

Recovering after cardiac surgery

PATIENT INFORMATION

Cardiothoracic Service

This booklet has been designed to explain to you and your family/whānau what can be expected after your cardiac surgery. Although you will be given lots of information about recovery during your stay in hospital, it may be difficult to remember everything. We hope this booklet will be helpful; take time to read through this and ask us any questions you may feel you need to.

For many people, going home after their cardiac surgery can be a great relief, but this is something which can be daunting as well – remember you are not alone. The cardiothoracic nurse specialist, cardiac rehab nurses, and your GP can help support you and your family/whānau on this journey.

If you have an urgent medical problem, contact your GP immediately or go to your local emergency department.

We wish you well in your recovery.



Before you leave the ward

- Your wounds will be checked. Dressings are usually removed on day 5 post-op. Any stitches are dissolvable except for your chest drain wounds. These stitches can be removed by your GP/practice nurse 10 days following removal of the drains. Please see page 7 for more information.
- The internal wires around your sternum do not get removed. It is important that all other wires, IV lines and attachments are removed before you go home. Please tell your nurse if this has not been done.
- You will be given a new prescription upon discharge. Some of these will be permanent medications, and others can be taken on an 'as needed' basis. It is important that you understand what your medications are and how they might affect you. We will make sure you understand what you are taking and why before you leave. You will need to check with your GP whether you can take other medications or supplements which have not been prescribed as these may interact with the prescribed medications you are taking.
- You will be given a discharge letter by the cardiothoracic team before you leave. This will contain information about your admission to hospital, procedures that were done, medications you started on/ discharging with, and follow up advice. Please bring this with you to your next GP appointment. You should follow the advice given and continue to take the medications as directed until your outpatient follow up appointment in a few weeks' time unless advised otherwise.

If you have started taking Warfarin:

This is an anticoagulant, often referred to as a 'blood thinner', and is given if you have had valve surgery. If this applies to you, you will have already started taking this medication before you are discharged home.

If you have had a **mechanical valve**, warfarin is taken for life.



If you have had a **tissue valve**, you will usually only require this for a few months.

There may be other circumstances where you need to take warfarin; if this applies to you, we will explain why this has been started for you.

You will receive some education about taking warfarin by one of the hospital pharmacists before you leave, and should have also received the 'little red book', and watched a video.

You will need to make arrangements to have blood tests done locally when at home and need to remember what your INR blood result should be (Usually INR between 2-3). If your blood result is not within that range, talk to your doctor about the need to change your warfarin dose.

[Your journey home](#)

If you are local to Wellington/Hutt/Kapiti: You will need to arrange your own transport home and make sure that you can be accompanied on the way home.

If you have travelled from out of the region (excluding Nelson): occasionally, you may be transferred back to your home DHB for the last part of your hospital stay, where you can be discharged home from your local hospital. In other situations, you may be fit for discharge straight from Wellington Hospital. You will need to make your own arrangements for your trip home if you are discharging from Wellington Hospital.

If you are from Nelson/Marlborough: NMDHB will arrange transport to Wellington and back to Nelson.

If you need assistance, please let us know.



When travelling:

- Do not carry heavy bags home with you, as you need to avoid strain on your sternum for 6 weeks after surgery.
- Ask your nurse for some pain relief before you leave the ward, so that your journey home is easier to manage. Wear loose, comfortable clothing and shoes.
- Make sure you still wear your seatbelt if travelling by car. You can place a towel or small cushion between you and the seatbelt to make it more comfortable on your chest.
- Longer journeys can be uncomfortable so make sure to take some breaks on the way home.
- If you will be flying, you may need to get medical clearance before boarding the plane. If you think that this might be how you'll be getting home, please inform your nurse or doctors on the ward as soon as you can so that this can be arranged in advance for you as it can take some time to process.

Managing pain

Pain and discomfort near the centre of your chest is mainly due to the healing of your sternum which has been cut and wired back together during your surgery. It takes up to 12 weeks for this to completely heal. Other pain experienced could be muscular-skeletal pain. Some people can experience other sensations of burning or numbness on or around their scar/s or in the hands and fingers. This can sometimes last for weeks or months. If you are experiencing this pain after the incisions have completely healed, contact your GP for further advice.

