 3 times per day	• Clear fluid diet • Chew gum 3 times per day
Elimination	• Urinary catheter	• Urinary catheter
Patient and Family Teaching/ Discharge Planning	• Deep breathing and coughing exercises • Foot and ankle exercises • Pain management • Hand hygiene • Activity as tolerated • Plan for hospitalization of 7 days and expected discharge time of 10 a.m. • Identify issues that could cause delay of discharge	• Deep breathing and coughing exercises • Foot and ankle exercises • Pain management • Hand hygiene • Activity as tolerated • Plan for hospitalization of 7 days and expected discharge time of 10 a.m. • Identify issues that could cause delay of discharge

Clinical Pathway – Whipples Surgery		
	Post-Op Day 3	**Post-Op Day 4**
Tests	• Blood tests • Test fluid from drain(s)	• Blood tests if required
Medications	• Epidural/IV pain medication weaning • Gastric motility medications • Antinausea medications • Anticoagulant • Patient's own medications if required	• Oral pain medications • Gastric motility medications • Antinausea medications • Anticoagulant • Patient's own medications if required
Assessments and Treatments	• Vital signs • Oxygen if needed • Intravenous discontinued if drinking well • Abdominal dressing • Monitor drain/drainage	• Vital signs • Abdominal dressing • Drain/drainage if present
Activity	• Sit in chair for all meals • Walk in hall at least 2 times	• Sit in chair for all meals • Walk in hall at least 3 times
Nutrition	• Progress to surgery diet	• Surgery diet
Elimination	• Urinary catheter removed if present • Up to bathroom	• Up to bathroom
Patient and Family Teaching/ Discharge Planning	• Deep breathing and coughing exercises • Foot and ankle exercises • Pain management • Hand hygiene • Activity as tolerated • Plan for hospitalization of 7 days and expected discharge time of 10 a.m. • Identify issues that could cause delay of discharge	• Deep breathing and coughing exercises • Foot and ankle exercises • Pain management • Hand hygiene • Activity as tolerated • Plan for hospitalization of 7 days and expected discharge time of 10 a.m. • Identify issues that could cause delay of discharge

Clinical Pathway – Whipples Surgery			
	Post-Op Day 5	**Post-Op Day 6**	**Post-Op Day 7 Discharge Day**
Tests	• Blood tests if required • Test fluid from drain(s)	• Blood tests if required	• Blood tests if required
Medications	• Oral pain medications • Gastric motility medications • Antinausea medications • Anticoagulant • Patient's own medications if required	• Oral pain medications • Gastric motility medications • Antinausea medications • Anticoagulant • Patient's own medications if required	• Oral pain medications • Gastric motility medications • Antinausea medications • Anticoagulant • Patient's own medications if required
Assessments and Treatments	• Vital signs • Oxygen if needed • Intravenous discontinued if drinking well • Abdominal dressing • Drain/drainage if present	• Vital signs • Oxygen if needed • Intravenous discontinued if drinking well • Abdominal dressing • Drain/drainage if present	• Vital signs • Oxygen if needed • Intravenous discontinued if drinking well • Abdominal dressing • Drain/drainage if present
Activity	• Sit in chair for all meals • Walk in hall at least 2 times	• Sit in chair for all meals • Walk in hall at least 3 times	• Sit in chair for all meals • Walk in hall at least 3 times
Nutrition	• Surgery diet	• Surgery diet	• Surgery diet
Elimination	• Up to bathroom	• Up to bathroom	• Up to bathroom
Patient and Family Teaching/ Discharge Planning	• Deep breathing and coughing exercises • Foot and ankle exercises • Pain management • Hand hygiene • Activity as tolerated • Plan for hospitalization of 7 days and expected discharge time of 10 a.m. • Identify issues that could cause delay of discharge	• Deep breathing and coughing exercises • Foot and ankle exercises • Pain management • Hand hygiene • Activity as tolerated • Confirm plan to be picked up from hospital tomorrow by 10 a.m.	• Deep breathing and coughing exercises • Foot and ankle exercises • Pain management • Hand hygiene • Activity as tolerated • Discharge day, picked up from hospital by 10 a.m. • All outpatient appointment arranged • Home care arranged if applicable

The Pre-Admission Unit (PAU) Visit

You will be seen in a Pre-Admission Clinic several days or weeks before your surgery. This is a place where information is shared: we will learn more about you and your health, and you will learn more about your surgery. You will be seen by a nurse and possibly an anesthesiologist (pain doctor) or other physicians or health-care professionals if needed.

