



Patient and Family Education

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A Guide To Recovery After Heart Surgery-Cardiac Rehabilitation Department



مستشفى القلب
Heart Hospital

عضو في مؤسسة حمد الطبية
A Member of Hamad Medical Corporation



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A Guide to Recovery after Heart Surgery

Introduction

So you are having heart surgery. This booklet will help you and your family learn more about what will happen after your heart surgery. It will tell you about what medications you might take, exercises and foods to help you get better. It will also guide you on when and how to go back safely to your regular daily activities, in and out of the house, as well as the precautions that needs to be considered.

If you or your family have any questions or need more information, please ask any member of our cardiac rehabilitation team.

Protecting your Chest Wound

In the case of most heart surgeries, the incision is made in the center of chest or breast bone (called the sternum). It will take six to eight weeks for your chest wound to heal. During this period you need to protect your chest wound in the following ways.

Avoid being pulled by your arms to get out of bed.



(✓)



(✗)

Avoid pushing and pulling (e.g. no pushing yourself up from a chair from sitting to standing, opening a heavy door or using a bed ladder).



(✓)



(✗)

Avoid reaching behind your back (e.g. putting your wallet in your back pocket, tucking in your shirt, pulling your trousers up from behind or reaching behind for toilet hygiene).



(✓)



(✗)

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Support the chest wound with pillow or towel while coughing.



(✓)



(✗)

Avoid getting water directly on the chest wound during showering.



(✓)



(✗)

Avoid long periods of over the shoulder activity (e.g. while brushing hair avoid lifting your arm - instead bring your head down to your arm).



(✓)



(✗)

Avoid lifting more than 5 kg/2½ kg in each hand (e.g. lifting a small baby or child).

Avoid lifting one hand above your head unless it is necessary and only if it doesn't cause discomfort.

Your Exercise Program after Heart Surgery

A regular exercise program is essential for your early recovery after the surgery. It is necessary for you to continue the exercise program as part of your daily activities to enhance heart health and promote healthy living.

“You can exercise immediately after your surgery”

Your exercise program will begin in the hospital under the supervision of a physiotherapist. You will then continue alone, after you get discharged from the hospital. Please do the exercises detailed in this leaflet three times a day whilst in the hospital and then twice a day once you get home. Additional exercise may be given to you by your physiotherapist if needed.

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Why do I Need to do Exercise?

- It promotes and improves your blood circulation
- It decreases any joint stiffness that may result from being in bed before and after surgery
- It increases your muscle strength and endurance
- It improves your overall wellbeing

Considerations

- Sit on a firm chair with good back support.
- Do each exercise 10 times.
- Do each exercise at a slow to moderate pace.
- Do the exercise in sitting position while you are in the hospital.

What Type of Exercise will I do After my Surgery?

It is important to do exercises for your lungs, arms and legs to attain your previous functional level as early as possible. Here is the list of exercises that you will be doing after the surgery.

Deep Breathing Exercise

- Sit in a relaxed position.
- Breathe in deeply and slowly through your nose.
- Breathe out through your mouth.
- Concentrate completely on your breath

Incentive Spirometer

Incentive spirometer is a respiratory device that helps to expand your lungs and strengthen your muscles responsible for breathing.

- Sit in a relaxed position.
- With lips sealed around the mouth piece, inhale slowly and deeply.
- The ball in the spirometer rises according to the amount of air you breathe in.
- Try to inhale as much as possible.
- Try to hold the ball up for few seconds and breathe out.
- Rest for few seconds and repeat.
- Repeat 10 times every two hours.



Supported Coughing

- This helps in removing the secretions from lungs with minimal pain.
- Sit in relaxed position.
- Hold a towel roll or a pillow firmly against your incision with both hands.
- Lean forward slightly.
- Take a slow, deep breath and try to cough.



Breath in



Cough

Legs

- Move your ankle up and down, make circle with your feet.
- Straighten your knee, lifting your foot towards the ceiling.
- Lift your knee up and bend your hip.



