Te Whatu Ora
Health New Zealand

Distal Pancreatectomy

Contents

Introduction

Coming into the hospital may be a new experience for you. This booklet aims to help you understand your treatment journey from preparation through your hospital stay and discharge/ follow-up care.

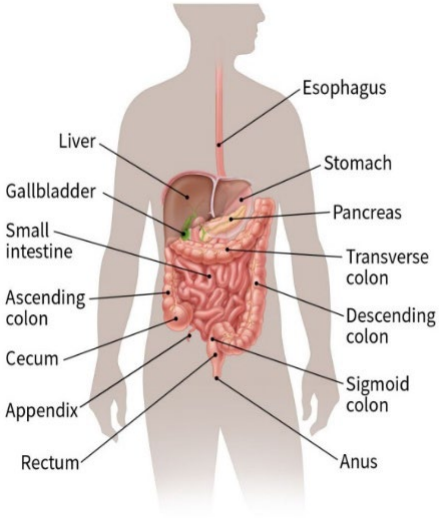
This booklet is for people having distal pancreatectomy surgery. It has information specific to this type of surgery. It is important to remember that, because people are all different, this booklet cannot replace the information given to you by your specialist.

There may be words or phrases in this booklet that you do not clearly understand. Please ask your doctor or nurse to explain anything you are not sure about.

The staff at Waitematā Health aim to make your stay in the hospital safe and comfortable. Please don't hesitate to contact us if you have any queries regarding this information and your surgery.

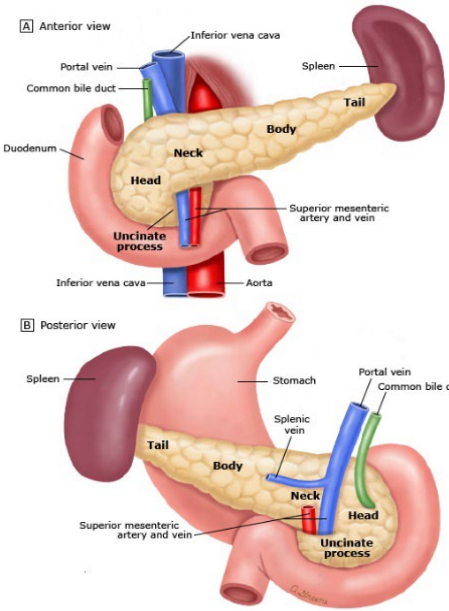
The Pancreas

The pancreas plays a big role in digestion. During digestion, the pancreas makes pancreatic juices called enzymes. These enzymes break down sugars, fats, and starches. It also helps your digestive system by making hormones. These are chemical messengers that travel through your blood. Pancreatic hormones help regulate your blood sugar levels and appetite, stimulate stomach acids, and tell your stomach when to empty.



The pancreas is divided into five parts including the head, uncinate process, neck, body, and tail.

It is located inside the abdomen and behind the stomach. It is similar in size to your hand.



The Distal Pancreatectomy

Distal pancreatectomy is a surgery to remove the distal (body-tail) part of your pancreas. The spleen may also be removed with this and the surgery to remove your spleen is called a splenectomy.

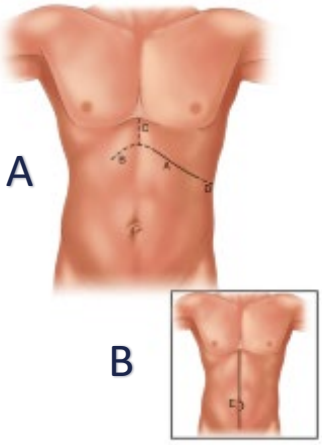
As with all operations, there are risks and possible complications. It is important that you discuss with your surgeon how these risks relate to you.

The surgery can be accomplished using an open or minimally invasive (laparoscopic/ robotic) approach.

The following are illustrations of the incision sites for both open and minimally invasive approach.