A nurse will go over the following with you:

- Medications: Your past medical history and current medications. Please bring all of your regular medications, including your over the counter medication and herbal remedies to this appointment (i.e. vitamins, supplements).
- Bowel preparation: Your nurse will help you learn how to clear out your bowel before your surgery if you are required to do so.
- Body cleansing: Remove all make-up including nail-polish, and piercings before arrival. Do not remove any body hair before your surgery (no waxing, shaving or clipping) because it can increase your risk of infection. You may be asked to shower with special soap before your surgery.
- Diet: When you should stop eating and drinking before your surgery and what and when you can eat after surgery.
- Activity level: How much you should be moving around before and after your surgery.
- Going home after surgery: You will be asked about your home and any supports you already have in place (family, friends). This will help to plan for your return home with services you may need.

An anesthesiologist will go over the following with you:

- Which anesthetic will be given to put you to sleep for your surgery
- Your options for pain management
- Your options for blood conservation

The following tests will be done:

- Blood tests
- Urine tests
- X-ray of your lungs (depending on your condition)
- Electrocardiogram (depending on your condition)

Your surgeon or anesthesiologist will decide on any additional tests required.

Before Your Surgery Plan Ahead

Stop smoking

We strongly suggest that you **stop smoking completely for one month before your surgery**. This includes pipes, cigars, regular and low tar cigarettes and chewing tobacco. Even one or two cigarettes a day can be harmful. By stopping smoking, the risk of lung problems and infections after surgery will decrease as will time required to heal. There are many resources available to help you. Talk to your doctor, nurse or community pharmacist if you would like information to help you quit smoking.

Smoking cessation programs are available to you to assist you to stop smoking. Contact the University of Ottawa Heart Institute: Prevention and Rehabilitation Centre Heart Check Smoking Cessation Program:

- ***Heart Health Education Center: 613-761-4753 or www.ottawaheart.ca***
  - This six month program involves behavioural therapy; addictive disorders therapy; pharmacologic therapy (nicotine patch or gum); and relapse prevention.
  - Covered by the Ontario Health Card or the Regie d'assurance maladie du Quebec
  - Offered in English and in French
- ***The Public Health Information Line at 613-724-4179***
  - Multilingual

Alcohol intake

Do not drink any alcohol five to seven days before surgery. Discuss this with your health-care team if you regularily drink alcohol.

Activity

Surgery is like a marathon: Start your training as soon as possible, keep fit by walking 30 to 45 minutes a day, and do deep breathing and coughing exercises regularly.

Prepare your discharge

If you do not have any complications and you are ready for discharge, you may go home on day seven after your surgery. Make sure that you know who is going to take you home as you will not be permitted to drive yourself. Also, make sure that everything is ready for you when you go home after your surgery. You should be able to walk, eat and care for yourself as usual. Fill your freezer and cupboards with easy to prepare meals so that when you return home, you will not have to go to the grocery store. Consider making arrangements for help in the home (if needed), before you come to the hospital.

You may need help with:

- Driving
- Making meals
- Laundry
- Cleaning
- Paying bills
- Caring for pets
- Watering plants
- Bathing and self care

What should you bring to hospital

- This booklet and a pen to keep notes on your progress.
- OHIP card, hospital card and insurance information (if you were told to do so).
- All the medications, including vitamins, you are currently taking (if you were told to do so).
- A bathrobe and loose comfortable clothing.
- A credit card (if you want to rent a television or telephone in your room) personal cell phones are okay to use.
- Non-slip slippers or shoes.
- Earplugs (if you wish).
- Electric shaver.
- Reading glasses in a case labeled with your name.
- Magazines or books to read.
- Personal hygiene items like a toothbrush, toothpaste, hair brush, mouthwash, deodorant, lip balm and hand cream.
- Cane, crutch or walker if you use these for walking. Label them with your name.
- A sleep apnea machine if you use it for sleeping. Label it with your name.
- Two packs of chewing gum. Chewing gum will help you recover from your surgery.

Things to leave at home

- Large amounts of money.
- Valuables (jewelry, including rings).

Please speak with the nurses in the Pre-Admission Unit (PAU)/Cancer Assessment Clinic (CAC) about what you can and cannot bring to the hospital.

