

Te Whatu Ora
Health New Zealand
Hauora a Toi Bay of Plenty

Laparoscopic Gastric Sleeve Procedure

A HANDBOOK FOR PATIENTS AND THEIR WHĀNAU



Welcome to hospital

This book belongs to:

Name _____

National Health Index – your hospital number _____

Your contacts:

Doctor (GP): _____

Medical Doctor
(Physician): _____

Psychologist: _____

Surgeon: _____

Dietitian: _____

Clinical Nurse
Specialist (CNS): _____

Diabetic Clinical
Nurse Specialist: _____

Please bring this book with you every time you come to hospital.

Let's P.L.A.N. for better care

Four steps for your next health care visit



P
REPRE
FOR YOUR
VISIT

L
ISTEN
AND SHARE

A
SK
QUESTIONS

N
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DOWN WHAT
YOU NEED
TO DO NEXT



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Introduction - Māori translation

Ko enei kete korero kei roto i tenei pukapuka, i waihangatia mai hei whakawhanake kia awhinatia, kia whakaritea mou mo te pokanga o tou tinana. Ma roto i enei kororeroro, e whakatu mai ana i mua, i muri i te pokanga, a, i muri iho i tau nohoanga ki roto i te hohipera, a, kia awhinatia mai koe kia pai ai tou orangatonutanga me ona huringa mou i muri iho i tou pokanga.

Kia ata panuitia, kia ata haere, kia marama ai, kia mohio ai koe ki enei maramatanga kua hoatungia ki a koe. Kia matua mohio ai koe, ko te whainga ahoaho kia taea e koe te ata marama hohonu ai enei maramatanga, ā, ma matou koe e arataki, e whakautu āu patai ranei, mehemea he patai āu. He nui nga wahi mou ki te tuhituhi ki roto i tenei pukapuka, mehemea he patai āu tuhia ka whakahautia koe e matou kia penei rawa kia maumahara ai koe ina ka haere koe ki te matanga pokanga.

Kia maumahara koe koinei te timatatanga mai mo tou haerenga, kia u, kia mau, a, kia takina te wero, ma te korero pu ka mohio, ma te maramatanga ka marino te haere he nui nga hua ka puta hei oranga mou.

This information booklet has been developed to help prepare you for your weight loss surgery. It discusses what you can expect before, during and after your stay in hospital, and helps you with the lifestyle changes you need to make after surgery.

Please take the time to read and understand all the information given to you. It is important that you give yourself adequate time to process all the information and we are happy to answer all questions that you may have. There is plenty of space throughout this book for you to write questions down, and it is suggested that you do so, in order to remember the questions when you see your specialist.

Remember this is the beginning of a challenging journey and it is important that you are well prepared with information, and are determined to progress well.

Weight loss surgery

Weight loss surgery (often known as Bariatric surgery) is usually recommended when efforts with diet, exercise and medication have not been successful. This surgery is also recommended if there are worsening health conditions associated with obesity (excess weight). These health conditions may include heart and artery disease, asthma, high blood pressure, type 2 diabetes, obstructive sleep apnoea and psycho-social problems, or other conditions. Many of these obesity related conditions can be either completely resolved or very much improved.

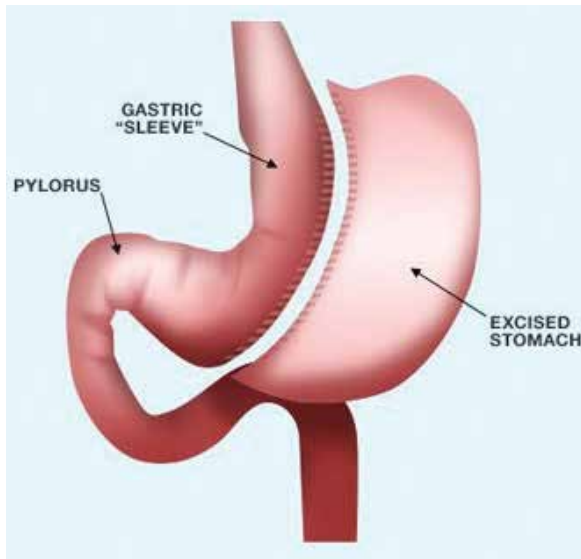
Weight loss surgery reduces the risk of death from obesity. Surgery is not a quick-fix cure, and weight loss still depends on healthy eating and exercise.

In Tauranga Hospital the surgery that is offered is called a Laparoscopic (keyhole) gastric sleeve procedure.

What is a 'Laparoscopic gastric sleeve' procedure?

Laparoscopic gastric sleeve procedure is a relatively new restrictive weight loss procedure. It involves reducing the size of the stomach from a sac to a narrow tube. Weight is lost because there is an earlier feeling of fullness after eating due to the smaller size of the stomach. Also, some appetite stimulating hormones normally produced by the stomach, are reduced by the procedure. Apart from this change the stomach digests calories and nutrients in an almost normal way.

The surgery greatly reduces the size of the stomach by changing it into a long tube. The stomach is stapled along its length, and the excess stomach is permanently removed.



Laparoscopic or keyhole surgery involves several very small incisions rather than open surgery, which uses one large incision. Harmless carbon dioxide gas is introduced into the abdomen, inflating it, and creating a space for the surgeon to work. The surgeon introduces a long narrow camera and surgical instruments, and uses these to perform the procedure.

Keyhole surgery has many advantages, including less pain, a shorter hospital stay, and a quicker recovery. There is also a reduced risk of wound infection or hernias. If for some reason your surgeon can not complete the procedure laparoscopically, he can convert to the open procedure safely. The chance of this occurring is low, and would only be done in your best interests.

Most patients achieve good to excellent weight loss results following this surgery; typically this can be 50-60% of excess weight. Patients lose most of their excess weight in the first year and can lose more weight over the next 6 to 12 months. Weight will usually stabilise after this. There can be some weight regain, but this is usually minor and is very dependent on you following the post-operative diet and exercise instructions.

The surgery generally takes about 2 hours and then you will spend some more time in the recovery room as you gently wake up from the anaesthetic.

There is no amount of weight loss that is guaranteed



What complications (risks) can occur?

This section is not meant to frighten you, but help you to make an informed decision on whether to have a Laparoscopic Gastric Sleeve procedure. When planning to have surgery, your biggest concern should be the final outcome. Will your life be improved by the procedure or do the risks outweigh the rewards? No surgery is risk free, but understanding the possible complications can help you make a better decision.

Most problems that can occur after this surgery are relatively minor and do not have a long-term effect on your recovery. Some complications may be more significant and require a longer hospital stay and recovery period.

Antibiotics at the time of surgery, deep breathing exercises and early mobilisation after surgery, are some of the measures taken to reduce the risks of these complications. Precautions are taken during surgery and your hospital stay to minimise risks, but there remains a chance that you could develop a complication, which in rare cases can cause death.

During Surgery

Your surgeon may need to make a larger incision because of technical difficulties with the keyhole surgery approach. This should not significantly alter your recovery from surgery. There are risks with any abdominal surgery using keyhole surgery instruments. These risks could be an accidental injury to the bowel or any closely related organs, such as the pancreas, spleen or liver.

After surgery

Infection:

- Possible infection sites include chest infection (pneumonia); Urinary tract infection; Infection of the keyhole incisions, or deep within the abdomen, and can include pancreatitis.
- Antibiotics used during surgery can cause inflammation of the colon (colitis).
- Severe infection can lead to prolonged hospital stay and further surgery.

Bleeding:

- This may either require a transfusion or return to the operating theatre (there is more information on blood transfusion on page 25).

Allergic reactions:

- To medication, anaesthetic agents, or prosthetic devices.

Constipation:

- Due to anaesthetic, reduced mobility and changed diet.

Nerve or muscle injury:

- Due to positioning during surgery, or related to intravenous and arterial lines.

Blood clots:

- Can occur in the lower leg (deep vein thrombosis, or DVT) or in the lungs (pulmonary embolus).
- There is a small risk of developing DVT following surgery.
- When detected, the treatment may involve blood thinning injections, followed by a course of tablets.

Leak:

- From the staple line.

Stroke:

- Heart attack or abnormal heart rhythm.

Respiratory failure:

- The inability to breathe adequately after surgery.
- This may require support for breathing in an intensive care unit.

All surgeries whether planned or urgent, carry a risk of death.

In the longer term

Troublesome symptoms may include abdominal pain, a change in bowel pattern, tiredness, bloating, nausea or vomiting.

Narrowing at the middle of the stomach (Hour Glass Stomach) may require stretching with a balloon, or rarely, further surgery may be required.

Excessive or inadequate weight loss is likely a consequence of not following the advice after surgery and seldom requires further surgery.