Other factors can influence pain such as too much or too little activity, or sleeping in one position for too long. Your physiotherapist will have seen you before you discharge and will go over some exercises that will help to maintain joint movement and muscle strength. This will help minimise aches and pains and will allow you to return to normal activities faster.



It is important to keep taking medications for your pain after you have returned home. Keep taking paracetamol regularly as this will maintain your comfort. If your pain is not controlled or getting worse, or you feel your sternum is clicking/moving when you cough you need to see your GP. It is important that you manage your pain well so that you can cough, take deep breaths, and walk which will help prevent infections and improve healing and recovery.

If you have any chest pain different to your wound pain or is like your angina, this is not normal. You need to see your GP, or ring an ambulance if it does not go away.

Leg pain and swelling:

Leg discomfort and swelling could be a result of the vein harvesting in your leg, or as a result of fluid/swelling (oedema). This is common after heart surgery, and is monitored every day through measuring your weight and also by the cardiothoracic team who assess swelling/oedema during the ward round. This is something which should get better day-by-day. At home if you develop any sudden leg pain or swelling, you will need to see your GP.

Tips to reduce pain and swelling:

- Warm showers to help loosen the muscles.
- Heat packs near the wound site. Make sure to place a towel between you and the heat pack to prevent burns.
- Splinting when you cough (bracing yourself with a towel or pillow to the chest firmly).

The best thing you can do for your recovery is to mobilise as much as possible. Often, this swelling is due to fluid overload which causes oedema in your peripheries (feet, legs, hands, etc.). You may be given medication to help offload some of this extra fluid, but walking around, moving and stretching your legs will also help.



When resting, elevate your legs on a pillow in bed or use a foot stool when sitting in the chair. Avoid sitting or standing in one position for too long, or sitting with legs crossed as this can impair circulation which can contribute to swelling.

Wound care

It will take some time for your wounds to heal. Whilst in hospital, they are checked each day, and this should continue at home to monitor for signs of infection. Prior to discharge, your dressings will be removed, and wounds will be open to air as they continue to heal.

- If there is a lump at the top of the sternal wound, this is common and should flatten down over time.
- Shower every day as normal, and let the water wash over the chest, leg or arm wounds. Avoid using soaps or scrubbing directly on the wound as this can irritate them. Once out of the shower, gently pat dry with a towel. If you use perfumes, creams or powders, avoid their direct contact with the wound.
- No swimming pools or hot spas/baths until the wound has completely healed.
- The wound may flake as it heals. This is normal.
- Tenderness, itching and loss of sensation can be common. Some women experience increased sensitivity over the sternal wound.
- Your scar/s will be sensitive to UV light and can burn very easily, so be sure to protect your wounds from over-exposure to sunlight for the first year after surgery.
- **Check your wounds for signs of infection. These are: increased redness, pus-like ooze, swelling, fever, increased heat at the wound site and pain. If you develop any of these symptoms, you need to see your GP".**



There will be stitches in your abdomen from where the chest drains were. These are not due to be removed until 10 days after your drain removal so you will go home with these whilst they continue to heal over. Stitches can be removed from your practice nurse, or your GP when they review you after your discharge.

Drain stitches can be removed from/...../.....

Sternal precautions

During the first three months, it is important to prevent excess stress and strain on your healing sternum. Sternal complications can involve dehiscence (splitting/opening of the wound), wound infection, sternal instability/ non-union, and mediastinitis (inflammation of the mediastinum/chest area between the lungs). These complications have been shown to result in an increased length of hospital stay, and can affect your long-term recovery so it is important to follow these guidelines, and report any changes to your GP if you become concerned. To help manage this, following sternal precautions such as caring for your wounds, supporting your sternum when you cough or do certain movements, and performing upper limb and trunk exercises will help to promote your recovery and return to normal function.