The Day of Surgery—Before the Surgery (Pre-op)

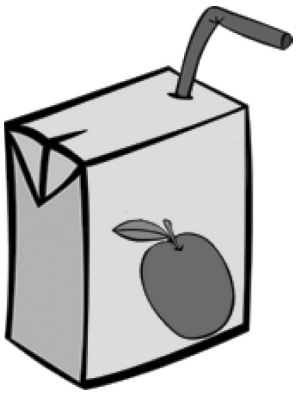
Please follow the pre-op instructions provided by the nurse during your PAU visit.

Day before and morning of your surgery

You can eat solid foods until midnight the night before your surgery unless you had a bowel prep. If you had a bowel prep, please follow the instructions that were given to you.

You can drink clear liquids up to 2 hours before you arrive at hospital the day of surgery.

- A clear liquid is any liquid you can see through. Examples of clear liquids are water, apple juice, or tea without milk, colourless soft drinks (Sprite, Ginger Ale, 7-Up), clear sport drinks (Gatorade, Powerade).
- Milk and orange juice are **NOT** clear fluids and should not be taken.
- Clear liquids that are high in carbohydrates are recommended. A drink that is high in carbohydrates are drinks that have a lot of sugar. It is important to have sugary drinks before your surgery because it will help you feel stronger after surgery and recover faster.
  - Drink up to 3 glasses (800 mL) of a high carbohydrate drink at bedtime the night before surgery.
  - Drink 1.5 glasses (400 mL) up to 2 hours before you arrive at hospital the day of surgery.



Apple Juice

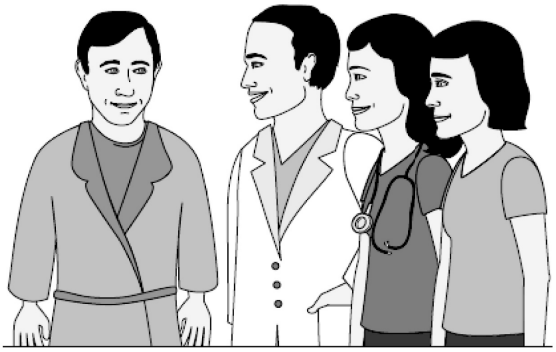
Tea

Important: Failure to follow these fasting instructions may result in cancellation of your surgery.

When you arrive at the hospital

Once admitted you will change into a hospital gown. Your belongings, dentures, glasses, hearing aids will be given to your family for safe keeping. Bring any containers you may have for these items. All items you bring into hospital that you want to keep with you must fit into a small tote. You will be asked to sign a form indicating that the hospital is not responsible for loss or damage of any items not contained in the tote. We recommend that anything that does not fit in the tote gets sent home with family.

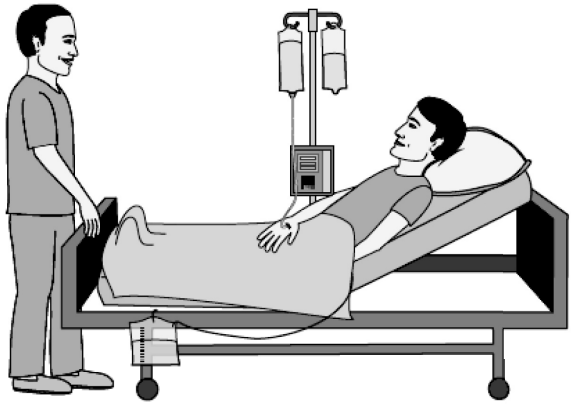
- If you wear a medical alert bracelet, necklace, or watch then you should wear it to the hospital but it will be removed before surgery and given to your family or put in your tote.
- You will have blood and possibly urine tests, x-rays and electrocardiograms and scans.
- You will see a surgeon, a nurse and an anesthesiologist. They will answer any questions you may have. They will ask you a few questions to make sure you are safe to have your surgery.
- You will have an intravenous started and may be given pain medicine to take by mouth before your surgery.



In the operating room

You will be wheeled on a stretcher (bed) into the operating room.

If you are to receive an epidural (small tube in your back to control pain) it will be inserted before you are put to sleep. The anesthesiologist will put you to sleep. Antibiotics and anticoagulants (blood thinners) will be given to help decrease your chance of infection and blood clots.



While you are asleep, you will have a tube (catheter) put into your bladder to drain your urine.