Dehydration or imbalance of body salts is usually from inadequate fluid intake, and does not usually require admission to hospital.

Inflammation of the remaining stomach or oesophagus may occur.

Gallstones can form during rapid weight loss, and may require surgical removal of the gallbladder.

Hernias (muscle weakness) may occur at the site of the incisions.

Psychological problems can include depression, adjustment disorder, relationship difficulties and rarely suicide.

Liver disease or failure can occur if there is underlying liver damage that is worsened by weight loss or surgery.

Hair loss from protein malnutrition may occur.

Vitamin deficiencies – Commonly, symptoms will not appear until sometime after surgery, even several years. After a Gastric Sleeve procedure, you will need to take vitamin supplements for the rest of your life. Some people need to take iron or calcium supplements as well. Failure to take these can have significant health consequences. If you become anaemic, you may require a vitamin B12 injection.

Before coming in to hospital

The pathway to your weight loss surgery Who you need to see and what they will do for you

You have an appointment with a dietitian and Clinical Nurse Specialist.

The dietitian completes an initial dietary assessment and provides dietary information about pre-operative and post-operative expectations for your surgery.

You have an appointment with a psychologist.

The psychologist will discuss the impact of obesity and the changes required after surgery on your mental and emotional health, and offer support and coping strategies.

You have an appointment with a medical doctor.

The medical doctor (physician) will do a full medical assessment, including possible non-food related causes of obesity and also assess medical conditions such as diabetes and thyroid function.

You have an appointment with a diabetes specialist nurse if applicable (you have Insulin dependent diabetes).

The diabetes specialist nurse will see you if you have type-2 diabetes and will provide support and advice to manage your diabetes and medication as you are preparing for, and recovering from your surgery.

You have an appointment with a surgeon and a decision is made to go ahead with the surgery.

The surgeon will review the medical and psychiatric assessments and assess whether surgery is right for you. If you are accepted for surgery, you may be placed on the waiting list, or a further follow up appointment may be arranged.

You have a pre-assessment clinic appointment to see a nurse and anaesthetist.

The pre-assessment nurse provides information about your preparation for, and admission to hospital.

The anaesthetist assesses your general fitness for surgery, provides information about your anaesthetic, and advises of medication to take on the day of your surgery.

Admission will be on the day of surgery for a hospital stay of 2-3 days

Your appointments before surgery

You must attend these appointments. Use this table to keep a record of your appointment times.

Who	Where	Appointment Date	Time
Dietitian and Clinical Nurse Specialist	Outpatient Department at Tauranga Hospital		
Psychologist	Level 2 Tauranga Hospital		
Medical Doctor (Physician)	Outpatient Department at Tauranga Hospital		
Diabetes Specialist Nurse (if required)	Outpatient Department at Tauranga Hospital		
Surgeon	Outpatient Department at Tauranga Hospital		
Pre-assessment nurse and Anaesthetist	Pre-assessment unit on the first floor at Tauranga Hospital		
Admission for surgery	Surgical Admission Unit on the first floor at Tauranga Hospital		

What do I need to do to prepare myself for surgery?

Once you have committed to undergoing weight loss surgery, it is essential you start to make changes to your diet and lifestyle.

Creating small changes over time can help you to form new habits, making it easier to sustain these changes for life. You may find it helpful to perform a “stock take” of your current eating habits, by writing a food diary for a week. Recording everything that you eat and drink, including portion sizes and volumes, will help you see where your areas of concern are. You will then be able to highlight just one area where you can improve or change, before moving on to the next. These small changes can make a big difference over time.

We have included a four day food diary on the following pages for you to complete if you wish.

This remains your record, and does not need to be shared with anyone. It will allow you to monitor your steady progress, and may be a helpful tool to look back on, to see changes that you have made. You may find it helpful to download a diet and exercise app onto your smartphone. “MyFitnessPal” is one of the most popular diet tracking apps and is free to download.



You can also set yourself some goals. These may be nutritional or exercise goals. An example of an exercise goal is to walk for 5 minutes a day, or walk a certain distance, and gradually increase this each week. Remember it is more motivating to exercise with others, so including your family, is one way of being successful in taking up a habit of regular exercise.

Start by following one of these goals below and once you are comfortable with that, you can add another.

- Eat three meals a day – breakfast, lunch and dinner.
- Down size your portion size. Try using a smaller plate.
- Use a healthy plate model – $\frac{1}{2}$ plate vegetables, $\frac{1}{4}$ plate of meat, chicken, fish etc, $\frac{1}{4}$ plate of potato, or rice or pasta etc.
- You can have three small snacks a day. A snack is a piece of fruit OR 2 crackers with a topping OR one piece of bread with a topping OR a pottle of yoghurt.
- Concentrate on quality of food not quantity – high sugar and high fat foods (eg takeaways, pies, lollies and biscuits) are NOT good quality foods.
- Sip on water during the day. You will not be able to drink fizzy drinks after surgery so get used to it now.
- Get into a habit of regular exercise.

Some things you may find helpful:

- Sit at the table to eat your meals. This will make you focus on the food and take notice of what and how much you are eating.
- Take small bites. This will slow you down so that you have a better chance of recognising those 'I have had enough' signals.
- Cut food into small pieces and put your knife and fork down between each mouthful. This will slow your eating and maximise satisfaction with each mouthful.



Daily Food Journal

Meal	Food and drink	Amount
Day 1		
Breakfast		
Lunch		
Dinner		
Snacks		

Daily Food Journal



Meal	Food and drink	Amount
Day 2		
Breakfast		
Lunch		
Dinner		
Snacks		



Daily Food Journal

Meal	Food and drink	Amount
Day 3		
Breakfast		
Lunch		
Dinner		
Snacks		

Daily Food Journal



Meal	Food and drink	Amount
Day 4		
Breakfast		
Lunch		
Dinner		
Snacks		

EAT REAL FOOD



NOT LABELS



WBOP PHO



Before coming to hospital

Take home points before considering Laparoscopic Gastric Sleeve surgery:

It is important that you understand the following expectations before surgery:

- Understand the factors contributing to your obesity.
- You will need to understand how important your medication is, attend appointments, do your medical testing and blood sugar monitoring (*if diabetic).
- Understand the purpose and limitations of your surgery.
- Understand the risks associated with your surgery.
- Be motivated and willing to commit to a lifetime of healthy lifestyle changes, to maintain weight loss goals.
- Show an improved level of physical activity and a change in eating patterns.
- Describe strategies to reduce the speed of eating and portion sizes.
- Have managed to lose weight before surgery, by lifestyle changes.
- Have been a non-smoker for at least 12 months.

Patients not accepted for surgery will return to their GP for on-going care. Your GP may refer you for other medical advice.

Advice for family / whanau and friends:

Weight loss surgery can have a significant effect on family and friends. When someone you care about is going to have weight-loss surgery, there are many things you can do to support them throughout this process.

Become involved, and learn about the operation

- Learning how the operation will affect your loved one can help you to understand, and offer support to them. Join them at appointments and support groups, and research information together.

Be prepared to make life changes yourself

- This may include joining your family member in exercise - go for a walk, bike ride, or swim. Join a gym, or take an exercise class together. You might choose to start new eating habits together. Making lifestyle changes can benefit the whole family, leading to a better quality of life, and improved health.

Respect your loved one's new eating habits.

- Ensure the fridge and pantry contains only healthy food options. Don't accidentally sabotage their efforts, by giving them a box of chocolates as a gift, or by tempting them with food ("a little bit won't hurt you"). Encourage them to stop eating when they say they are full.

Celebrate in different ways.

- People celebrate and socialise with food. Talk about other ways to show your loved one you care, that don't centre on food. What they would like as a gift to help them celebrate? Plan other events, such as enjoying family activities together, travel, starting new projects around the home, or learning a new hobby.

Be aware that the relationship may change.

- Significant changes in weight can affect people's energy levels, self-esteem, confidence, and motivation, opening doors to a new lifestyle. Change can be unsettling however, and this can create

tension in the marriage or friendship. You may feel you are “losing” someone, and the new version is someone you don’t really know. It may raise your own insecurities, or you may fear they will outgrow their relationship with you, due to their lifestyle changes.

Keep talking about how this affects both of you, and attend support groups. Don’t hesitate to seek counselling.

Keep a positive attitude; offer encouragement, praise and support.

- Remember, the person you care about is going through major lifestyle changes, which can be very stressful and emotional. Supporting them during their successes will be easy, but it is just as important to be there when they are struggling. Praise their success, and support them when they have setbacks, without being judgemental or critical.

Having a family member or friend who has had weight loss surgery can be challenging for you too. It can mean changing your lifestyle as well, which can bring new stresses.

Remember to take care of yourself, and don’t be afraid to ask for help if you have problems coping with these changes.