Coughing and deep breathing: frequent and unsupported coughing is a large source of mechanical stress through the sternum and can be painful. You will have been shown how to support your chest whilst in hospital by hugging a towel or cushion tightly to support your chest. Keep doing this when at home whilst the sternum is still healing over the next few weeks.

Movement: Avoid sitting and hugging the towel/cushion for extended periods of time. Some people find this comforting however this can lead to pain or injuries to the neck, back and shoulders.



For the first six weeks:

DO:	DON'T:
Support your chest when coughing Use both arms and keep close to your body when lifting light objects Use both arms to: <ul style="list-style-type: none">- get in/out of bed- get on/off a chair- shower and dress	Lift, push or pull anything that weighs more than 6 kgs (e.g pets, children, garbage, laundry, and groceries) Lift, push or pull anything heavy with just one arm. Place arms behind your back

Your heartbeat:

You may have become more aware of your heart beating, especially when lying down. If you have had a mechanical valve replacement, you may have also become aware of the valve opening and closing as it can make a faint 'ticking' noise; this is something which you may become less aware of over time. From time to time, you may also hear your heart thumping, racing, or beating irregularly which can feel like palpitations in the chest. This is not uncommon and is usually only temporary. You will need to talk to your GP if this is occurring at regular intervals, but returns to normal and you feel well. However, if your heart rate feels fast and irregular, and lasts for more than 15 minutes **you should call an ambulance by dialling 111**. If this is happening, you may feel generally unwell, short of breath, lightheaded or dizzy.

Blood pressure:

Managing your blood pressure is very important after your surgery. Many people are started on medications which can affect their blood pressure, or may re-start old medications for this after their surgery. If this is the case, they are usually started gradually, and worked back up to your normal dose. If they are new, they will be increased until they are effective in maintaining your blood pressure within acceptable limits.



It is important to continue to manage this when you are home and have your GP check your blood pressure when you see them.

If you feel light-headed or dizzy, especially when you stand up, the medication may be lowering your blood pressure too much. Remember, after lying down to sit for a couple of minutes before standing and walking off. If the light-headedness continues, talk to your GP about this. If you are on diuretics/water pills when you go home, you need to weigh yourself at the same time each day and monitor how much fluid/weight you are losing.

Breathing:

It is common to feel breathless after exercise. As long as you recover when you have rested, this is normal. This is something that will improve as time goes on and you increase your activity level. Remember to keep up deep breathing and coughing like you have been doing while in hospital in the initial stages of coming home, as well as regular exercise to help expand your lungs. This will help to prevent chest infections.

If you notice that you are becoming more breathless, or are breathless even at rest, you need to see your GP promptly. **Call an ambulance by dialling 111 if you are so breathless that you cannot speak freely.**

If you are coughing a lot, or are coughing up discoloured phlegm, you need to see your GP as you may have a chest infection and could require antibiotics. Support your chest when coughing and also report any increase in pain around the wound.

Changes to emotions:

It is common to experience changes in your mood and emotions; you may feel up and down, low in mood, bored, frustrated, anxious, tearful, irritable or angry. Not being able to do the things you want to do, or as often as you'd like can contribute to this but be patient; you will improve.



If your mood is low and you don't feel like doing things such as getting out of bed, showering or going for your walks, you should talk about this with your GP. Depression can occur and it is a recognised medical condition that may occur following a stressful event such as heart surgery and can impact your recovery.

Being irritable is something that is more likely to be noticed by your spouse/partner or family and friends. If you are feeling very irritable, it often leads to feeling guilty and unhappy, even tearful. This is reasonable given what you have been through.

You may also find that you are sometimes forgetful, find your mind wanders when having a conversation with someone, or lack concentration. This can make it difficult to do things like watch TV, read a book or the paper, and interact with others. This is something which can be made worse by a lack of sleep, worries, anxiety and the memories you have whilst you waited for your surgery, as well as the experiences throughout your hospital stay. It takes time to recover not only physically but mentally and regain your confidence. Your mood and general wellbeing will fluctuate from day to day for a while after surgery.