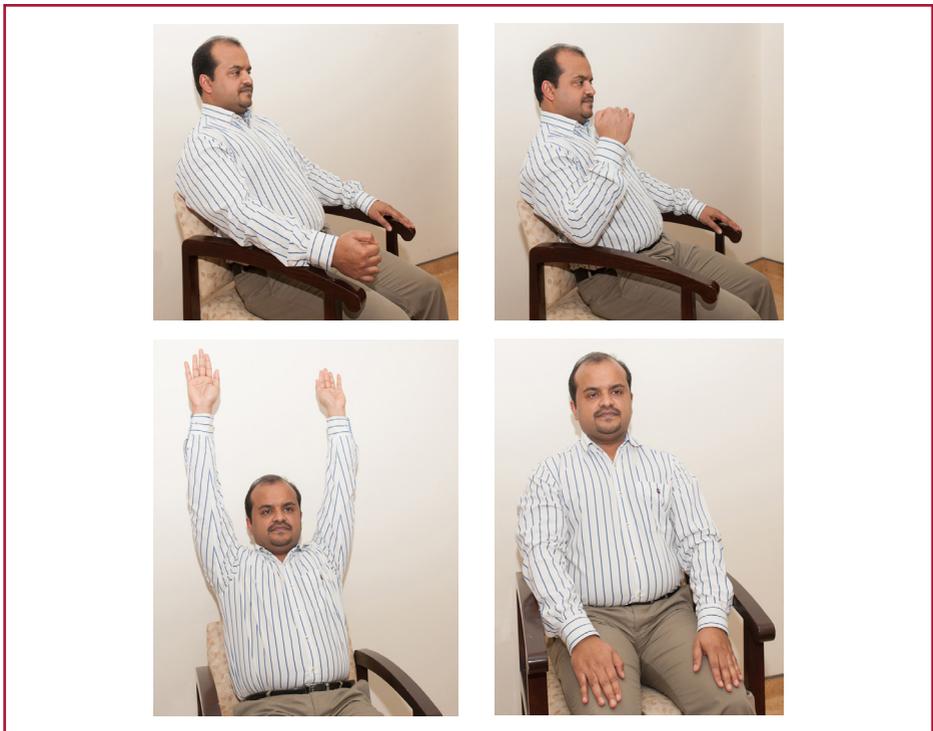
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Arms

- Bend and straighten your elbows.
- Lift both arms up and over your shoulder, lower them down slowly.



Neck

- Look up to the ceiling, keeping your mouth closed, and then look down to your knees.
- Turn your head to the left and stretch and then turn to right and stretch.



Walking Program

- Your walking program will start from the first day of your surgery.
- Your physiotherapist and nurse will assist you in getting out of the bed and progress to walking.
- You will gradually increase the time of walking till discharge as guided by your physiotherapist.
- Walking on a level surface is the best activity that you can do at home.
- Start with leg and arm exercises before your walking program as your warm up.
- The first day you are home after the surgery do the same exercises and walking time as your last day in the hospital.
- Increase your walking time by one to two minutes every day.

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- It is always good to make multiple shorter sessions of exercise or walking during the early stages of recovery.
- Always rate your exertion during activities by using RPE Scale (Rate of Perceived Exertion), which will be taught to you by your physiotherapist. Always try to maintain a “Somewhat hard” (13) level in the RPE scale.
- At the end of your exercise session, walk slowly or bend your arms and legs for three to five minutes to cool down your body.

How Long do I have to Continue my Exercise Program?

- Continue the above mentioned exercise program for six to eight weeks. It is very important to continue the exercise program always for a healthy heart as per the guidance of your heart care team.

“Exercise is medicine. Make your exercise program a daily activity and a habit.”

Why do I Need to Exercise Regularly?

Exercise not only strengthens the heart muscle, which helps your heart to work more efficiently but also helps with the following:

- Reduce your stress levels
- Control your blood sugar
- Feel more energetic
- Maintain healthy weight
- Improve your sleep
- Reduce your cholesterol levels
- Lower your blood pressure
- Improve your blood circulation

How to Make my Prescribed Exercise Safe and Effective?

- It is always very important to perform safe and effective exercise program. A safe exercise program consists of warm up, conditioning and cool-down.

Start your Exercise with a Warm Up

- A good warm up will gradually increase your heart rate, increase circulation to your muscles, tendons and ligaments.
- It will increase your body temperature gradually and reduce the potential for after exercise muscle soreness.
- It will mentally prepare you for your workout.
- To begin your warm up, do 10 minutes of light physical activity such as slow walking or moving your joints.