Pre-assessment clinic / Anaesthetic

The pre-assessment nurse will ask you about your general health, medical history, previous anaesthetic, and if there were any problems.

It is important that you are assessed prior to your operation to minimise the risks associated with your surgery. This appointment usually takes place soon after you have seen the surgeon in the clinic.

The anaesthetist will discuss your general health, the types of anaesthetic and pain relief that can be used and their risks and benefits. Consent for your general anaesthetic will be obtained at this time.

A record will be made of any family history of anaesthetic problems, medicines, pills, inhalers or alternative medication that you use. Check will also be made and recorded on allergies, smoking, alcohol and whether you have any loose, capped or crowned teeth. You may have investigations such as blood tests, a heart trace (ECG), urine tests and X-rays. This helps your anaesthetist consider any medical problems which may either affect the risks to yourself, or the likelihood of complications from the anaesthetic or surgery.

The operation will not go ahead until you understand and agree with what has been planned for you. You have the right to refuse if you do not want the treatment suggested, or if you want more information or more time to decide.

The pre-assessment nurse will give you time to ask questions about any possible problems, and give advice and education on your hospital stay, and activities following your surgery.

Consent

You will need to sign a consent form that says you agree to the operation and the collection of specimens and technical data. A full explanation of the surgery and risks should be given to you before you sign the consent form.

You will usually meet your anaesthetist on the day of surgery, prior to your surgery. They will answer any further questions you may have.

General anaesthesia produces a state of controlled unconsciousness during which you feel nothing. You will receive anaesthetic drugs, strong pain relieving drugs, oxygen to breathe and sometimes a drug to relax your muscles. You will need a breathing tube in your throat once you are unconscious, and will be put on a breathing machine (ventilator) during your operation. When the operation is finished the anaesthetic is stopped and you regain consciousness.

Advantages

You will be unconscious during your operation.

Risks

Common side-effects (less than 1 in 100) include headache, sore throat, feeling sick or vomiting, dizziness, bladder problems, damage to the lips or tongue, temporary confusion or memory loss, aches and pains and bruising/soreness.

Uncommon side-effects (less than 1 in 1000) include chest infection, muscle pains, damage to teeth, becoming conscious during your operation, slow breathing and existing medical conditions getting worse.

Rare side effects (less than 1 in 10,000+) include damage to the eyes, serious drug allergy, nerve damage, equipment failure, heart attack, stroke or death.

Pain is not normally very troublesome after this procedure. Occasionally, the gas used to inflate the stomach can cause pain in the shoulder tip, but this rarely lasts long and is easily controlled. Any nausea and vomiting can be managed with medication.

Blood products

There is a small risk that you may need to have a blood transfusion. A transfusion of blood or blood products is only given when the benefits outweigh the risks.

You have the right to decide whether you want to have the treatment or not. You can ask as many questions as you need, to ensure you are making the right choice.

You will be asked to sign a consent form to show that the benefits, risks and alternatives for your treatment, including transfusion of blood products, have been explained to you. The consent form will confirm that you have been able to ask any questions and that you agree to receive the treatment.

If you refuse to have the transfusion when needed, the risks to your health are likely to increase.

Further information about blood transfusions can be found at: www.nzblood.co.nz

The contact for the Tauranga Hospital Liaison Committee for Jehovah Witnesses is Clarence Ririnui and he can be contacted on 07 572 3462 or 027 776 4898.

Instructions for taking your medication prior to your surgery

Your medicines have been reviewed and you should follow these instructions prior to your surgery date.

STOP these medication before your surgery	
	
Take the following medication on the morning of your surgery	
	
DO NOT TAKE the following medication on the morning of your surgery	
	
Other Instructions	

Preparing for your discharge home from hospital

It is important to consider how you will manage your care in your home once you are discharged from hospital. It is important to start planning now.

Before you come to hospital organise your daily living needs in preparation for your return home. As an example, you can prepare small pureed meals and freeze them.

Please make plans for someone to drive you home from the hospital.

This list will help you prepare for your return home:

- Arrange for someone to take me to hospital.
- Arrange for someone to take me home on the day I am discharged.
- Arrange for someone to stay with me for a few days after discharge (if I live alone).
- Tell family, friends and/or neighbours about my operation.
- Organise family/friends who are willing to help with chores/housework.
- Cook extra meals and freeze them.
- Buy extra groceries and/or arrange for someone to do my grocery shopping.
- Organise someone to look after my pets.
- Pack ALL my medication/herbal products/alternative medication and supplements.

Preparing for your hospital stay

Smoking and your lungs

We strongly advise that you try to avoid getting chest infections (stay away from people with coughs and colds) and give up smoking. Continuing to smoke doubles your risk of complications. These complications can compromise wound healing, and can add to the risk of a leak developing from the stomach staple line.

If you need help to quit smoking, please contact resources such as your Doctor (GP) or Quitline (0800 778 778) www.quit.org.nz or www.health.govt.nz/tobacco

Te Whatu Ora Hauora a Toi Bay of Plenty has a “No Smoking” policy onsite and throughout hospital grounds.

Alcohol and drugs (such as Cannabis and P)

We encourage you to minimise your drug/alcohol consumption prior to and after your surgery. Drug/alcohol consumption significantly increases the risk of complications and compromises healing. It can also affect your anaesthetic and pain relief requirements.

Exercise

It is advisable to remain as active as possible leading up to your surgery, to strengthen your muscles and speed up recovery.



What to do if you become unwell

It is important we know if you have any of the following:

- A cold or cough.

- Skin infections – such as a sore, graze, pimple or eczema, especially around your operation site.
- Burning pain or passing urine more often than usual.
- You are generally unwell - such as diarrhoea, vomiting or high temperature.

For your safety it is important that we know about any of the above prior to your operation. You will receive a phone call from the Surgical Admission Unit two days before your operation day to check whether you are well.

If you do not receive a call and you are unwell please phone the hospital where you are having your operation and ask to speak to someone in the Surgical Admission Unit, Tauranga 07 579 8000

What do I bring to hospital?

- CPAP (Continuous Positive Airway Pressure) - If you currently use CPAP, please bring your machine with you to hospital.
- Medication - Bring in all medication including over the counter and herbal medication. Don't stop any medication unless told to do so by your anaesthetist or surgeon.
- You should leave valuables at home (eg; jewellery, bank or credit cards etc.) Te Whatu Ora Hauora a Toi Bay of Plenty does NOT take responsibility for stolen items.
- You may bring something to read.
- Night clothes, easy to wear day clothes, shoes or slippers, toiletries.
- You may also bring your own pillow which will make your hospital stay more comfortable. Please make sure your pillowcase is not blue or white (these are hospital colours).
- Please name your personal belongings.
- Mobile phones may be used on the ward, but please be considerate of other patients.

In hospital

While in hospital it is important that you are able to answer these 4 questions. Please ask any of the staff if you are unsure of the answers.

- 1. What is wrong with me?**
- 2. What is going to happen today/tomorrow?**
- 3. What needs to be achieved to get me home?**
- 4. When is this going to happen?**

The day of admission and surgery

You will be admitted to hospital on the morning of surgery. It is understood that you will have had a thorough shower using the chlorhexidine body wash (provided at your pre assessment visit) prior to your admission. If you have any further questions for your surgeon or anaesthetist please write them down in this book and bring them with you to hospital. Your operation will be in the morning and you should not eat or drink from midnight.

During the admission process, your surgeon, anaesthetist, admission nurse and theatre nurse will see you. This will mean that different people ask you the same questions. This is a safety issue, and although it can be frustrating, it is important. Use this time to ask any questions that you may have.

Once you have been admitted and changed into your theatre gown and stockings to prevent leg clots, you will wait in the preoperative area until theatre is ready. A final check between the theatre staff and the admission staff takes place before you are taken into the theatre. If you currently use CPAP, your machine will be sent to the recovery room to be used after your surgery is finished.

You will move onto the theatre bed, which is narrow and firm. A blood pressure cuff, ECG and an oxygen monitor will be attached to you, so your anaesthetic team can monitor you closely throughout the procedure. Your anaesthetist will place a drip into a vein and

ask you to breathe some oxygen through a plastic facemask. Your anaesthetist will then gently send you off to sleep.

Recovery Unit

You will wake up in the recovery unit with monitoring attached to you. You will have a drip in your arm, a drain (plastic tube connected to a container) into your abdomen, and a naso-gastric tube (plastic tube which drains the stomach, and is inserted through the nose while you are asleep).

Once you are awake and comfortable you will be transferred to the High Dependency Unit (HDU) located on the first floor.

Further post-operative care:

Your nurse will record your vital signs regularly and give medication to control any pain or nausea.