The technique may vary between surgeons and they will discuss this with you.

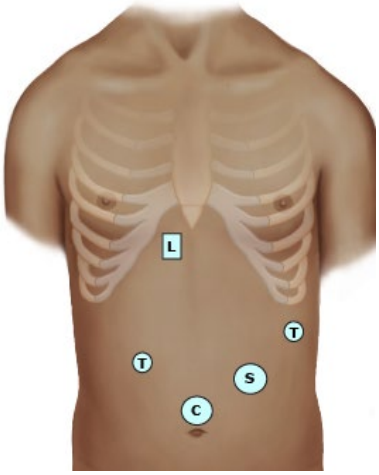
Open Distal Pancreatectomy Incision



A: Cut made in the upper abdomen below the rib cage

B: Longitudinal cut in the middle of the abdomen

Minimally Invasive Approach



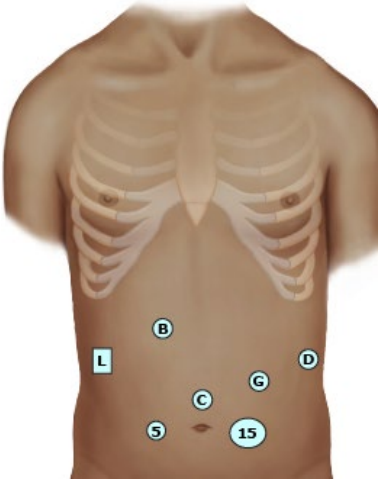
laparoscopic

L: retractor port, upper abdomen

T: working ports (5 or 12 mm), middle of the abdomen

S: stapler port (12 mm), middle of the abdomen

C: camera port (5 or 12 mm), above the umbilicus



robotic

B: robot grasper, middle of the abdomen

L: articulating liver retractor, middle of the abdomen

D: robot dissector, middle of the abdomen

G: robot atraumatic grasper, middle of the abdomen

C: robot camera, above the umbilicus

5/15: assistant ports, umbilical area

Preparing for Your Hospital Stay

Our booking admin will contact you and confirm the surgery date, and the details on when and where to go for your surgery. The average length of stay is approximately one week, but this may vary between individuals.

It is important to begin planning how you will manage after you are discharged home.

You will need to have someone stay with you or organise to stay with family/whānau or a friend for a time after you are discharged. You will tire more easily for a while after you go home and won't be able to do things with the same energy as before.

If you do need help after discharge, you will be seen by the Needs Assessment Team in the hospital for help with personal care at home.

With a community services card, you may also qualify for home help.

If you have any social or emotional concerns, please contact the clinical nurse specialist to discuss this further so they can refer you to someone who can help support you during this time.

The following list may help you to prepare for your surgery:

- Arrange for someone to bring you to the hospital. Please let the nurse specialist know if you need assistance with transport to the hospital.
- Consider getting a medical alarm for a short period if you are living alone.
- If you are on your own, decide if you need to apply for a sickness benefit or other benefit.
- If you usually do your lawns and gardens, you may want to arrange to have these managed by someone else for a couple of months.

- If you usually manage your housework you should arrange to have this managed by someone else until you feel well enough.
- If you have children/dependents and/or pets, you should organise care and /or feeding for them.
- Check that your house security is in place and organise for your letterbox to be cleared if needed.
- You may wish to ask your provider to put some of your household services, such as newspaper delivery, on hold.
- Make a list of useful contact numbers.
- Consider your needs for when you return home (e.g. supplies, transport, housework, support). Family/ whānau and friends may be able to help.
- If you usually manage your meals, you might consider freezing some for when you return home or purchasing some pre-frozen.

Before Your Surgery

Nutrition

Good nutrition is important before surgery and will help you cope better with the recovery. If you are at risk of malnutrition (e.g. you have had recent significant weight loss), speak to your nurse specialist or surgeon about seeing a dietitian who can assess your nutritional status and provide you with dietary advice. You may be given a prescription for a nutritional supplement drink to have before your surgery. This will provide extra energy and have as an addition to the food you are eating.