Following a large operation or period of illness it is normal to feel stressed by things that previously may not have worried you before e.g. noise, visitors, etc. As you recover your strength and confidence, you will be able to cope again.

All of these feelings can be managed by good self-care. Try and get up at your usual time, shower and dress in day clothes, plan your usual daily activities, as well as some different things to do, go on outings and talk about your thoughts and feelings with friends and family/whanau. All of this will help you to build up from where you left off before being in hospital.



Managing stress:

Time for yourself is very important. Do not push yourself to be involved in extra social activities. If you think stress is an issue for you, and would like to discuss it further, contact the cardiac rehab nurses or your GP.

Some things that can help to manage stress:

Set aside some time during the day to practice relaxation and schedule it into your daily activities.

- Allow extra time if you feel particularly tense
- Try to cut down overcrowded schedules
- Plan and space activities
- Review your use of time away from your job
- Make time for fun and relaxation
- Resist doing everything yourself
- Resist planning to do more than you can handle
- Divide your workload
- Take one thing at a time

Sleep:

It is common for people's sleep to be affected whilst in hospital, and is something that may continue when you have gone home. This can involve having trouble getting to sleep, sleeping for short periods or frequently waking during the night, and having bad dreams/nightmares. This is something that should improve over the next while.

If sleep is being disturbed by pain or discomfort, you need to try and ensure that you are taking regular paracetamol, and if this is not enough then you will need to talk to your doctor about getting stronger pain relief. You may find that you need some more regular rests or a short sleep



during the day, as certain activities will be mentally and physically tiring and you will become fatigued if you do too much.

Tiredness and fatigue:

At the moment, your body treats all activity as hard work. You may be finding that routines you once took for granted like brushing your hair, shaving, and showering all can be very tiring. Some people can have a lowered haemoglobin level in the blood which can contribute to feelings of tiredness or fatigue. You can help by ensuring you get plenty of rest and trying to eat iron-rich foods. Adequate rest periods are essential to your recovery, but try to avoid having long periods of inactivity.

Try taking things one day at a time, listen to what your body is telling you and go at your own pace. Try not to compare yourself to others, as everyone has a different journey through this process and it takes time to regain your strength. Gradually resume your daily activities by doing small amounts of various activities at first rather than trying to achieve everything all at once.

Vision:

Visual changes such as blurred vision or double-vision can occur post-operatively. The cause of this is mixed. However, after a few weeks or months your vision usually returns to normal. Do not get your glasses adjusted in the early months of your recovery.

Appetite:

Many people notice a change in their appetite, sense of taste, or can experience a metallic taste in their mouth. Try to manage this by having smaller, more frequent meals and drink plenty of fluids. Ginger ale or ginger beer can relieve nausea in some people. It is important to eat even if you are not feeling hungry as good nutrition will help with healing. Your appetite will improve as you recover. If you are feeling nauseated most of the time, talk to your GP.



Elimination:

Constipation is something that many people experience following an operation. This can be due to inactivity, poor fluid intake, lack of appetite and dietary changes whilst in hospital. Some medications may also be a contributing factor.

A couple of suggestions to improve this are:

- Regular exercise
- Include some good dietary fibre from foods such as bran, grains, fruit and vegetables. (kiwifruit and prunes are good options)
- Keep hydrated
- Kiwicrush is something you may have had whilst an inpatient. It is also readily available in the supermarket. Laxatives can be brought from your pharmacy but this should be discussed with your GP.

A small number of people may have difficulty with passing urine. If you experience an increase in frequency, or a burning/stinging sensation you may have a urinary tract infection and need to talk to your GP about this. If you are having difficulty passing urine, or only pass a small amount at a time and feel your abdomen is becoming distended and uncomfortable you may have urinary retention and will need to see a doctor

Driving:

You should not resume driving your car until 4 weeks after your surgery. If you have a commercial license you will not be able to drive for three months after surgery.

The NZTA website has more information on this: www.nzta.govt.nz/re-sources/medical-aspects

Why? During your recovery your reaction time and concentration will be slowed due to weakness, fatigue or medication. Your neck and shoulders may be stiff for a few weeks after surgery and this may restrict your ability to drive safely.