You will be encouraged to do deep breathing exercises to keep your lungs healthy. You will have compression stockings on and a FlowTron machine (inflatable stockings), to help prevent blood clots. Early mobilisation is also good for clot prevention, so you will be encouraged to move into a chair in the evening after surgery.

You can start to suck on ice chips or take sips of water on your first night. You will also be able to continue to take your usual medication.

The first day after your surgery

You will usually be ready to move to the ward on the day after your surgery. You will be encouraged to drink slowly, aiming for 1 litre of fluids over the day. After this your IV fluids (drip) can be removed. Do not try to hurry this. You will gradually build from 30ml to 100ml every hour, starting with clear fluids and progressing to milky fluids. Remember to sip very slowly and steadily.

If you are managing to drink, the naso-gastric tube draining your stomach will be removed. You will continue to be given an anti-clotting injection and wear the compression stockings. Medication

for pain and nausea will continue, and will be given as tablets.

It is important that you get up and move around as soon as you are able, so you will be encouraged to walk around the ward.

Your surgeon and nurse specialist will see you, as will your dietitian and physiotherapist. If required, a social worker or psychologist is available.

Day Two

All your medication should now be taken by mouth, perhaps crushed or in liquid form. Your diet will progress to a puree diet (see nutrition information section). You should aim to slowly drink at least 1 to 1.5 litres of fluids over the day.

Walking will be encouraged, aiming for a minimum of 4 short walks during the day. You will continue to receive an anti-clotting injection, and to wear the compression stockings.

Most patients, if they are progressing well, will be able to go home on this day. Dietary advice on a pureed diet is provided in the nutrition information section. Your drain will be removed if you are going home today.

Day Three

If you did not leave hospital the previous day, preparations will take place for this today. You will remain on very small amounts of pureed diet for 3 weeks (about 100ml per serving), and your drain will be removed. Walking as much as possible, and deep breathing exercises will be encouraged.

Initially patients start on liquids before moving to a pureed diet, in order to allow the stomach to heal. Several weeks after Gastric Sleeve surgery, patients progress to eating three small meals a day. Entree sized meals are enough to produce a sensation of fullness. This makes it easier for patients to limit the amount they eat.

At home

Advice now you are home

You will be given a prescription for medication to be taken after discharge. These include:

- Multivitamins
- Analgesia for pain relief, usually for up to 2 weeks
- Anti-emetic to help with nausea usually for up to 2 weeks
- Anti-acid to reduce stomach acid usually for 6 weeks
- Occasionally you may be prescribed a laxative (such as lactulose) for help with bowel movements.

You should carry on taking your normal medication that you were on before surgery, unless specifically told to stop. Some tablets taken in the first six weeks after your operation may need to be crushed.

If you are a diabetic, you will be advised which medication to continue, reduce in dose, or stop altogether. You should continue to monitor your blood sugar levels. The Diabetes Nurse will advise you as your diet changes, and you reduce weight. The nurse will advise to adjust your medication as required.

We advise you continue wearing your compression stockings for ten days after your operation. This is to reduce the chance of blood clots that can form in the legs (Deep Vein Thrombosis: DVT), and can go to the lungs (Pulmonary Embolism: PE).

Remove the small dressings over your wound sites 3-5 days after discharge. Keep your wound site dry following a shower. Watch for any redness, swelling or discharge. See your GP if any of these occur.

Other considerations

If you have successfully managed to stop smoking prior to your surgery, then you should maintain this after your surgery. Smoking can slow the healing of the stapled edge of the stomach, and cause ulcers and bleeding.

It is also important that you refrain from alcohol after your surgery. The enzyme in the stomach which helps digest alcohol is significantly reduced. If you do want to start drinking alcohol again, do so only in very small amounts. It can have a more potent effect, and contains many non-nutritious calories.

Driving should be avoided until you are completely comfortable and able to move freely. For most people this is in 2-3 weeks.

Aim to exercise at least 30 minutes, 4-5 days a week. This should be continuous cardio type exercise, such as brisk walking, cycling, cross-trainer, aqua jogging or swimming.

You will be asked to obtain specific blood tests each year. Your GP can arrange these, if not arranged at your follow up visits. Other medication, such as iron, calcium, or B12 injections may be prescribed if required.

Follow up appointments

When	Why	Appointment Date	Time
Within One Week	Phone call to check on your progress. Use this call to answer any questions you may have		
Two Weeks	To see your surgeon. Your nurse specialist and dietitian will also see you at this visit		
Three Weeks	Phone call to monitor your progress		
Three Months	To see nurse specialist and dietitian		
Six Months	To see nurse specialist and dietitian. Some patients may find it helpful to see a psychologist at this time		
One Year	To see nurse specialist and dietitian		
18 months	To see dietitian		
2 years	To see dietitian as required		

Nutrition

Before surgery

For three weeks before your surgery you will need to go on the Optifast programme.

Optifast is a total food replacement that:

- is scientifically formulated and nutritionally complete
- contains sufficient quantities of proteins, carbohydrates, vitamins and minerals to meet your body's daily needs
- involves three sachets a day, which we will supply to you.

There are also Optifast soups, bars and desserts, but you will need to buy these if you wish to use them.

Why do you need to go onto Optifast?

When you are overweight you store fat in your liver, which makes the liver large and firm. For the surgeon to be able to perform your surgery, the liver needs to be moved aside. Optifast helps to shrink and soften the liver, which lessens the time of the operation and lowers post operation risks.

Losing weight before surgery will also lower the anaesthesia risks.

What if I get hungry?

In the first few days on Optifast you will get hungry, but this should ease as your body adjusts. The low calorie Optifast programme forces your body to break down your stored fat. When this happens, ketones are produced, which will reduce your appetite. If you eat other foods that are not recommended, the production of ketones will be interrupted, and your food cravings will increase.

If your hunger is unmanageable, you can increase your intake of clear broth (soup), small portions of diet jelly (within reason), or black tea / diet drinks.

How to use Optifast

- Each sachet is mixed with 200mls of cold or warm water.
- Stir, blend, or shake well.
- You can have a maximum of 2 cups of low starch vegetables each day – see the “foods allowed” list as outlined on page 42.



- You need to drink at least 2 litres of calorie free fluid a day.

Water is best but you can also have black tea or herbal tea (ie no milk), diet cordial, mineral water or diet soft drink.

Coffee is a diuretic, which means it can cause fluid loss from your body. You may then become dehydrated, which will cause low blood pressure, dizziness and tiredness. A small amount of coffee can be included, but this should be black, with NO MILK, and only 1-2 cups per day.



- You may need to add a fibre source such as Metamucil or Benefibre to prevent constipation. You can buy these from a supermarket or Pharmacy without a prescription. Use 1-2 teaspoons a day as required.

Tips:

- Use the stock to make a soup with vegetables.
- Use herbs, spices and sauces for flavour.
- Try vegetables for dinner and Optifast for supper.
- Use the shake to make a smoothie, and add the fruit serve to create variety.

Foods allowed				Foods not to have
Fruit: Choose 1 of these a day	1 apple, 1 apricot, 1 cup berries, 10 cherries, 2 feijoas, 1 small grapefruit, 10 grapes, 1 kiwifruit, 1 mandarin, 1 cup melon, 1 small nashi pear, 1 nectarine, 1 x medium orange, 2 passionfruit, 1 peach, 1 small pear, 1 slice fresh pineapple, 2 plums, 5 prunes, 1 cup rhubarb (no sugar), 2 tamarillos, ½cup stewed fruit (no sugar)			All other fruit including banana
Low starch and green vegetables: Two cups a day	Alfalfa sprouts Asparagus Beans Bok Choy Broccoli Brussel sprouts Celery Cabbage Capsicum Carrots	Cauliflower Cucumber Eggplant Garlic Lettuce Leeks Mung beans Mushrooms Onions	Radish Shallots Silverbeet Snow peas Spinach Squash Tomato Watercress Zucchini	Baked beans Beetroot Chickpeas Corn Green peas Kidney beans Kumara Lentils Mixed vegetables Potato Pumpkin
Soups:	Stock cubes	Vegetable soup using allowed vegetables only	Miso soup	All other soups
Sauces and condiments	Lemon juice Lime juice Vinegar Worcestershire sauce	Chilli sauce Soy sauce	Mustard Tomato sauce Tomato paste	Mayonnaise Salad dressing
Herbs and Spices	All herbs and spices			
Miscellaneous	Artificial sweeteners	Diabetic/low calorie lollies and gum	Diet jelly	Nuts Chocolate
Calorie Free Drinks	Water Tea (no milk)	Diet soft drinks Mineral water		Fruit juice Alcohol Milk, Coffee
Meat, chicken fish, eggs, cheese				All meat, chicken, fish, seafood, eggs, cheese, yoghurt and dairy foods are not allowed

Optifast Meal Plan

The Optifast Meal Plan is designed to replace your usual daily food intake. This is a sample meal plan which consists of three serves of Optifast each day. (One serve is one sachet of Optifast milkshake, soup, dessert, or one bar).