Activity

It is important to maintain as much normal physical activity as you can before your surgery. Aim for 30 minutes of moderate-intensity exercises five days a week (cycling, walking, swimming). Regular exercise is recommended to keep your heart and lungs healthy.

Smoking

If you are a smoker, you need to stop smoking as soon as you know you are having surgery. Stopping smoking now will reduce the risks during and after the operation and help you heal faster.

Support to stop smoking is available through the hospital by calling the ELECT team on 09 486 8920 ext 42117 or 021 509 251.

Alternatively, you can ask a nurse to refer you or send an e-mail directly to elect@waitematadhb.govt.nz

Medications

You will be given instructions about your medications and when to stop them. Certain medications for diabetes and blood thinners are usually stopped days before surgery. It is important that you provide us with your complete medication list.

The People Involved in Your Care

Before your surgery, you will have an appointment in the Upper Gastrointestinal (Upper GI) Clinic where you will be seen by a team of clinicians. Each clinician will explain and discuss with you the various aspects of the surgery, recovery and what to expect. Please ask as many questions as you like at this appointment. We encourage you to also bring a support person.

It is a good idea to write your questions down as you think of them and bring them with you to appointments. If you think of questions later, your clinical nurse specialist can answer them for you or ask a doctor to talk with you.

The team of people who will see you in the Upper GI clinic includes the surgeon, anaesthetist, intensive care specialist, clinical nurse specialist, dietitian and physiotherapist.

Surgeon

The surgeons will give you information about the surgery, its benefits and possible risks. They will explain to you what to expect afterwards for your immediate and longer-term recovery. The surgeons will also explain the possible long-term effects of the surgery might be.

Anaesthetist

The anaesthetists are the doctors who look after you during and immediately after your surgery. Throughout the surgery, the anaesthetist will keep you asleep, and monitor your heart, blood pressure, oxygen and breathing, making sure you are as safe as possible.

Before you see the anaesthetist, you will have an electrocardiogram or ECG which traces your heart rhythm and blood pressure reading. You will then meet the anaesthetist who will assess your current health, discuss your past medical history and assess your fitness to have major surgery. They may arrange blood tests or other investigations, or arrange for you to

see other specialist doctors, to make sure you are well enough to proceed with the surgery. They will discuss with you the plan for the anaesthetic and introduce the options available to provide pain relief after the surgery. They will also tell you which of your usual medications to take and which of your medications you need to stop before your surgery.

Intensive Care Medicine Specialist

The Intensive Care Specialists look after patients in the High Dependency Unit (HDU) and the Intensive Care Unit (ICU). It is not routine for patients to go to HDU/ICU after surgery, although sometimes this is required if an unexpected event or complication arises during surgery that requires close observation. The HDU/ICU team will care for you, along with your surgical team, during the first few days after your surgery.

Clinical Nurse Specialist (CNS)

The CNS coordinates your care, provides support to you and your family/whānau, and ensures you have the information you need about your illness, treatments, hospital stay and postoperative recovery expectations.

The CNS will also provide you with information about other services and professionals in the hospital and the community.

Dietitian

As well as the clinic dietitian who can help you with your diet before coming in for your surgery, the dietitian in the ward will help you as you start drinking and eating again if needed.

Physiotherapist

A physiotherapist will teach you deep breathing and circulatory exercises and will assist you with your mobility after your surgery, especially for open surgery. This is important to help reduce the risk of postoperative complications, such as blood clots and lung infections.

Other people who may be involved in your care at different time points include:

Psychologist

Psychologists can help you adjust to being diagnosed with your illness and the impact that this may have on you and your family/whānau.