Your Care in Hospital – After Surgery

Following surgery, you will awaken in the Post-Anaesthetic Care Unit (PACU) where you will stay until your condition is stable. You may spend the night in PACU if your condition warrants it. When you are stable you will be transferred to your room on the inpatient unit.

Assessments

You will be checked often by the nurse to ensure that you are comfortable and progressing well. Your temperature, heart rate, blood pressure and abdominal incisions will be checked. The nurse will also listen to your lungs to check your breath sounds and your abdomen to check your bowel sounds. You will also be asked about "passing gas" and bowel movements.

Intravenous

You will have an intravenous (IV) to replace your fluids until you are able to drink and eat well. 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 line may be left until you are discharged so that the nurses can administer IV medications as needed.

Oxygen

Extra oxygen is sometimes given through a mask placed over your nose and mouth or by small tubes placed into your nostrils. The amount of oxygen in your blood is measured painlessly by a small clip on your finger. This is called pulse oximetry. The measurement is used to determine if you are getting enough oxygen. The nurses will increase or decrease the amount of oxygen based on their assessment. The oxygen will be discontinued when appropriate.

Pain management after surgery

Your comfort is our concern. It is important that you have effective pain relief. Pain is personal. The amount of pain you feel may not be the same as others feel, even for those who have had the same surgery.

Our goal is to help you be comfortable enough to participate in the healing process. Your pain should be controlled enough that you can rest comfortably and that pain does not prevent you from deep breathing, coughing, turning, getting out of bed and walking. Both drug and non-drug treatments can be successful in helping prevent and control pain. The most common pain control treatments for after surgery are described in the *Pain Management After Surgery* booklet. You, your doctors and your nurses will decide which

ones are right for you to manage your pain. Please read the booklet before your surgery. Bring it to the hospital on the day of your surgery.

For a Whipple surgery, you will have an epidural infusion of pain medication going into your back and/or an IV drip of pain medication into your veins.

- An epidural is a small tube placed in your back by an anesthesiologist. Medicine is given through the tube to provide pain relief. This medicine is usually local anesthetic or "freezing" plus an opioid "pain killer". After your operation, your epidural will be connected to an epidural pump, which will deliver a steady dose of pain medicine. If an epidural is inserted, you will have it for the first two to three days after your surgery.
- Pain relief with an intravenous (IV) drip is called PCA (Patient Controlled Analgesia). Pain medicine from the PCA pump goes into your IV and then into your body. When you use PCA, you are in control of how much pain medicine you get and when you get it. If you are having pain, you push a button that is attached to the pain pump. IV pain medications can also be continuously infusing through this pump method as well.

Two to three days after your surgery your nurse will discuss with you when they will wean you off the IV or epidural pain medication. You will be given different types of pain medicine by mouth on a regular basis after your surgery, to help manage your pain. Each pill works differently in your body and can reduce the need for large amounts of other pain medicine, such as opioids. If the medicine does not control your pain enough, please tell your nurse immediately. Additional or different pain medicine can be given.

Blood sugar

The nurse will check your blood sugar level periodically by picking a finger and drawing a small amount of blood. Depending on the amount of pancreas removed, you may require insulin regularly.

Nasogastric tube

You may have a tube in your nose (nasogastric) to drain your stomach fluids and help prevent nausea and vomiting. It is not routinely put in place but depending on your condition may need to be inserted. This will be clamped for a period of time then removed when the drainage from the nasogastric tube decreases enough.

Drains

The surgeon will insert two or more, small drainage tubes at the time of surgery. They are used to collect excess discharge that sometimes collects around the surgical area. They will be in place for at least five days before being removed by the nurse.

Incisions/Dressings

You will have a midline incision on the abdomen, covered with a dressing. The dressing should remain in place for three days, but may be removed by a doctor or nurse to check for any redness, pus or bleeding. The dressing can be removed after three days if not draining. You may see staples and/or sutures holding the incision together. These will be removed about 7 to 14 days after surgery depending on how quickly you heal.

Indwelling Urinary Catheter

You will have a urinary catheter inserted to drain urine from your bladder. The catheter can be cleaned by using a wet face cloth and soap. The catheter may be removed by the nurse approximately two to three days after surgery. Early removal of the catheter decreases your chance of bladder infection and also helps you move around more easily.