Breakfast

One serve Optifast

Tea or coffee (no milk or sugar)



Lunch

Clear broth (if desired)

One serve Optifast

One cup salad/low starch vegetables (from list)

Diet jelly (if desired)

Water/coffee/tea/diet cordial/diet soft drinks

Dinner

Clear broth (if desired)

One serve Optifast

One cup salad/low starch vegetables (from list)

Diet jelly (if desired)

Water/coffee/tea/diet cordial/diet soft drinks

Make sure you include at least ten (10) glasses of water each day

In between meals you can also include:

- Tea (no milk or sugar)
- Sugar free soft drink
- Diet cordial
- Unflavoured mineral water



Drink, Drink, Drink

Things to be aware of while on Optifast

Diabetics on oral medication

If you are a diabetic on oral medication, you will need to monitor your blood glucose levels more closely, especially in the first few days, as your sugar levels will fall. You may need to reduce your medication while you are on the Optifast programme.

Diabetics on insulin

If you use insulin to control your diabetes, you will need to reduce your insulin dosage while you are on Optifast. You will already have been referred to a Diabetes Nurse Specialist, and they will be able to guide you, helping to monitor your sugar levels and insulin doses.

You should be aware of the signs of hypoglycaemia (low blood glucose levels), and know what to do if this happens.



Gall stones

Gallstones can form when there is rapid weight loss, and if there is no fat in your diet. Adding 1 teaspoon (5ml) of vegetable oil to your daily serve of vegetables may stimulate the gall bladder to empty, and help prevent gallstones from forming.

Gout

Rapid weight loss can sometimes lead to high uric acid in the blood, which may bring on an acute attack of gout. If you have previously suffered from gout, make sure you drink at least 2 litres of fluid every day, to help avoid a gout attack.

After Surgery

After Gastric Sleeve surgery you will need to make changes to your eating patterns. The diet progresses from a liquid diet, to a pureed diet, to a soft diet, and then to a modified diet.

This progression is designed to allow your body to heal. It is very important that you follow the diet progression to improve healing and lessen the risk of complications.

Fluid diet

For the first few days you will be guided by the nursing staff. You will start with chewing on ice cubes, and then slowly increase from sips of water and clear fluids, to drinking milky drinks, smooth soups, and tea or coffee.

Your volumes of fluid will also gradually increase, from 30ml every hour, up to 100ml every hour, as you can tolerate. It is important to keep a record of how much you are drinking in these first few days, to ensure you are meeting your body's fluid requirements.



Puree diet

For the first three weeks after your surgery you will progress from a fluid diet to a puree diet. A puree diet puts less strain on the staples in your stomach, and prevents a leak from the staple line. If a leak from the staples occurs, this is extremely serious.

Puree food does not need chewing; it falls off the spoon slowly but will not pour off. It should be smooth, with no lumps present.

You should only have very small amounts of pureed or mashed food ($\frac{1}{2}$ cup at the most). Eating more than this may result in vomiting, or more significant complications, before healing has occurred.

AVOID drinking liquids with meals

(Do not drink 30 minutes before and 30 minutes after eating)

Foods allowed	Foods not to have
Low fat yoghurt	Raw fruit
Milk – low fat or trim	Raw vegetables
Porridge	Bread & crackers
Weetbix –softened with milk or water	Rice
Scrambled or poached eggs	Pasta –unless pureed
Pureed meat, fish, chicken	Nuts
Pureed vegetables	Seeds
Mashed potato –no lumps	Skins
Pureed pasta	Any food which requires chewing
Smooth soups	
Pureed fruit	Butter
Avocado– mashed	Margarine
Cottage cheese	Oil
Cheese—grated in small amounts	Icecream
Low calorie drinks	Cream
Water	Cordial
Herbal teas	Soft drinks
	Jelly

It is important to focus on your protein intake every day, to allow your body to heal well, and to maintain your muscle mass. Try to have protein at every meal, and eat this part of your meal first.

Examples of protein foods include:

- Pureed meat, fish, chicken, and seafood.
- Low fat dairy products such as trim milk, low fat yoghurt, grated cheese.
- Tofu, hummus, and puree baked beans.

Remember these all need to be pureed for the first 3 weeks

Preparing a puree diet

You will need a blender or a food processor. A bar mixer is suitable for small amounts. Blend foods separately so you can still enjoy the flavour.



Cut well cooked food into bite size pieces, and just cover with a suitable liquid.

The liquid you use will depend on the food you are processing. Blend until the mixture is smooth and thick, adding liquid until the required consistency is reached.

Some suggestions would be:

- **Red meats:** These often lose flavour and colour when pureed. Try adding low fat gravy, stock or sauces such as tomato, BBQ, soy, or Worcestershire. These meats can get stringy and tough when blended. Casserole meat purees easier and has built in flavour.
- **Chicken/Pork/Ham/Veal:** These meats are easier to blend. Puree using soups, gravy, or vegetable juices.
- **Fish:** Fish combines well with white sauce. You could use packet sauce for a quick, easy alternative.
- **Eggs:** As eggs are difficult to puree, try making soft smooth scrambled eggs by adding additional low fat milk.
- **Vegetables:** Cook until tender and blend using vegetable water, gravy, or soups. Add a little mashed potato or instant potato flakes to pureed green vegetables, to thicken and improve flavour.

Storing smooth puree meals

Pureed meals can be kept in the fridge for 12 hours, after which time their nutritional value deteriorates.

Alternatively, you can freeze puree into meal sized portions. These can then be thawed and re-heated thoroughly, adding a little extra liquid if necessary.

Meal Suggestions:

These are a few suggestions for meals. Remember, the size of your meals should fit in $\frac{1}{2}$ a measuring cup (125ml). Start with only 3-4 teaspoons of food at a time.

Breakfast:

- Porridge made up with water, served with trim milk and an artificial sweetener if desired.
- $\frac{1}{2}$ - 1 scrambled egg. Whisk one egg with trim milk.
- Fruit and Yoghurt. Puree $\frac{1}{4}$ banana, a few strawberries, or some tinned peach slices. Serve fruit with a few tablespoons of plain yoghurt.
- One Weetbix (moistened with hot water) served with trim milk.
- Smoothie - blend $\frac{1}{2}$ cup trim milk, $\frac{1}{4}$ cup yoghurt and $\frac{1}{4}$ cup soft chopped fruit until smooth.

Lunch:

- Smooth soup such as pumpkin, pureed vegetable, or pureed chicken soup.
- Creamed Rice. Half a cup of tinned or homemade creamed rice.
- $\frac{1}{2}$ - 1 scrambled egg.
- Pureed baked beans.
- Tinned or bottled baby food.

- Complan. Make up a glass of Complan using trim milk. Blend with berries or tinned fruit if desired.

Dinner:

- Steamed fish pureed in a white sauce with mashed potato and pureed vegetables.
- Pureed macaroni cheese – make the cheese sauce with trim milk and a small amount of cheese.
- Pureed spaghetti bolognaise.
- Puree soft lean meat with gravy, or puree casseroles. Add a small serve of mashed potato and pureed vegetables.
- ½ - 1 scrambled egg or omelette.

Snacks:

- Custard made with low fat milk.
- ½ cup of low fat yoghurt or low fat dairy food.
- Pureed fruit.
- Mashed banana.
- Smoothie or milkshake made with low fat milk.

Handy Hints in the first 3 weeks

- Eat three small meals and three snacks for the first three weeks.
- It is normal to be managing only very small amounts at this stage. This may be as little as 3-4 teaspoons each serving.
- Eat slowly! Rest for two minutes between each mouthful. Your meal should take 20-30 minutes to eat.
- Continue with scheduled meal times. Don't be tempted to skip meals, as this can lead to nutritional deficiencies.

You should have 5-6 very small meals every day.

- You can use a high protein drink, (such as a milkshake, smoothie or Optifast) as a snack. This will give you a source of energy, as well as help to meet your fluid needs.
- Avoid fizzy drinks, including diet coke cola and diet lemonade, as the bubbles in your stomach may cause bloating and discomfort.
- Eat your protein foods first to avoid you getting too full to finish your meal.
- Baby foods are useful when travelling or visiting. There are some tasty flavours available.
- Make enough puree for a number of meals, which can then be frozen. This will provide you with a variety of choices, and be more convenient.



Soft diet

At the end of the third week after your surgery, you can gradually add soft foods to your diet, as you progress towards a normal diet.

Continue to have small meals, ½ cup per serving, and choose foods that are high in protein, and low in fat and sugar.