Progress with Conditioning Exercise

- The conditioning phase is the main component of your exercise program.
- Exercises in conditioning phase include: aerobic exercises (e.g. brisk walking, cycling and dancing), resistance exercises (e.g. dumbbells, weight cuffs and elastic bands) and sports related exercises (e.g. swimming and running).
- Exercise must be increased slowly and gradually, particularly for those who have previously undertaken very little exercise.
- You should get the go ahead from your physician or heart care team before starting sports-related exercises.

End your Exercise with Cool-Down

- A cool-down after exercise means slowing down your level of activity gradually.
- It helps your heart rate and breathing to return towards resting levels gradually.
- It helps to avoid fainting or dizziness, which can result from blood pooling in the large muscles of the legs when vigorous activity is stopped suddenly.
- It helps to remove waste products from your muscles, such as lactic acid, which can build up during vigorous activity (lactic acid is most effectively removed by gentle exercise rather than stopping suddenly).
- You should perform low intensity exercise for a minimum of 10 minutes for an effective cool-down.

Your Body's Response to Exercise

- Normally, your breathing becomes faster and your heart rate goes higher when you exercise. You may also sweat and feel tired.

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Abnormal Response to Exercise

- Excessive shortness of breath or unable to talk
- Chest pain or tightness or pain in your arms, neck, jaw or stomach
- Dizziness, light-headedness
- Excessive sweating
- Blurred vision
- Very fast heartbeat or irregular heartbeat (palpitations)
- Nausea and vomiting

If you experience any of these signs or symptoms, it is important that you STOP your exercises/walking immediately and take rest. Call 999 if the symptoms persist.

How Hard I can Exercise?

You can monitor the exercise intensity with the following:

- Heart rate
- Rate of Perceived Exertion (RPE)
- Talk test

How to Check Your Heart Rate?

Place your arm so that your palm is facing up. Take the second and third fingers of your other hand and place them over the blood vessel as shown below - do not use your thumb. Gently feel for the pulse. Count your heart rate for 15 seconds. Multiply that number by 4 (_____ x 4) = _____ beats per minute. During exercise your heart rate should not be 30 beats per minute more than it was at rest.



Talk Test

- When you are doing exercise or walking you should be able to carry on a conversation easily; if not, you are working too hard; slow down a little bit.

Rate of Perceived Exertion (RPE)

- During physical activity/exercise, we want you to measure your exertion level to know how hard the exercise affects you and how tired you are. RPE is the tool used to rate your exercise intensity. It provides a fairly good estimate of your actual heart rate during physical activity/exercise. When you come to know how hard your body feels and your exertion level, it will be easy for you to adjust the intensity of your exercise. This scale rates your intensity of exercise/ physical activity from 6 to 20. A measurement of 6 indicates no exertion and 20 indicates maximal exertion.

	6 No exertion at all
	7 Extremely light
	8
	9 Very light
	10
	11 Light
	12
	13 Somewhat hard
	14
	15 Hard (heavy)
	16
	17 Very hard
	18
	19 Extremely hard
	20 Maximal exertion

We recommend you to keep your rating between 11 (light) and 13 (somewhat hard) during your physical activity/ exercise.

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Things to Remember Before You Exercise

- Wear comfortable, loose clothes and walking shoes with good support.
- In very humid, hot, cold, windy weather, walk indoors where the environment is more controlled (e.g. a shopping mall, or use treadmill at home if you have one).
- Do not begin to exercise if you are very hungry.
- Wait for one hour after eating before you walk.
- Always begin your walk slowly, build your speed, and finish your walk by slowing down for the last few minutes.
- Do not exercise during illness or infection, including the common cold.
- Consider exercising and walking with a friend (buddy system).
- You should be able to carry on a conversation while you walk with your exercise partner (buddy) without running out of breath.
- Get clearance from your physician or heart care team before resuming strenuous exercise and sports activities.

Do's and Don'ts

Do's	Don'ts
<ul style="list-style-type: none">• Pace yourself. Plan your day to include activity and rest.• Avoid extremes of heat or cold.• Apply sternal counter pressure (with pillow/ towel roll) while coughing. This is vital during the first two weeks after discharge.• Use coordinated breathing during activity. Breathe in through your nose as you raise your arms. Breathe out through your mouth as you lower your arms. Do not hold your breath during exercise/activity.	<ul style="list-style-type: none">• Avoid body twisting or deep bending.• Avoid reaching too far across your body.