Diet

As soon as you are on the ward after your surgery, you can have sips of clear fluids. You will gradually progress from drinking fluids to a easy to digest, "surgery" diet. Unless you have been given specific diet instructions you should be able to resume a regular diet with no restrictions in a few weeks.

The following are suggestions for the early days after your surgery:

- Until your appetite is back to normal, aim to eat three small meals plus two to three snacks daily.
- It is important to drink plenty of fluids. Choose nutritious liquids to provide energy, vitamins, mineral as your body needs more energy and protein when recovering from surgery.

Activity while in hospital

It is very important after surgery to be progressively active. Your bowels may stop working temporarily from the surgery, medications and inactivity. This is called an ileus [i-lee-uhs]. When this happens, people feel bloated and may have nausea and vomit. If you have an ileus, this will increase your surgery recovery time. Walking, drinking fluids and chewing gum help the bowel work faster and speed your recovery.

On the day of surgery, once you return to the ward, you will be encouraged to do activities in bed as tolerated.

On **Post-op Day 1** you will be assisted to sit on the side of the bed and dangle your legs. If you are feeling strong, you may get out of bed for a short time to walk around.

On **Post-op Day 2 to 6**, you will be assisted to walk in the hall frequently. You should sit up in the chair as well for all your meals throughout the day and evening. You should be able to increase the distance and tolerance of activities daily, progressively being able to do them on your own.

On **Post-op Day 7**, you will be ready to go home safely.

Post-Operative Exercises

Deep breathing and coughing

Because of surgical procedures, anesthesia, pain or not moving around as much after surgery, we tend to take smaller breaths. This may cause secretions to build up. Doing *deep breathing and coughing exercises* after surgery will help keep your lungs get healthy by getting rid of extra secretions.

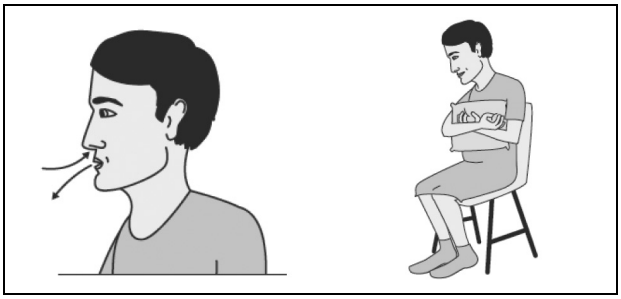
Deep breathing exercises work best when you are sitting up in a chair or on the side of the bed. Follow these instructions:

- Support your incision with a small blanket or pillow. Take a deep breath in through your nose. Hold for five seconds. Breathe out through your mouth slowly.
- Repeat this exercise 10 times each hour while you are awake and until your activity level increases.

Coughing exercises help to loosen any secretions that may be in your lungs. These should be done after your first five deep breaths.

To produce an effective cough:

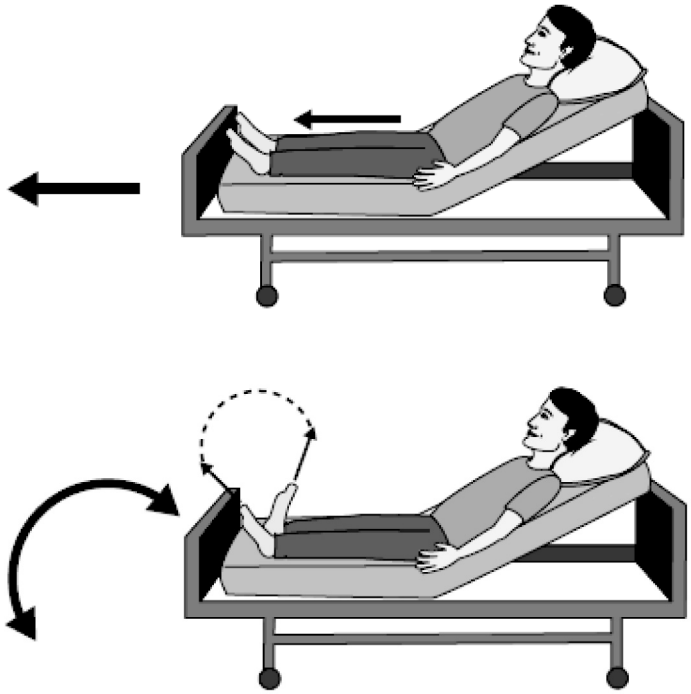
- Support your incision with a small pillow or blanket.
- Take a deep breath in and cough.