You can start to introduce more solid foods, such as salads and red meat, after a few weeks on the soft diet.

AVOID drinking liquids with meals.

(Do not drink 30 minutes before and 30 minutes after eating.)

Foods to include at each meal

Protein

It is important to include low fat protein at each meal to ensure you maintain your muscle mass, whilst still losing fat stores. Remember to eat the protein part of your meal first.

If there is inadequate protein in your diet, hair loss can become a problem. However, this is usually temporary once corrected.

Breakfast:

- Low fat dairy products, such as trim milk, low fat yoghurt. Serve with cereal, or make into a smoothie.
- Scrambled egg or omelet.

Lunch/Dinner:

- Low fat cottage cheese.
- Tofu, beans (baked beans; kidney beans; chickpeas made

into hummus) and lentils.

- Fish, tinned tuna/salmon, or chicken (with skin removed).
- Lean red meat, well cooked and soft (casseroled is ideal).
- Quiche or frittata made with well cooked vegetables.
- Savoury mince.

Fruit and Vegetables

Avoid hard seeds and pips.

Breakfast:

- Fresh fruit that has been peeled and skins removed.
- Frozen fruit (eg berries).

Lunch/Dinner:

- Fresh, frozen or canned vegetables.

Carbohydrates

Aim for in between 2-4 serves of carbohydrates every day.

One serve is equal to ½ cup pasta or cereal, one slice of bread, or one egg sized potato.

You may not tolerate eating white bread, however you may find toast is manageable.

Breakfast:

- ½ cup of bran based cereal, or cooked porridge.
- One slice of toast using whole grain bread.

Lunch/Dinner:

- Whole grain crackers or cruskits .
- Potato, rice, and pasta – should be eaten in very small amounts only.
- Legumes, such as beans, lentils or chickpeas.

Fluids

Aim for 6 – 8 glasses of fluid per day.

Minimise the amount of coffee, alcohol, or caffeine drinks.

Avoid drinking full strength fruit juices, cordials, and high calorie fizzy drinks, as these contain a high level of sugar.

Fluids include soups, smoothies and milkshakes. Although a good source of protein initially, avoid excessive milkshakes in the longer term.

Know the signs of dehydration - dry mouth, reduced urine output, dizziness. Sip regularly throughout the day to avoid this.

Fats

Use very minimal amounts of margarine and butter.

Avoid cooking foods in oil. Grill, bake, boil, stir fry, or dry roast when possible.

Avoid fatty meats such as sausages, luncheon sausage, and salami.

For more information and healthy eating recipe ideas

Check out these websites:

www.healthyfoodguide.co.nz

www.heartfoundation.org.nz

www.diabetes.org.nz

You don't need to be a diabetic to find the information on this website useful.

There are many hints on healthy shopping and recipes that are of benefit to everyone.

Handy Hints

- Eat slowly, chew all food well, and take your time with your meals. If you try to eat too quickly, or too much, pain and vomiting may occur.
- Avoid drinking liquids with meals. Do not drink 30 minutes before and 30 minutes after eating, or vomiting may occur.
- Between meals, sip liquids slowly, drinking at least ½ cup every hour to avoid dehydration.
- Remember to focus on an adequate protein intake. Protein foods should be eaten before carbohydrate (starchy) foods.
- Avoid high calorie liquids such as fruit juice, soft drinks, cordial, or milkshakes.
- Continue to eat regular meals. You may not feel hungry, but you should still eat 3 meals each day.
- It is important to select nutritious, healthy food options that are low in fat and sugar. This will optimize your continued weight loss, while still providing all the nutrients your body needs.
- After your surgery, you will need to start taking a multivitamin **every day, for the rest of your life**. You will leave the hospital with a prescribed multivitamin, but you may choose to buy a higher quality supplement, such as “Centrum”.
- Because you are eating less, constipation may become a problem. Keeping up with your fluid intake, and occasionally using a gentle laxative will help with this.
- Small amounts of toasted vogels bread can be eaten. Avoid soft white breads, and instead have low fat crackers such as rice crackers or cruskits. These should have less than 5gms of fat per 100gms.
- Order entrée size meals when dining out at restaurants.
- Minimise alcohol intake as it is high in calories, may cause an ulcer, and the effects may be felt much more quickly.

Exercise

Healthy lifestyle choices

There are several long-term habits that you should adopt to get the most out of your surgery. The first post-operative year is a critical time that must be dedicated to changing old behaviours and forming new, lifelong habits. You need to take responsibility for staying in control. Lack of exercise, poorly balanced meals, constant grazing and snacking, and drinking carbonated drinks are frequent causes of not achieving or maintaining weight loss.

To maintain a healthy weight and to prevent weight gain, you must develop and keep healthy eating habits. You will need to be aware of the volume of food that you can tolerate at one time and make healthy food choices to ensure maximum nutrition in minimum volume. A remarkable effect of weight loss surgery is the progressive change in attitudes towards eating. Patients begin to eat to live; they no longer live to eat.

Obesity cripples the body. As weight is lost, the burden on the bones, joints and vascular system is decreased. Given proper nutrition and physical motion it will rebuild its broken framework. The most effective way to heal the body is to exercise. People who exercise daily, successfully maintain their weight.



Following laparoscopic gastric sleeve surgery, exercise is extremely important to help you lose weight and maintain that loss. You can generally resume higher impact exercise 6 weeks after the operation. Prior to this, you can take walks at a comfortable pace and progress at your own pace. Exercise improves your metabolism. Both regular exercise and attending a support group can boost your confidence and help you stay motivated.

A physiotherapist will see you while you are in hospital. They can give you initial advice regarding exercise. Your GP can give you information about exercise groups or programmes in your area. There is a lot of support around you; ultimately it is up to you to make use of it.

Benefits of exercise

- Improvement in heart and lung function.
- Increased blood supply to muscles and ability to use oxygen.
- Lower heart rate and blood pressure at any level of exercise (a measure of fitness).
- Improved glucose tolerance and reduced insulin resistance.
- Fat loss, increased energy and strength.
- Improved mood and ability to cope with stress – reduced anxiety and depression.
- Increased mental focus.
- Reduced risk of osteoporosis.



Types of exercise to consider:

- Daily walking programme.
- Gym based exercise programme.
- Swimming or water walking/aqua jogging.
- Cycling or exercycling.
- Tai Chi / Yoga / Pilates.
- Physiotherapy home exercises.
- Playing sport with family and friends.

It is important to build exercise into your daily routine. This way you are more likely to stick with it. A referral for a Green prescription prior to your surgery is recommended and can be organised by your Doctor. This prescription gives you access to Sports Bay of Plenty. This will give you support to be more physically active and to improve your health.

We encourage the use of a pedometer or Fitbit device to help with motivation and goal setting.

If you have any questions please feel free to contact the physiotherapy department on (07) 579 8441 between 8am and 4.30pm Monday to Friday.

Home exercise program

Try to do these exercises once a day.

Do each exercise until your muscles start to feel tired. This may be 10 – 20 times. Keep a record of how many times you can do each exercise, with a goal of slowly increasing the number.



Stand straight holding onto a support

Lift your leg sideways and bring it back keeping your trunk straight throughout the exercise. You may add resistance with a theraband or ankle weight.



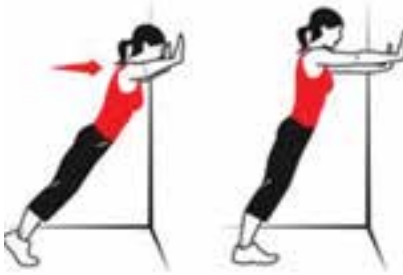
Stand straight against a wall with your knees slightly bent.

Place a ball between your knees. Squeeze the ball between your knees as you gently mini squat down the wall.



Stand in front of a 20 – 40 cm step.

Step up with one leg leading, and then repeat with the other leg.



Stand facing a wall with your arms straight and your hands on the wall. Do push-ups against the wall keeping your body in a straight line.



Stand or sit holding your hands on your chest with weights in your hands. Briskly lift both arms up from your chest and slowly down.



Tighten your stomach and lower back muscles to stabilize your lower spine and lift alternate arms up and down.



Sit or stand holding a hand weight. Support the elbow of the arm to be exercised with the other hand. Bend and straighten the elbow.



Crawling position. Hold a weight in one hand.

Lift the weight up to your armpit with elbow pointing towards the ceiling, then drop the arm down briskly.



Lying on the floor with knees bent and feet on the floor. Lift your pelvis and lower back off the floor. Hold the position. Lower down slowly returning to starting position.

Pregnancy after weight loss surgery

As the number of people having weight loss surgery grows, more and more women of childbearing age will undergo such operations. Is it safe or even feasible to become pregnant after weight loss surgery? If so, how long should you wait? Are there any precautions you should take to ensure a healthy pregnancy and delivery after surgery?