Psychologists can help with:

- making sense of what is happening
- preparing for and making decisions about treatment
- coping with feelings such as anxiety, fear, low mood or distress
- the impact on relationships
- coping with side effects such as pain, treatment side effects and fatigue

Talk to your clinical nurse specialist if you would like to be referred to this service.

Social Worker

Social workers can assist you and your family/whānau to deal with personal, emotional, relationship and health-related social problems. Social workers also provide supportive counselling and referral to services in the community.

The Needs Assessment Service Coordination (NASC)

The needs assessor can discuss whether you need any help with personal care at home. NASC services include:

- Coordinating short/long-term support in the community.
- Facilitating options for support include:
  - Personal care assistance (e.g. showering, dressing, meal preparation).
  - Household management (e.g. shopping, cleaning, laundry - requires a Community Services Card).

- Provision of community support services information (e.g. Salvation Army Volunteer Services and Age Concern).

Critical Care Outreach

The critical care outreach nurses will follow you up and help to ease the transfer from the High Dependency Unit (HDU) to the ward.

District Nurse

The district nurse visits you at home to help care for your wound and any drain. The ward will arrange for the district nurse to contact you and provide you with a number to call in case you need to contact the district nursing service once you are home.

During Your Hospital Stay

After surgery

After surgery, you may be cared for in the High Dependency Unit (HDU) until you are ready to be transferred to the surgical ward. The length of stay in the HDU varies with each person. However, it is usually one-to-three nights.

The HDU is a dedicated unit with specialist critical care doctors, nurses and physiotherapists. There are a higher proportion of nurses per patient in this area, which enables them to meet the needs of your initial recovery period.

What happens in HDU

The critical care team is constantly in the HDU and will review you each morning in addition to your surgical team. This is an opportunity to discuss any aspect of your care and ask any questions that you may have.

Every effort is made to preserve your dignity and privacy during the morning ward round. Therefore, while visitors are welcome at any time, we

ask that they are not present during the ward round unless circumstances dictate.

As with other hospital areas, the HDU environment can make rest challenging. But every effort will be made to ensure you sleep well and that you are comfortable enough to do so.

Monitoring your condition

You will be connected to monitors that monitor your heart's activity, blood pressure and oxygen levels. You may have extra oxygen delivered through either a mask or prongs that are positioned comfortably into your nose.

A variety of drips and drains will be connected to you and your nurse will explain them to you. The extra intravenous drips inserted while you are under anaesthetic will deliver fluids and medicines into your bloodstream.

Family contact

A designated family member or friend is welcome to phone the HDU for an update on your condition.

Limited information can be given over the phone but please be assured that we will communicate any important information promptly to you and your family members.

Transferring to the ward

Before leaving HDU for the ward, most of your drips and drains will be removed and some monitoring discontinued. This is an indication that your condition is improving, and you can be cared for safely in a ward environment. The HDU team will communicate all aspects of your admission to the ward with you and your family and every effort will be made to ensure this process runs smoothly.

The surgical team will visit you each morning. We encourage family/whānau to be present during the ward round to discuss any aspect of your care and ask any questions that you may have.

Your family/whānau are welcome to phone the unit to ask about your progress. We ask that this please be done through a designated family/whānau member or friend to control the number of telephone calls to staff.

Pain Relief

A combination of pain relief will be used to keep you as comfortable as possible after your operation. This may include:

EPIDURAL

An epidural is a thin tube inserted in your back by the anaesthetist before your operation. Local anaesthetic is infused through it to block the nerves that supply the operation site. Not all patients will have an epidural in place but if you do, this will remain in place for up to five days after your surgery. You are still able to sit and walk around normally with an epidural in place.

You will be given a button to push so you can control the amount of pain relief you are given. This is called a PCEA (patient-controlled epidural analgesia). The pump is programmed to deliver the correct amount. For a set time after each dose, it will not deliver another dose, so it is not possible to overdose.