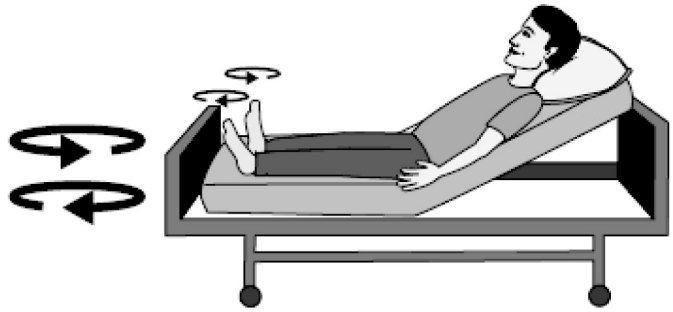
Foot and ankle exercises

Foot and ankle exercises help the blood circulate in your legs. This will help decrease the change of developing blood clots in your legs while you are less mobile. Do these frequently, while you are awake and until your activity level increases.

Point your toes (as if you were pressing on a gas pedal) and point your toes towards your chin. Repeat 10 times per hour. Make circles with your feet.



With your legs flat on the bed, move your ankles in a circle clockwise and counter-clockwise. Do 10 rotations per foot per hour.

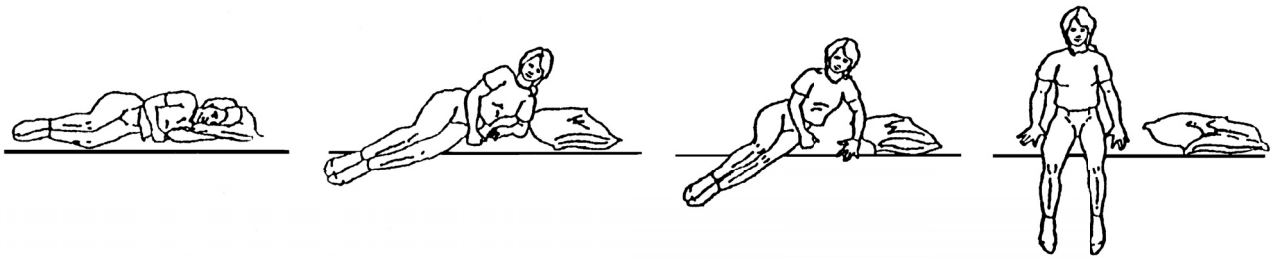


Getting out of bed

Obtain assistance as needed.

- Roll onto your side and bring your knees up towards your abdomen.
- Place your upper hand on the bed below your elbow.
- Raise your upper body off the bed by pushing down on the bed with your hand.

- Swing your feet and legs over the edge of the bed and bring your body to a sitting position.
- Once in the sitting position, take a few breaths and ensure your balance is good before you attempt to stand.
- Slide your bottom to the edge of the bed. Stand up keeping your back as straight as possible.
- When getting back into the bed, reverse the process.



Preparing for Discharge

When you are discharged from hospital, you may need help at home. It is best to make arrangements for this **before** being admitted to hospital. Discuss your discharge plans with your nurse. You may also need a nurse to visit you at home.

You may have a number of concerns related to how you will manage once you return home. Please discuss these with your nurse or social worker.

Arrange for someone to pick you up by **10 a.m.** on the day of discharge. You will receive a prescription for medication and a follow-up appointment to see your surgeon in about two to three weeks.

Be sure you understand information related to the following:

- Activity restrictions; including weight restrictions and aerobic activity.
- Medications you are to take
- Wound care
- Diet
- When to call your family doctor or go to emergency
- Follow-up appointment

Your checklist for going home:

- You should have no nausea or vomiting.
- You should be able to eat and drink as usual.
- You should be passing gas/stool.
- You should be passing your urine well.
- You should be able to get in and out of bed.
- You should be walking like you did before surgery (you may not be able to walk far and that is fine).
- You should have everything organized at home (for example, food to eat).
- All of your questions or concerns about your ongoing recovery at home have been answered by your healthcare team.