If you don't feel well, don't drive. You must still wear a seat belt. If this is uncomfortable try placing a small cushion or towel between your chest and the seat belt. It is advisable to contact your insurance company before you start driving to check their policy on driving after heart surgery.

Decision making:

Wait until you have completely recovered before you make decisions about your long-term future. Sometimes people may make big decisions about their lives, such as not resuming work or abandoning other social or pleasurable activities which is not always necessary. Once you feel well, it is usually possible to resume all of your previous activities including social activities.

Resuming sexual activity:

Sexual activity can be resumed when you feel comfortable and well rested, which is generally 3-4 weeks after discharge from hospital. The amount of energy needed for sexual activity is about the same as walking up two flights of stairs briskly, so it will not unduly affect your heart. You will need to find a position that is comfortable and doesn't place any stress on your chest or restrict your breathing. Avoid positions where your arms are supporting your body weight.

If you normally take Cialis, Viagra, or any other medication to help with sex, please check with your doctor that these medications are still safe to take.

Having a low sex drive after surgery is not uncommon, but it may be something to discuss with your partner or doctor.



Information for spouse/caregivers:

Often the person who has had heart surgery does very well in the early stages, but the partner or the person caring for them can get very tired and run down. When you are looking after someone who has had heart surgery, try to take a rest yourself while the person you are caring for is resting, and try to get a good nights' sleep. Don't try to do too much for the person. This is tiring and stressful for both of you, and in the end will not help either of you. Make sure you have some time away to yourself.

Remember to communicate with other people during these weeks, especially with your partner your family and your friends. Don't get too concerned with burdening your partner with your fears and your feelings. You will probably find that you are both thinking the same thing. Talking to each other about your thoughts and feelings will help your recovery by relieving stress at what can be a difficult time.

Visitors:

You may find that you have a lot of people who want to visit you when you get home. Short visits are advisable for the first couple of weeks at home. Visitors mean well, but can be very tiring as well as a lot of phone calls. Let friends and family know that rest is an important part of your recovery. Do not be afraid to excuse yourself from visitors when feeling like you are tired and in need of a rest. People may not realise/see how tired you are until you tell them.



Protection against infection: Valve surgery

It is very important to protect yourself against infection; this is particularly important if you have undergone valve repair or replacement surgery.

People who have had heart valve surgery are at risk of an infection called 'bacterial endocarditis'. This occurs when bacteria travel through the blood stream, settle on the valve and damage it. Make sure you tell your dentist and other doctors caring for you that you have had valve surgery. Antibiotics may be given to you before and after any dental work, including some routine cleaning. During dental work as in other surgical procedures, bacteria can be released into the bloodstream and lodge on the heart's prosthetic valve, causing an infection. You should have a dental check-up every 6-12 months or as directed by your dentist.

Antibiotics should also be given before and after any surgical procedures to prevent any possible infection. You should see your GP if you have any of the following:

- Infected cuts
- Boils
- Sore throats and heavy colds
- Infections in the mouth
- Burning upon passing urine
- Fever or sweats (especially at night)
- A general feeling of being unwell or flu like symptoms that persist
- Swelling in feet, legs or hands
- Diarrhoea.

By doing so, you can help protect your valve against infection. If you wish to, you may apply for a medic alert bracelet if you have had valve replacement surgery.



Walking

Exercise is a very important part of your recovery as it helps prevent surgical complications and helps with general recovery. The best form of exercise following heart surgery is walking.

To get the benefits of walking aim to do it regularly, on most days. Exercise at a moderate intensity, unless advised not to by your doctor. Moderate intensity is exercise that is neither too hard, nor too easy. Mild shortness of breath, sweating, and increased heart rate is normal.

Your aim is to exercise hard enough to benefit your heart, but not strain it. You should not feel uncomfortable or exhausted when you are exercising.

You are exercising too hard if you feel excessively short of breath, faint or dizzy.

As your fitness improves, you can make your exercise harder by increasing the time or distance of your walk. Take hills and stairs gradually at first.