RECTUS SHEATH CATHETERS

A very fine catheter is placed on either side of the wound during surgery. A local anesthetic is injected into the catheters which provides pain relief to the abdominal muscles and skin.

INTRAVENOUS (IV) PAIN RELIEF

If needed, pain relief medicines can be given through your IV drip. You may be given a button to push so you can control the amount of pain relief you are given. This is called a PCA (patient-controlled analgesia). Like the epidural, the pump is programmed to deliver the correct amount. For a set time after each dose, it will not deliver another dose, so it is not possible to overdose.

ORAL PAIN RELIEF

When you can drink, you may be given pain relief by mouth (e.g. tablets). Your pain relief will continually be assessed and managed. It is important that your pain is controlled. If you are unable to breathe deeply and cough after the operation without it hurting, you could develop a chest infection. Please let the staff know how you are feeling so they can help you.

Nasogastric (NG) Tube

You may have an NG tube in your nose, which goes into your stomach. This tube can make your throat feel sore. The nasogastric tube can be removed at the end of the operation or the morning after surgery. It will only be kept in if required.

Drain

A closed suction drain is placed at the time of surgery and usually removed once you are tolerating a regular diet, provided there is no pancreatic leak. The fluid in the drain will be routinely tested to determine if there is a pancreatic leak. If a pancreatic leak is present, and you are ready for discharge, you may go home with the drain in place and it will be removed in the outpatient setting.

Urinary Catheter

You will have a tube to drain the urine from your bladder. This will be removed once your epidural has been removed and you are able to move to the toilet.

During your stay, your drips and drains will be removed and certain monitoring discontinued. This shows your improving condition and readiness to be assessed for discharge.

Eating and Drinking

After the operation, the surgical team will review when you can have something to drink. This timeframe could be longer with different surgeries. A diet can be initiated within the first 24 to 48 hours after surgery. Once your surgeon is happy that you are healing well, you will be allowed to slowly start drinking and gradually increase to include food.

It may take some time for your appetite to return to normal. You will need to eat smaller amounts more frequently to prevent discomfort.

Mobility

The physiotherapist and/or nurse will aim to get you up into a chair from the first day after your operation. You will then be assisted to walk a short distance with your level of activity increasing as you recover. Walking regularly is important for your recovery and to prevent post-operative complications such as blood clots and lung infections.

Emotions

It is common to feel emotional during your recovery period. When you are feeling down it may help to talk to someone about it, including your family/whānau and close friends, doctor or nurse. It can also help if your family/whānau and close friends understand that it is not unusual for patients to feel down at times after an operation. If you feel overwhelmed, please talk to your doctor or nurse so that they can help you.

Possible Complications of the Surgery

All surgery has potential complications. Your surgeon will discuss the main possible complications with you, including the following:

Pancreatic leak

It is possible that pancreatic juice can drip internally into the abdomen. The drain that is placed into the abdomen during surgery will remove any leakage. In a very small number of patients, another operation may be necessary to repair a leak.

Stomach emptying

After surgery, it may take time for your stomach and bowel function to return to normal. For example, the stomach may take longer to empty its contents into the intestine. If you have problems tolerating food or progressing your diet, a dietician will work with you to make sure you are still able to get enough nutrition.

Chest infection

Please take the time to familiarise yourself with the breathing exercises given to you to reduce the chance of a chest infection after your operation. If you smoke, stopping now will help reduce the chance of a chest infection after surgery.

Blood clots

Please take the time to familiarise yourself with the leg exercises given to you to reduce the chance of a blood clot after surgery.

Wound infection

Any surgical wounds have a chance of becoming infected and great care is taken to minimise this risk. Stopping smoking at least two weeks before surgery has been shown to reduce wound infection rates.

Possible long-term consequences

There are some potential longer-term consequences. You may or may not experience any of these.