Your Safe Home Activities

Week One and Two

Activity	May Do	Avoid
Bathing/ Grooming	Shower: <ul style="list-style-type: none"> • Sit to shower • Face away from the shower spray • Use long handle sponge to apply soap to your back • Keep required items at easily reachable level • Use freshly washed clothes/towel 	<ul style="list-style-type: none"> • Very hot or cold water • Soaking in a bath tub or swimming • Perfume, strongly scented soap • Using newly purchased clothes/towels directly on the wound
House Hold Activities	Light Duties <ul style="list-style-type: none"> • Dusting • Setting the table • Simple meal preparation 	<ul style="list-style-type: none"> • Pulling/pushing activities such as, vacuuming, ironing and mopping the floor • Lifting more than 5kg (e.g. Lifting a small child)
Leisure	<ul style="list-style-type: none"> • Enjoy activities such as, reading, TV/movies • Rest after meals and after activities • Visit friends or relatives for short period 	<ul style="list-style-type: none"> • Too many visitors (limit to one or two per day) • Long visits • Strong emotional movies or news
Driving and Traveling	<ul style="list-style-type: none"> • You may ride in a car on discharge but sit in the back seat for more comfort. • For trips longer than one hour, get up and stretch your legs hourly. • Sit comfortably in the back seat with seatbelt. Use a small rolled towel between your chest and the seatbelt. 	Driving <ul style="list-style-type: none"> • It is important that your chest bone heals properly, and sudden twisting involved in turning the steering wheel may pull on your incision. • Don't sit in the front seat to avoid the pressure of the air bag if inflated, because it may affect your wound
Walking and Stairs	<ul style="list-style-type: none"> • Take your time and rest when needed. • When walking outdoors, walk with a buddy. • You can use stairs, depending on your symptoms. 	<ul style="list-style-type: none"> • Using stairs unnecessarily

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Your Safe Home Activities

Week Three and Four

Activity	May Do	Avoid
Bathing/ Grooming	Shower: <ul style="list-style-type: none"> • can stand if comfortable • Use the bath tub if wounds are dry with no discharge or drainage • Use freshly washed clothes/towel 	<ul style="list-style-type: none"> • Very hot or cold water • Bathing for longer than 20 minutes • Using the bath tub if incisions are open or draining • Perfume, strongly scented soap • Using newly purchased clothes/towels directly on the wound
House Hold Activities	Light Duties <ul style="list-style-type: none"> • Making the bed • Meal preparation 	<ul style="list-style-type: none"> • Tasks requiring strenuous arm activities, such as hammering or heavy scrubbing • Lifting greater than 4 to 5 kg
Leisure	<ul style="list-style-type: none"> • Visiting friends • Brief shopping trips or outings 	<ul style="list-style-type: none"> • Avoid strenuous upper arm activities and sports like bowling, heavy groceries, etc.
Driving and Traveling	<ul style="list-style-type: none"> • Short trip and air travel if necessary 	Driving
Walking and Stairs	<ul style="list-style-type: none"> • Can climb stairs depending on symptoms 	<ul style="list-style-type: none"> • Using stairs unnecessarily
Sexual Activity	<ul style="list-style-type: none"> • May resume if you can comfortably climb up two flights of stairs (18 steps continuously) • Assume non-dominant position • Please report: <ul style="list-style-type: none"> • Chest pain during or after sexual activity • Palpitations, increased heart rate or shortness of breath lasting longer than 15 minutes after sexual activity 	<ul style="list-style-type: none"> • Avoid sexual activity if tired / tense or after a heavy meal • Avoid bearing weight on both hands