Pregnancy after this surgery can be safe and healthy if managed well by you and your Midwife, or Obstetrician. In fact, research suggests that pregnancy after weight-loss surgery might be safer for both mother and baby than pregnancy complicated by obesity.

Women who are overweight may have difficulty becoming pregnant. As you lose weight after surgery, hormones return to more natural levels, and your fertility can increase. This means you may start ovulating regularly, allowing you to become pregnant more easily.

Weight loss may also improve symptoms of polycystic ovarian syndrome (PCOS), increasing your fertility. Your chances of “getting pregnant by accident” are therefore increased, if you are not using birth control.



You should wait 18 months before getting pregnant

Women should wait 18 months after weight loss surgery before becoming pregnant. This is the timeframe when you will experience the biggest amount of weight loss, and it is the most challenging time to meet your own nutritional needs.

If you fall pregnant during this period of rapid weight loss, you will deprive a growing baby of important nutrients, leading to low birth weight, and potential malnutrition for you and your baby.

By 18 months, you should have reached a stable weight and be able to provide your baby with enough nutrition.

Most surgeons advise women of childbearing age to use reliable contraception during this waiting period, as having an unplanned pregnancy is a very real possibility.

You will need to monitor your nutrient intake closely

Even 18 months after your surgery, nutritional deficiencies can be a problem during pregnancy. This may be worsened if you suffer nausea or morning sickness, which may prevent you from eating. If this is the case you should speak with your Doctor or Midwife about anti-nausea medicines that are safe to take when pregnant.

It is important you pay careful attention to vitamins and minerals both before and during your pregnancy to keep you and your baby well. The most common deficiencies during pregnancy are:

- Folic acid
- Vitamin B12
- Iron
- Calcium
- Vitamin D

Although you should already be taking a multivitamin, you should change to a 'prenatal' vitamin even before you get pregnant, as these contain many of the above essential nutrients.

Please make sure your midwife or obstetrician knows you have had weight loss surgery, so they can check your vitamin levels, and advise if additional supplements are necessary. You are also advised to be in touch with your dietitian to help you plan meals, and ensure you are getting suitable nutrition during your pregnancy. You may benefit from eating several small meals throughout the day, to help improve nutrient absorption.

You should avoid excess weight gain during your pregnancy

The best way to avoid excessive weight gain is to eat a healthy diet during your pregnancy. Food cravings, as well as nausea and food dislikes can make this challenging. You may fall into the trap of thinking you need to "eat for two" and eating more than you need. You can discuss any of these issues with a dietitian to help you develop a healthy eating plan, with good food choices.

Regular exercise will also help to avoid excessive weight gain during your pregnancy.

One of the biggest emotional effects of pregnancy after weight loss surgery is that of body image. You have worked hard to lose weight, and will now have to get comfortable with the idea of gaining weight again. Pregnancy can be a stressful time, and some people also tend to eat more when they are stressed.

Alternatively, dieting while pregnant should be avoided, as this can have serious nutritional consequences for your growing baby as previously discussed (see "You will need to monitor your nutrient intake closely" section).

If you are not gaining weight as expected, your midwife may suggest more frequent ultrasounds to see if your baby is growing normally.

You may be more likely to need a caesarean

Having weight loss surgery may increase your risk of requiring a caesarean, although it is not clear exactly why this is the case, or what factors are involved.

Talk to your Midwife or Obstetrician about your chances of needing a caesarean delivery, and your preferences for delivering your baby. While a caesarean is relatively safe, it does carry more risks than a normal vaginal delivery.

Your risk of complications is lower, but it doesn't go away

In general, pregnancy and childbirth after weight loss surgery is actually much safer than becoming pregnant while still obese.

Research has shown that weight loss surgery may reduce the risk of some of the obesity-related problems during pregnancy. However, the risks of complications still exist.

Following weight loss surgery, you may be less likely to develop the following:

- Gestational diabetes, or high blood sugar (glucose) during pregnancy.
- High blood pressure.
- Pre-eclampsia (high blood pressure, fluid build-up in the body, and protein in the urine).
- Large birth weight babies, which increases the risk of Caesarean delivery.
- More minor complications including headaches and heartburn (reflux).

Women who have had weight loss surgery may also gain less weight during their pregnancy than people who become pregnant while still obese.

Breastfeeding after weight loss surgery

It is still safe for you to breast feed after weight loss surgery, in fact it is recommended. However, your nutrition during this time is still very important, so you should continue with nutritional monitoring, and continue to take your supplements. If you have low levels of vitamins in your body, they can also be low in your breast milk, affecting your infant's growth and development.

You may experience a delay in milk coming in. It is important for you to drink enough water so your milk does not dry up. You may wish to talk to your midwife, or a lactation consultant who can support you through breastfeeding and offer advice.

After baby is born

Most pregnant women have some weight to lose after they have a baby. Women who become pregnant after weight loss surgery are no exception. Working with a dietician and exercising regularly will help shed post-delivery weight and get you back to your pre-pregnancy figure, but it takes time. It is

important you eat a healthy diet and adequate amounts of essential vitamins and minerals, especially if you are breastfeeding.



Take-home points on pregnancy after weight loss surgery

- Wait 18 months after surgery before becoming pregnant.
- Use contraception during this waiting period.
- Make sure your nutritional needs are being met.
- Get regular blood tests to look for nutritional deficiencies.
- See a Dietician to help regulate weight gain during pregnancy.

General Information

It is important for you to have read and understood all the information given to you regarding this procedure. This will help you make an informed decision, and allow you to proceed with confidence.

Surgery alone is not a quick fix to obesity problems. You are effectively entering into a partnership with your surgical team. We will help and support you through this lifestyle choice, but in return, we need to know that you are committed to this pathway too.

As you read this book, write down any questions you may have, and bring it to your next visit.

We encourage you to bring this book with you to all your appointments.

Additional on line information can be found on these websites:

<http://www.bariatric-surgery-source.com/gastric-sleeve-surgery.html>

<http://www.aucklandweightlossurgery.co.nz/gastric-sleeve-surgery-overview/>

Your rights and responsibilities

Te Whatu Ora
Health New Zealand
Hauora a Toi Bay of Plenty

Patients' Code of Responsibilities

Te Whatu Ora Hauora a Toi Bay of Plenty staff are committed to working in partnership with you to achieve the best possible outcomes. Help us to help you by:

- Being completely frank and honest about your health, family history of illness, current medications and treatments
- Cooperating and being involved in your care and treatment
- Asking questions about anything you do not understand
- Informing us if you are unable to keep an appointment
- Understanding your rights and telling us if you feel they are not being met
- Showing consideration to other patients by respecting their comfort, privacy and confidentiality
- Respecting the staff and property of Te Whatu Ora Hauora a Toi Bay of Plenty



ZERO tolerance to violence

If you need more information:

- Ask a staff member or the manager of the ward / department
- Contact Quality and Patient Safety Team, Mon-Fri, 8am-4pm on 07 579 8176 or the After Hours Manager on Tga 07 579 8000 or Whk 07 306 0999

How to give feedback to Te Whatu Ora Hauora a Toi Bay of Plenty

Why Feedback?

At Te Whatu Ora Hauora a Toi Bay of Plenty we understand that being in a hospital, whether it is for yourself or a loved one, can be a very distressing experience. We welcome feedback as it provides us with an opportunity to review the services we offer, and guides us to make quality improvements as we strive for health excellence.

Ways to provide Feedback

If you wish to provide feedback, make a compliment, comment or complaint, there are a number of ways you can do so:

- Speak to any staff member, Nurse, or Doctor
- Speak to Regional Māori Health Services Kai Awhina (07) 579 8737 or Regional Maori Health Services, Tauranga Hospital (07) 579 8560 or Te Pou Kokiri Māori Health Services, Whakatane Hospital (07) 306 0954.
- Complete our “Would you like to tell us something?” form available throughout the hospital and leave it at any reception
- Phone the Quality & Patient Safety Team by calling the on-call Quality Coordinator on 021 791 864, or calling the telephone operator on (07) 579 8000 and ask to be put through to the on-call Quality Coordinator, or call (07) 579 8176
- Fill out an online form on Te Whatu Ora Hauora a Toi Bay of Plenty’s website at <https://www.bopdhb.health.nz/contact-and-feedback/patient-care-feedback/>
- Write a letter to:
Quality & Patient Safety Administrator
Te Whatu Ora Hauora a Toi Bay of Plenty
Level 2, Tauranga Hospital
Private Bag 12024
Tauranga 3143
- Email the Quality and Patient Safety Administrator on:
Qualityandpatientsafety@bopdhb.govt.nz

Information for smokers

Health benefits when you quit smoking

Every hour, day, week, month and year that you go without smoking, your health will improve.