Malabsorption

Removing part of the pancreas will decrease the production of enzymes that are needed for the proper digestion of fat, carbohydrates and protein. In most people, the remaining pancreas will adapt and you will not notice any change. However, malabsorption of fat can lead to pale, loose bowel motions that are greasy and tend to float.

If you do have any symptoms of malabsorption your dietician or doctor may prescribe a long-term pancreatic enzyme supplement (Creon) to take with food. You will be advised on how many to take to begin with and will adjust the amount you need based on what food you eat. For example, a large portion of a high-fat meal may require a higher dose of Creon. You will know you are taking the right amount of Creon if your bowel motions return to normal and are easier to flush, as well as having less wind and no pain on eating.

Weight loss

It is common to lose weight in the recovery phase after surgery, with some people losing between 5-10% of their initial body weight. After a few weeks, the weight usually stabilises. While everyone is different, most people will maintain their weight or gain some weight back in the months following surgery. The dietician can give you advice if you are concerned about weight loss and may recommend high-calorie foods or nutritional supplements.

Diabetes

After the surgery, the remaining pancreas may not produce enough insulin to regulate blood sugar levels (Type 1 diabetes). This is more commonly seen in people who are likely to develop diabetes in the future even without the surgery.

Splenectomy

The spleen is a small organ inside your left rib cage, just above the stomach and near your pancreas. The spleen is connected to the blood vessels of the stomach and pancreas. It is part of the immune system that helps protect you from infection.

If part of your surgery is to remove your spleen, then you will need to have a splenectomy vaccination, and antibiotics post-surgery.

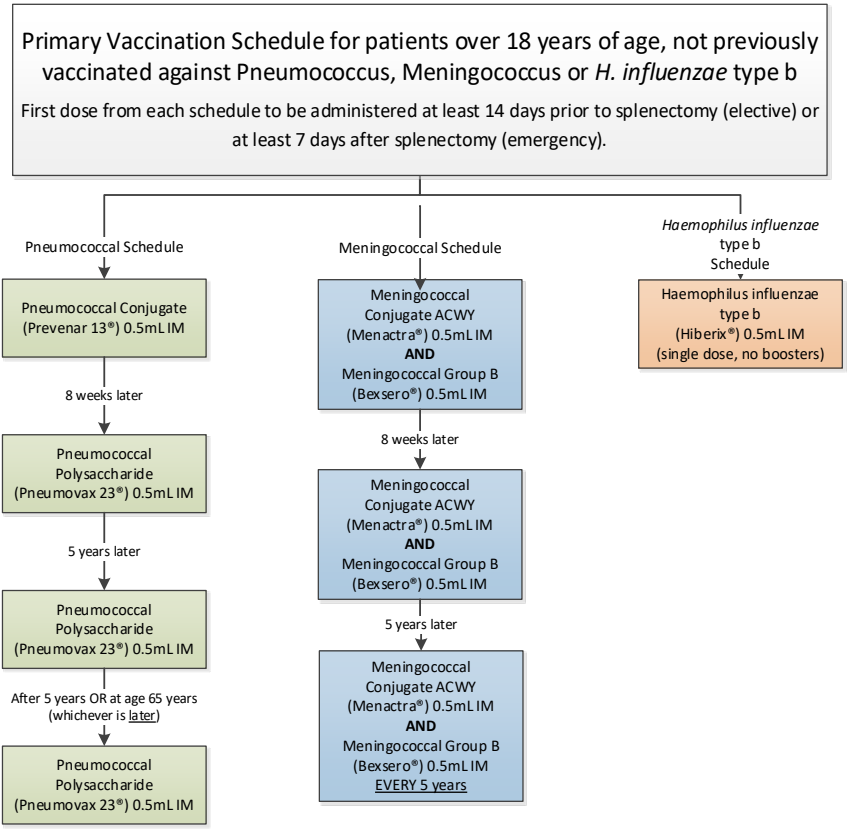
For elective surgery, the vaccination should be done at least 14 days before surgery or at least 7 days after splenectomy. Please contact your GP to have this organised.