Your Safe Home Activities

Week Five and Six

Activity	May Do	Avoid
Bathing/ Grooming	<ul style="list-style-type: none"> Shower or Bath tub 	<ul style="list-style-type: none"> Avoid bath tub if incisions are open or draining
House Hold Activities	<ul style="list-style-type: none"> Gradually resume all previous household activities Alternate strenuous and light tasks 	
Leisure	<ul style="list-style-type: none"> Visit friends Brief shopping trips or outings 	<ul style="list-style-type: none"> Heavy lifting Use of arms in large swinging motion for three months to allow the sternum to heal (e.g. golfing, swimming, shoveling, heavy gardening etc.)
Driving and Traveling	<ul style="list-style-type: none"> May drive short distances May travel outside the country if your doctor permits 	
Walking and Stairs	<ul style="list-style-type: none"> Can climb stairs 	
Sexual Activity	<ul style="list-style-type: none"> May resume if you can comfortably climb up two flights of stairs (18 steps continuously) Assume non-dominant position Please report: Chest pain during or after sexual activity Palpitations, increased heart rate or shortness of breath lasting longer than 15 minutes after sexual activity 	<ul style="list-style-type: none"> Avoid if tired/tense or after heavy meal Avoid putting strain on upper body
Return to Work	<ul style="list-style-type: none"> The length of time you will take off work depends on the type of job you have Discuss returning to work with your doctor 	

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Your Emotional Adjustment

When you experience a health crisis, you must recover both physically and emotionally. You may experience a range of emotions when you return home from the hospital. Many of them are normal and are part of the healing process. It is impossible to have a heart condition and not feel like your world has been turned upside-down. Recovering from a heart condition will, at the very least, interrupt your life, and that of your family and friends.

The range of emotions that you may experience when you return home from the hospital commonly includes the following:

- **Sadness:** In the early stages of your recovery, you may feel down, with little energy or motivation. You may feel like your way of life has changed forever.
- **Fear:** This may be the most common emotion and the most understandable. You may have thoughts such as “Am I going to die?” or “Will I be able to return to my job?” These concerns are often made worse by physical symptoms such as chest pain or fatigue. As time passes, your worries and fears should diminish as your life gets back on track.
- **Anger:** This is a common emotion and may include negative thoughts such as “Why me?” or “Why did this have to happen now?”. This anger may cause you to be irritable or lose your patience, particularly with loved ones. Try to remember that they may be going through some of these emotions as well. Being angry is a normal feeling. Try to work through it using stress management techniques, such as prayer, meditation or deep breathing.

You may also experience other feelings such as shock, disbelief, confusion, anxiety, panic, guilt, lowered self-esteem, preoccupation, loneliness, sadness, helplessness, frustration, resentment and bitterness. There are numerous emotions you can experience and each person will experience some or more of these at different levels of intensity. Sometimes writing down your emotions may help you understand what you are feeling.

But you will also experience some positive emotions, such as hope, growth, healing, acceptance, and openness to new opportunities. You may meet new friends in a cardiac rehabilitation program, or discover that a daily walk is energizing and stress-relieving. You may gain a new outlook on life and take the opportunity to reorganize your priorities.

Your Diet After Surgery

The dietician will do an overall assessment of your previous dietary habits and eating behavior. Details of existing medical conditions, eating difficulties, allergies, personal likes and dislikes, current laboratory values, weight with respect to height and waist circumference are noted. Based on these, the daily calories, proteins, fluids and sodium intake will be estimated. Education and individual consultation related to specific disease conditions like diabetes, hypertension, hyperlipidemia, warfarin, renal or hepatic conditions will be extensively discussed by the visiting dietician depending on your case.

Kindly follow the diet chart, meal patterns and meal portions emphasized by your dietician.

Dietary Tips:

1. Eat healthy balanced three meals and three snacks a day. Small frequent portions are advised.
2. Do not skip breakfast.
3. Use low fat and skimmed products.
4. Reduce total oil portions for the day. Restrict fats like butter, ghee and margarine.
5. Increase fiber in diet including whole grains, vegetables, fruits and lentils.
6. Avoid frying and choose steamed, boiled or grilled method of cooking.
7. Limit the amount of all types of refined sugars, pastries, sweetened beverages.
8. Reduce the amount of total sodium in your diet. Consumption of bottled, preserved and canned food items, pickles, instant soups, instant noodles and Maggie stocks are not advisable. Avoid salt shakers at tables.