Before you leave, you need to know:

- About the medicine you were on before your surgery and any new medicine you will need to take now.
- You must be able to recognize the signs and symptoms of low and high blood sugar.
- If your doctor has prescribed insulin or a blood thinner, the nurse will teach you or your family member how to give it by injection.
- If you need a prescription for any pain medicine or other medicine you may need to take at home.
- About what to eat and drink.
- How to take care of your surgical incision.
- When to go back to regular activities (for example, driving, exercise, lifting).
- What symptoms are considered medical emergencies and what signs to watch for.
- If you require home care services or any other items to help in your recovery at home (such as a walker or bathroom equipment), you will need to be sure you have confirmation that this has been arranged for you.
- Who to call if you have questions or concerns.

After Discharge

Activity

Take frequent rest periods as necessary. Let your body be your guide. You can do light activities until you have been seen by your doctor on your follow-up visit. Increase your walking distance each day. Resume your usual activities gradually. Discuss any specific concerns with your doctor including when to resume sexual activity. Do not drive a vehicle for at least two weeks. You may resume driving after two weeks if you can shoulder check and you are not taking opioids (pain) medications (e.g. Hydromorphone, Percocet).

What I cannot do:

- Do not lift more than 10 pounds (one laundry bin or two small bags of groceries) for the first four to six weeks after surgery.
- Avoid strenuous exercise including aerobics, weight training, snow shoveling, or pushing a lawn mower. Do not do abdominal exercises, for four to six weeks after surgery.

What I can do:

- When you get home, you should continue to be active (walk, participate in personal care, socialize). Gradually increase your activity level over the next several weeks as you feel ready.
- It is normal to feel tired after surgery.
- You can resume most normal activities once you are pain free.
- Your surgeon will tell you when you can return to work. This will depend on your recovery and your type of work.

Medications

Take your pain medication as required, e.g. before going to bed, or prior to activity. It is normal to experience some wound discomfort for a period of time after discharge. Add water-soluble fiber to your diet to avoid constipation from pain medication, e.g. bran, whole grains, fruit. If constipation is a problem, you may take a mild laxative; options can be discussed with your community pharmacist.

Wound care

Showers are preferable. Soaking in tub for long periods may delay the healing process of your incision. Clean your incision with mild soapy water. Gently pat dry. Swelling or bruising may appear around the wound. This may continue for several weeks. If you have any signs and symptoms of infection; including reddened, swollen or discharge from your wound, go see your physician or the emergency department.

Diet

If you are cooking for yourself look for quick and convenient meals (frozen dinners, canned soups/stews). Ask about meal services available in your community, such as Meals on Wheels.

Constipation

- Drink at least six to eight cups of fluid per day.
- Limit caffeinated drinks.
- Increase your activity levels – walking/gentle exercise.

Please go to the Emergency department if you have any of the following:

- Chills or fever (temperature greater than 38.5° C. or 101° F).
- Increased or new pain.
- Redness, swelling or drainage around the incision or incision separation.
- Nausea, vomiting, constipation, abdominal swelling, or bloody stools.
- New or unexplained symptoms develop.

Follow-up

After discharge from hospital, expect to see your surgeon in 3 to 4 weeks. The office phone number for the HPB team are listed below:

- Dr. Balaa 613-739-6979
- Dr. Martel 613-739-6979
- Dr. Mimeault 613-739-6979

I have a follow-up appointment booked:

Date: _____ Time: _____

Location: _____

Additional contacts

We would like to recommend the following website for further research on your condition.

The Pancreas:

- Pancreatitis
  http://www.niddk.nih.gov/health-information/health-topics/liver-disease/pancreatitis/Pages/facts.aspx

Pancreatic Cancer:

- Canadian Cancer Society
  http://www.cancer.ca/en/cancer-information/cancer-type/pancreatic/overview/?region=on
- Pancreatic Cancer Canada
  www.pancreaticcancercanada.ca
- Pancreatic Cancer - General
  http://www.nlm.nih.gov/medlineplus/pancreaticcancer.html

Whipple Procedure:

- MedlinePlus – National Library of Medicine (Video)
  http://www.orlive.com/umm/videos/whipple-procedure-for-pancreatic-cancer?view=displayPageNLM
- Pancreatic Cancer Action Network: Nutrition after a Whipple procedure
  http://www.pancan.org/section facing_pancreatic _cancer/learn_about_pan_ cancer/diet_and_ nutrition/After_Whipple_procedure.php

Cancer:

- Canadian Cancer Society
  www.cancer.ca
- Wellspring
  www.wellspring.ca
- Gilda's Club
  www.gildasclubtoronto.org
- Maplesoft center for cancer survivors
  https://survivorship.ottawacancer.ca/contact.jsf

Notes