Upon discharge, you should have a prescription for daily antibiotic prophylaxis and stand-by antibiotics.

More detailed information about the vaccination and antibiotics is provided on the following page.

Splenectomy – Vaccination and Antibiotic Prophylaxis Guide

Splenectomy Vaccine Guide



The first dose from each schedule should be administered at least 14 days before surgery or at least 7 days after for emergency cases. The first dose of all recommended vaccines should be administered on the same day, wherever possible, using different administration sites. The subsequent doses can be administered following the above flowchart.

Antibiotic Prophylaxis

Daily Antibiotic Prophylaxis

Antibiotic prophylaxis is a preventive measure that aims to reduce the risk of S. pneumoniae infection.

Daily antibiotic prophylaxis is recommended for all patients after splenectomy and you should have a prescription for this on discharge.

Recommended PO antibiotic prophylaxis:

- Amoxicillin 250mg once daily *or*
- Phenoxymethylpenicillin 250mg twice daily

In patients with penicillin allergy:

- Roxithromycin 150mg once daily *or*
- Erythromycin ethylsuccinate 400mg once daily

Duration of Prophylaxis

The minimum recommendation for all adults is for at least 3 years after splenectomy.

As per Spleen Australia, lifelong prophylaxis should be considered in selected patients with the following high-risk features:

- Immunosuppression
- Previous episode of severe sepsis
- Haematological disorder or malignancy necessitating splenectomy (especially if ongoing immunosuppression)
- Conditions that may impair the immune response to standard vaccination e.g. HIV infection

Stand-by Antibiotics

You should have an emergency antibiotic supply irrespective of prophylaxis and always have it available and carry them when you are travelling in the event of any sudden onset of unexplained fever, malaise, chills or other constitutional symptoms.

Stand-by antibiotics are only a temporary measure and urgent medical attention should always be sought.

Recommended stand-by PO antibiotics:

- Amoxicillin 3g as a single dose followed by 1g three times a day

In patients with penicillin allergy:

- Roxithromycin 300mg once daily

Patient Information Sheet

Patient name: _____

NHI (hospital number): _____

Date of splenectomy: _____

You have been given this information because you do not have a functioning spleen – this may be because of an operation that was done to remove your spleen or because of a medical condition which means that your spleen does not work properly. The spleen is an organ in your abdomen. It helps you fight infection, get rid of old or damaged red blood cells and store blood for your body. You can live without a spleen but this puts you at higher risk of certain types of infection. To help prevent you from developing infections in the future, you have been given the following vaccinations:

Vaccine	Frequency	Date
Pneumococcal conjugate vaccine (Prevenar 13®)	Once at the time of splenectomy	1……
Pneumococcal vaccine, polyvalent (Pneumovax-23®)	3 vaccinations in total: 8 weeks after Prevenar 13® 5 years later 5 years later, or at age 65 (whichever occurs later)	1…… 2…… 3……
Quadrivalent meningococcal conjugate vaccine (Menactra®)	At the time of splenectomy After 8 weeks Every 5 years thereafter	1…… 2…… 3…… 4…… 5……

Multicomponent recombinant meningococcal group B vaccine (Bexsero®)	At the time of splenectomy After 8 weeks Every 5 years thereafter	1…….. 2…….. 3…….. 4…….. 5……..
Haemophilus influenza type b (Hib) vaccine (Hiberix)	Once at the time of splenectomy	1……..
Influenza (inactivated) vaccine	**Every year**	Last flu vaccine date: 1……..
COVID-19 vaccine	As per Ministry of Health guidance	

It is important that you **go and see a doctor IMMEDIATELY** if you have any of the following symptoms:

- Fever, chills
- Abdominal pain
- Skin rash, swelling, redness or infection
- Diarrhoea
- Achy or weak feeling
- Cough
- Vomiting

These are signs that you may have an infection. You have been given a prescription for 'Standby Antibiotics'. These antibiotics are for you to keep at home. You should start taking this course of antibiotics immediately if you are unwell with signs of infection. Without a working spleen, a small or minor infection may become very serious. Your doctor may decide to stop or continue your antibiotics once you have been reviewed.