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9. DO NOT USE SALT ALTERNATIVES. Most of the salt replacements are potassium chloride and it could elevate your potassium levels immediately, if you have heart failure or any renal functions issues. High or sudden levels of potassium can induce chest pain.
10. Do not use green tea if you are on cardiac medications. Regular black tea is advised (with or without milk).
11. Decaffeinated coffee is advised.
12. Limit your tea or coffee consumption to two or three per day.
13. Maintain an ideal body weight.
14. Overall healthy lifestyle modification is advised.
15. During parties, get-togethers, restaurant visits or buffet meals, choose the ideal and healthier options from those provided.
16. Consume 8 to 10 glasses of fluids per day, unless your physician advises you not to.
17. Monitor your fasting and random blood sugars if you are diabetic. Regular monitoring helps to control and maintain ideal blood sugar levels. Talk to your dietician regarding fasting tips during the Holy month of Ramadan, if you have plans to fast.

Your Medication at Home

Your Medication after Valve Surgery

- After your valve surgery, the doctor will prescribe for you a medication called Warfarin. The doctor might prescribe another medication which is Aspirin or Clopidogrel.
- The type of and the duration of taking the prescribed medication(s) will depend on the type of the replaced valve and used valve (mechanical valve or tissue valve). These medications are important to prevent the formation of blood clots and to decrease their associated problems, mainly strokes.

The following table summarizes the medication(s) that you will use after your valve surgery:

Medication	Generic/ Trade Name	Indication	Best Taken	Possible Side Effect(s)
Warfarin <ul style="list-style-type: none"> Prevents harmful blood clots from forming or growing larger Used to prevent strokes 	Coumadin®	Blood thinner	<ul style="list-style-type: none"> With or without food Take with food if it causes an upset stomach 	<ul style="list-style-type: none"> Minor bleeding from cuts or injuries Bleeding gums Menstrual bleeding (heavier than normal) Nosebleeds Easy bruising Nausea and vomiting Red, pink or brown urine Hair loss (rare)
<p>The clinical pharmacist will explain to you more about warfarin (Coumadin®) and provide you with the instructions to be followed while you on this medication. Also a warfarin booklet will be provided</p>				
Aspirin <ul style="list-style-type: none"> Prevents platelets from becoming sticky and clumping together to prevent the formation of (blood clots) Used to prevent strokes 	Aspirin®	Blood thinner	With food	<ul style="list-style-type: none"> Heartburn Stomach pain Nausea and vomiting (eating small frequent meals or chewing sugar free gum may help prevent vomiting and nausea) Bleeding problems (bruising, nosebleed, throwing up blood, blood in stool or urine) Itching and rashes
Clopidogrel <ul style="list-style-type: none"> Prevents platelets from becoming sticky and clumping together (blood clots) Used to prevent strokes 	Plavix®	Blood thinner	<ul style="list-style-type: none"> With or without food Take with food if it causes an upset stomach 	<ul style="list-style-type: none"> Heartburn Stomach pain Nausea and vomiting (eating small frequent meals or chewing sugar free gum may help prevent vomiting and nausea) Bleeding problems (bruising, nosebleed, throwing up blood, blood in stool or urine) Itching and rashes

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Your Medication after Coronary Artery Bypass Surgery (CABG)

Most people who have had done CABG are sent home with prescriptions for several medications. It is important to take each of these drugs every day. Some of these medications can help you maintain good quality of life while others help prevent or treat recurrent symptoms, like chest pain.

The following table summarizes the main classes of prescription medications used to treat people after CABG:

Medication	Generic/ Trade Name	Indication	Best Taken	Possible Side Effect(s)
<ul style="list-style-type: none"> Aspirin Prevents platelets from becoming sticky and clumping together to prevent the formation of blood clots that can block either the graft or your own arteries Used to prevent strokes and heart attack 	Aspirin®	Blood thinner	<ul style="list-style-type: none"> With food 	<ul style="list-style-type: none"> Heartburn Stomach pain Nausea and vomiting (eating small frequent meals or chewing sugar free gum may help prevent vomiting and nausea) Bleeding problems (bruising, nosebleed, throwing up blood, blood in stool or urine) Itching and rashes
<ul style="list-style-type: none"> Clopidogrel Prevents platelets from becoming sticky and clumping together (blood clots) Used to prevent strokes and attack 	Plavix®	Blood thinner	<ul style="list-style-type: none"> With or without food Take with food if it causes an upset stomach 	<ul style="list-style-type: none"> Heartburn Stomach pain Nausea and vomiting (eating small frequent meals or chewing sugar free gum may help prevent vomiting and nausea) Bleeding problems (bruising, nosebleed, throwing up blood, blood in stool or urine) Itching and rashes