When you quit, your body starts to repair itself straightaway – you'll notice the difference! Quitting is a great thing to do at any age – you'll live longer, and your quality of life will improve.

8 hours

Your heartbeat slows down to normal, and your blood pressure goes down.

24 hours

Carbon monoxide is out of your system within a day, and your lungs work better.

3-5 days

Your senses of taste and smell begin to improve. The phlegm in your lungs loosens, and you start to cough it up and get rid of it.

1-6 months

You feel fitter and are able to exercise more easily. The blood flow (circulation) to your hands and feet improves. You produce less phlegm. If your blood pressure has been high, it is likely to fall.

1 year

You have almost halved your risk of sudden death from heart attack.

5 years

Your risk of cancers of the mouth, throat and oesophagus is half that of a person who continues to smoke.

10 years

Your risk of lung cancer is less than half that of a person who continues to smoke.

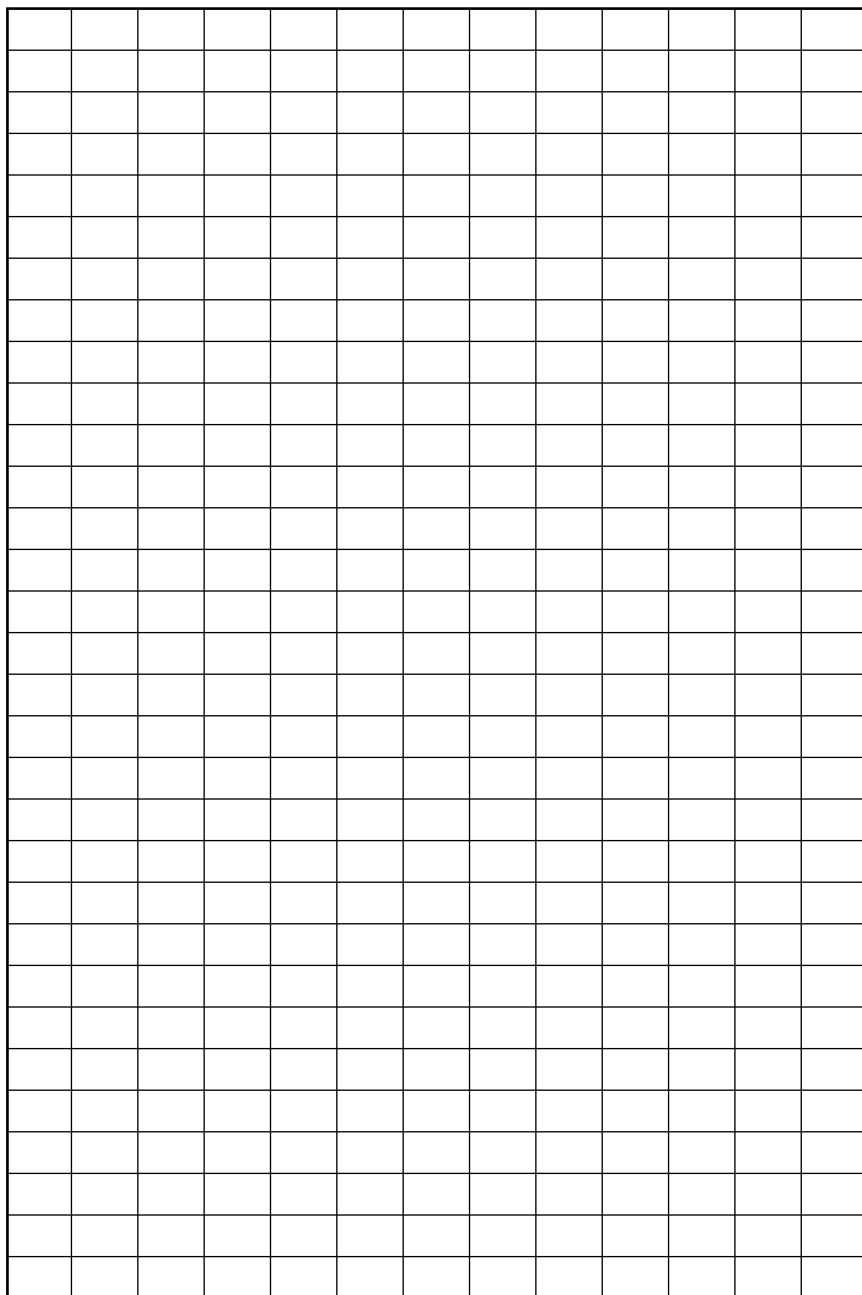
15 years

Your risk of sudden death from heart attack is almost the same as that of a person who has never smoked.

Weight Chart

Start date: _____

Weight kgs



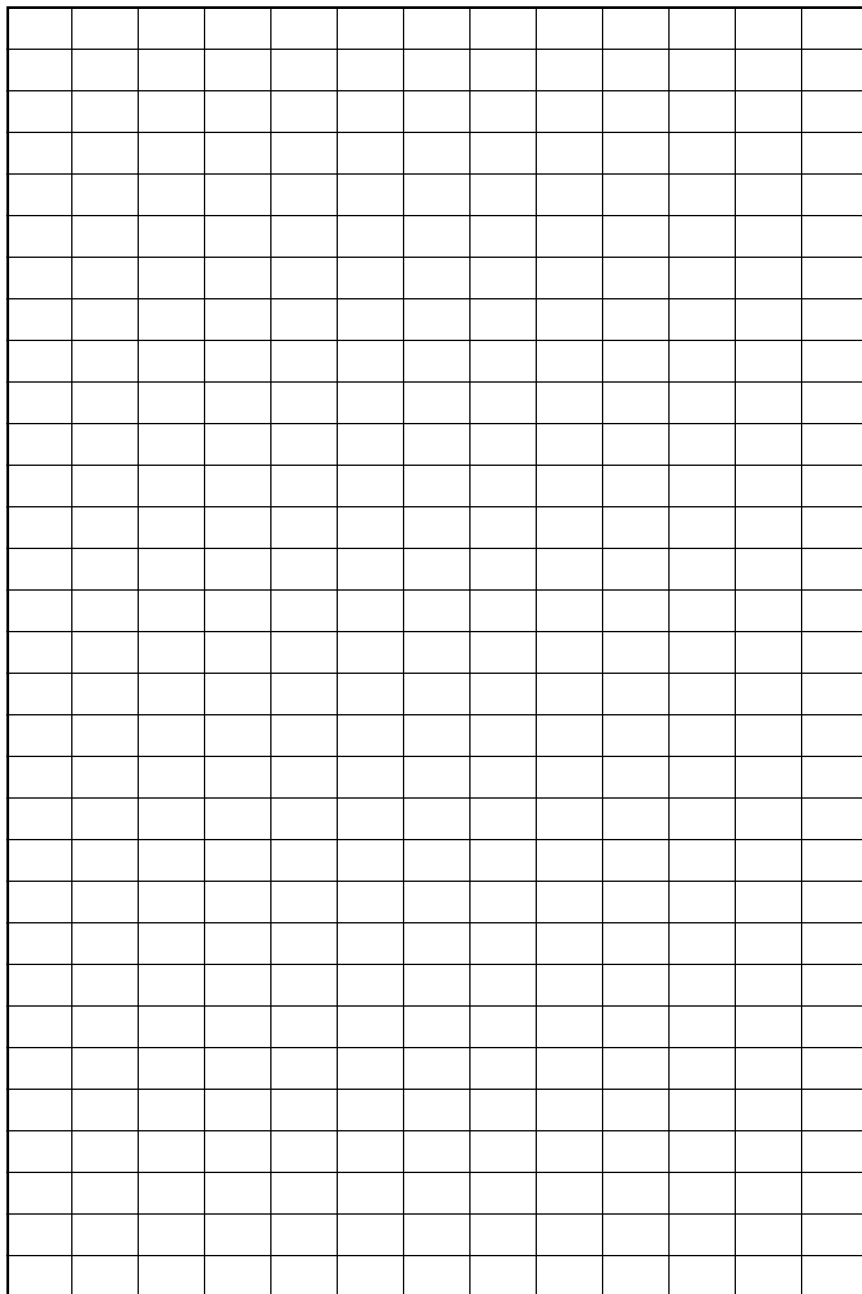
1 2 3 4 5 6 7 8 9 10 11 12 13

Week / Date

Weight Chart

Start weight: _____

Weight kgs



14 15 16 17 18 19 20 21 22 23 24 25 26

Week / Date

Te Whatu Ora
Health New Zealand
Hauora a Toi Bay of Plenty

www.bopdhb.health.nz

November 2022