Always check with your doctor before any dental or invasive procedures as you may need antibiotics before the procedure. Seek medical advice if

travelling to a malarial-prone area. Seek medical attention immediately in cases of animal bites or human bites.

The effect of the vaccine may vary, depending on the strength of your immunity and the vaccine. You will need re-vaccination for the rest of your life. You should make sure your doctor has a copy of this information sheet so that they can help remind you when it is time to be re-immunised.

Consider a medical alert bracelet. Refer to www.medicalert.co.nz for more information.

If you have any questions, please discuss them with your doctor or pharmacist.

Discharge/ Follow-up

At the time of your discharge, you will be told when you will have a clinic follow-up and the booking clerk will send you an appointment letter. Please don't hesitate to contact the Clinical Nurse Specialist (CNS) if you have any questions or concerns between your appointments.

Alteration in diet

It may take some time for your appetite to return to normal.

- Start by having "little and often" – aim to have 5-6 small meals and snacks each day.
- At first, you may find naturally soft/soft-cooked foods easier to eat until you get back to having your usual foods.
- Include high protein foods as they will help with wound healing and help maintain your muscles. High protein foods are meat, fish, eggs, dairy (or non-dairy alternatives such as soy) or tofu with all of your meals, and eat the protein part of your meals first.
- Aim to gradually increase the amount you eat until you are back to eating your normal meal sizes.

If you have any ongoing concerns regarding weight loss or your eating and drinking speak to your specialist team about a referral to a Dietitian.

After You Go Home

You will feel tired and weak for a few months however it is expected that you will continue to feel stronger over this time. Light physical activity and regular walks, several times a day, are encouraged. It is recommended that you gradually increase your activity, taking the time to rest often, until you are back to your normal level of activity. Many patients have reported that it has taken up to a year to feel completely recovered. Sexual activity may be resumed when you feel comfortable doing so.

You may also have times when you are feeling down or worried. If you start to feel concerned about your mood, please talk with your family doctor or clinical nurse specialist. They will be able to refer you for some extra support.

The operation and recovery period can also be a stressful time for both patients and families/whānau. Your family/whānau and support people are also able to contact us for support.

Please avoid lifting anything heavy for at least six weeks after your surgery. You may start driving once you are confident that you can brake quickly in an emergency without discomfort. Some pain medicines cause drowsiness and may alter your driving responses. Some insurance companies may not cover you in an accident for up to six weeks following surgery. Please check this with your insurance company and talk with your doctor or pharmacist about the side effects of your medications.

You may notice some numbness and tingling feeling around your wound. This is because the nerves that are cut during the surgery are slow to heal and make the area more sensitive. It can take up to twelve months for this to settle.

You may be able to return to work 6 weeks after your surgery, depending on the type of work you do. Please consult your specialist team about this.

The UGI team wishes you well with your recovery.

Useful contact details

North Shore Hospital

0800 80 93 42
(09) 486 8900

Ward 4 ext 42684

Ward 8 ext 42673

High Dependency Unit
ext 43728

Patient Enquiries

(09) 486 8900 ext 42430

Dietitian / Nutrition service

(09) 486 8900 ext 43556

Māori Health Services – Mo Wai Te Ora

(09) 486 8900

Pacific Health Services

(09) 837 8836

Asian Health Support Services

(09) 486 8314

(09) 486 8900 ext 42314 / 43863

Social Workers

(09) 486 8920 ext 43271

Chaplain

(09) 486 8900 and ask to speak to the Chaplain on call

Cancer Society

0800 CANCER (0800 226 237)

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Health New Zealand
Waitematā

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