Medication	Generic/ Trade Name	Indication	Best Taken	Possible Side Effect(s)
Beta blockers <ul style="list-style-type: none"> • Are medications that lower your blood pressure and decrease your heart demand for oxygen • If you can't tolerate a beta blocker, another medicine may be used in its place 	Atenolol: Tenormin® Bisoprolol: Concor® Carvedilol: Dilatrend® Metoprolol tartrate: Lopressor® Labetalol: Trandate® Nadolol: Corgard® Propranolol: Inderal® Sotalol: Betapace®	Improve weakened heart by blocking chemicals that stimulate the body	<ul style="list-style-type: none"> • Taken with food: • Carvedilol, Labetalol, Metoprolol • Taken on an empty stomach: Propranolol • Take with or without food: • Atenolol, Bisoprolol, Nadolol, Sotalol 	<ul style="list-style-type: none"> • Might mask the signs and symptoms of low blood glucose except sweating, if you have diabetes • Dizziness • Depression • Fatigue • Sexual dysfunction • Slows your heartbeat
ACE inhibitors <ul style="list-style-type: none"> • Can lower blood pressure and limit the size or damaging effects of the heart attack • May also help prevent heart failure and future heart attacks 	Captopril: Capoten® Cilazapril: Inhibace® Enalapril: Renitec® Fosinopril: Staril® Lisinopril: Zestril® Perindopril: Coversyl® Ramipril: Altace®	Improve heart function after heart attack	<ul style="list-style-type: none"> • Before food: • Captopril • With or without food: • Others 	<ul style="list-style-type: none"> • Sudden lowering of blood pressure with change in body position • Lowers your blood pressure • Dizziness • Dry cough • May increase the potassium level in your blood

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Medication	Generic/ Trade Name	Indication	Best Taken	Possible Side Effect(s)
<ul style="list-style-type: none"> • ARBS • Recommended for those who are intolerant to ACE Inhibitors 	Irbesartan: Approval® Losartan: Cozar® Valsartan: Diovan®	Improve heart function after heart attack 'ACEI alternative'	<ul style="list-style-type: none"> • With or without food 	<ul style="list-style-type: none"> • Lowers your blood pressure • Dizziness • May increase the potassium level in your blood
<ul style="list-style-type: none"> • Statins • Are medication that helps lower your cholesterol level • Recommended after a heart attack even if your cholesterol level is normal 	Atorvastatin: Liptor® Fluvastatin: Lescol® Pravastatin: Lipostat® Rosuvastatin: Crestor® Simvastatin: Zocor®	Lowers cholesterol Slows the progression of heart disease	<ul style="list-style-type: none"> • With or without food • Simvastatin and fluvastatin have to be taken in the evening 	<ul style="list-style-type: none"> • Muscle pain • May affect your liver

Medication	Generic/ Trade Name	Indication	Best Taken	Possible Side Effect(s)
<ul style="list-style-type: none"> Nitrates* Medication that dilates coronary blood vessels, bringing more blood to the heart muscle Decrease the blood pressure and reduce the amount of blood returning to the heart, which decreases the heart's demand for oxygen Given to prevent and treat further episodes of chest pain <p>*Nitrates</p> <ul style="list-style-type: none"> may be given if some of the coronary blood vessels could not be bypassed 	Glyceryl trinitrate (Sublingual tablet or spray) Nitroglycerin Patch Nitroderm TTS ® Isosorbide mononitrate tablet. Isosorbide dinitrate tablet: Isoket ®	Treats chest pain or pressure and improves a weakened heart	<ul style="list-style-type: none"> Sublingual (under the tongue) Tablet/ Spray Tablet: Place 1 tablet under tongue and allow to dissolve. Don't crush, break, or chew. 1 spray under the tongue; immediately close mouth If relief is not attained after a single dose during chest pain, additional doses may be given at 5-minute intervals. If pain persists after a total of three doses within a 15-minute period, prompt medical attention is recommended <p>Oral :</p> <ul style="list-style-type: none"> Take oral products on an empty stomach <p>Patch :</p> <ul style="list-style-type: none"> Apply a patch at a similar time of a day, on an area without hair 	<ul style="list-style-type: none"> Dizziness (Rise slowly over several minutes from sitting or lying position. Be careful while climbing stairs) Flushing (Wearing fewer layers of clothes and stay in a cool environment may help) Headache (This may improve after taking the medicine regularly for a week) Skin irritation