Make a note of how you feel after walking. If you find any time or distance tires you out, or causes discomfort do not increase the time or distance until you can do it without pain or discomfort. Review your program with a physiotherapist at any time during your rehabilitation.

Walking programme example:

Week	Exercise time	Effort
1-2	5min, 3x daily	10-20%
3-4	10min, 3x daily	20-30%
5-6	15min, 2x daily	30-50%
7-8	30min, 1x daily	30-50%



Stretches following heart surgery

Exercise 1 <ol style="list-style-type: none">1. Sit or stand with good posture.2. Keeping your face forward, tip your ear towards your right shoulder.3. Repeat on the left side.	
Exercise 2 <ol style="list-style-type: none">1. Sit or stand with good posture.2. Turn your head to the right side.3. Repeat to the left side.	
Exercise 3 <ol style="list-style-type: none">1. Sit or stand with good posture.2. Raise both arms and lower both arms.3. Repeat.	
Exercise 4 <ol style="list-style-type: none">1. Sit or stand with good posture.2. Pull the right elbow and arm across your chest gently.3. Repeat with left elbow and arm.	
Exercise 5 <ol style="list-style-type: none">1. Sit or stand with good posture.2. Begin with shoulders relaxed.3. Hunch shoulders up towards your ears.4. Relax your shoulders and repeat.	



When to call your doctor

If you experience any of the following, you should report them to your general practitioner:

- Any high temperature
- New signs of swelling, redness or discharge at your incisions (scar lines)
- Angina symptoms like those you might have had before surgery
- Pain in your neck chest or shoulders that is worse when taking a deep breath
- Any flu-like symptoms/feelings such as aches, chills, fever, loss of appetite or fatigue that persists
- Any persistent rapid, irregular pulse rate or palpitations - if this is associated with shortness of breath or dizziness, call an ambulance on 111
- Shortness of breath that goes on after an activity has stopped or that occurs at rest or is getting worse day by day
- Weight gain of 1.5 to 2 kgs in 2-3 days, especially if associated with shortness of breath, ankle or abdominal swelling
- Severe bruising (for no known reason) or bleeding.



Cardiac rehab

Once discharged, you will also be referred to the cardiac rehab nurses who will make contact with you a few weeks after your discharge. You will be invited to attend the cardiac rehabilitation clinic. Cardiac rehabilitation programmes can help improve your heart health and reduce your chances of having a future heart event. It is an important part of your treatment, and will provide you and your partner or a family/whanau member with information and support needed for a faster recovery helping you to return to a full and healthier life. Programmes are delivered in different ways, and usually have three phases:

Phase 1: while you are in hospital, you will be invited to attend a cardiac rehabilitation programme. You will be given advice on lifestyle changes and the medications you are on.

Phase 2: Following discharge, cardiac rehab nurses and other health professionals such as your GP are available to give you advice and support on exercise, healthy eating, smoking cessation, stress management, medication and work.

Phase 3: There may be local groups you can belong to which can offer you on-going support to maintain healthy lifestyle changes. Groups can offer education, exercise and emotional support for you and your family/whanau. You should also visit your GP regularly for check-ups.



Hutt hospital: Patients will be contacted by the Cardiac clinical nurse specialists there to follow up on you post discharge. They will invite you to join their cardiac rehab programme at the same time.

If you are local (Wellington/Kapiti/Hutt) local options for cardiac rehab are listed below.

If you have come from outside of this region (Hawkes bay, Whanganui, Palmerston North, and Nelson etc.) you will hear from someone locally about services offered.

Wellington services:

‘The beat goes on’ – CCDHB cardiology rehabilitation service. A referral to the cardiac rehab nurses is made when you have been discharged.

HeartWorks (in association with Wakefield Heart Centre in Wellington). This is an alternative to Wellington hospital programme though does have a cost. If you have health insurance, this cost may be covered on your policy.

Other Support:

www.heartfoundation.org.nz

www.heartfoundation.org.au

www.nzta.govt.nz

www.quit.org.nz



This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