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Special Instructions after Valve Surgery

- See the doctor if you think you have an infection, such as a cough or sore throat that lasts two to three days, wound infection, or if you have a fever.
- When making any appointment (doctor, dentist etc.), you must tell them that you had valve surgery.
- You may be given an antibiotic pill one hour before your procedure to prevent infection.
- You should carry your valve card with you always. This will let people know that you had valve surgery.

Cardiac Rehabilitation

Outpatient cardiac rehabilitation will help in healing after your heart surgery. The program is open to anyone with heart disease. It will help you to do the following:

- Learn a safe level of activity for you
- Increase your muscle strength and movement with exercise
- Improve your diet, lifestyle and health
- Reduce your risk of further heart disease and help you live longer
- Increase your confidence and desire to be healthy
- Deal with any feelings of sadness and fears you might have
- Improve your quality of life
- Help you return to former activities

The program has group sessions. You will be involved in making your own program. Then the cardiac rehabilitation team will help you create a program to fit your needs.

Your cardiac rehabilitation team includes doctors, nurses, physiotherapists, dieticians, occupation therapists, exercise therapists, social workers, pharmacists, and psychologists. Your cardiac rehabilitation team will report your progress to your doctor.

Cardiac rehab will help reduce your risk factors for heart disease by helping you to do the following:

- Become more active
- Stop smoking
- Lose weight
- Lower your cholesterol
- Control your blood pressure
- Control your diabetes
- Reduce your stress

Discharge instruction

- Before going home, you will be given prescriptions for the medication your surgeon wants you to take at home. These may not be the same as the medication you took before your surgery.
- You will be given a discharge summary sheet and medication prescription sheet when you go home. You will need to make an appointment to see your doctor 10 to 15 days after your discharge.
- Take the discharge summary sheet with you to that appointment. Your doctor is responsible for renewing any medications you need. Before you go home, feel free to ask any questions you may have.

Eat Healthy

Always remember to eat healthy food. A low fat and low salt diet is recommended. Your dietician will help you to follow a plan called Therapeutic Lifestyle Changes (TLC) that can help to minimize the risk of heart disease and improve your overall health.

Eat Well

Eat a variety of healthy balanced meals each day. Have three regular meals and intermediate healthy snacks, even if you are not very hungry. You have to meet the daily body requirements of nutrients in the form of healthy calories, proteins, vitamins, minerals and fluid to help you heal after your surgery. This requirement varies from person to person. Your dietician will assist you to maintain a healthy diet regime as per your needs.

A Guide to Recovery after Heart Surgery

When to report to emergency

Please report to the Emergency Department if you have any of these problems:

- A rapid heart rate (palpitations)
- Chest pain (Angina), just like the kind you had before your surgery.
- Breathing that becomes more difficult and painful, that your pain medication has not helped
- Increased swelling and pain in either of your lower legs
- Chills or fever (38° C or 100°F by mouth)
- Pain that is not helped by your pain pills
- Redness and swelling of your incision(s)
- Yellow/green drainage from your incision(s)
- Swelling of your feet or ankles that gets worse over two days or remains the same after eight weeks
- Sudden weight gain or you gain more than five pounds (2.5 Kg) in five days.
- Black colored stool or rectal bleeding
- Burning pain when you pass urine

Report to Emergency

Please report to the Emergency Department if you have any of these problems if you have any of the above problems and cannot reach call the Ambulance Service on 999

Useful Websites

- <http://www.world-heart-federation.org> World Heart Federation
- www.heartandstroke.ca Heart and stroke Foundation of Canada
- www.bhf.org.uk British Heart Foundation
- www.americanheart.org American Heart Association
- www.eatright.org Academy of Nutrition & Dietetics
- www.lung.ca Canadian Lung Association