SAINT AGNES MEDICAL CENTER

# Your Guide to Open Heart Surgery

# We take your care to heart

*Since we began our cardiac surgery program more than 50 years ago, thousands of patients have trusted their heart care to Saint Agnes Medical Center. No other Valley hospital has a more experienced team to care for your complete cardiac needs in body, mind and spirit.*

*Though we have performed countless heart surgeries, we understand that every patient's experience is unique. We have prepared this booklet to answer questions you may have about your upcoming procedure. Even with all this information, we expect you will still have some questions that need answering. So as you prepare for your surgery, please don't hesitate to talk further with our doctors and staff.*

*On behalf of our entire Saint Agnes team, thank you for entrusting us with your care. You deserve the very best, and we are committed to delivering nothing less.*

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# YOUR HEART

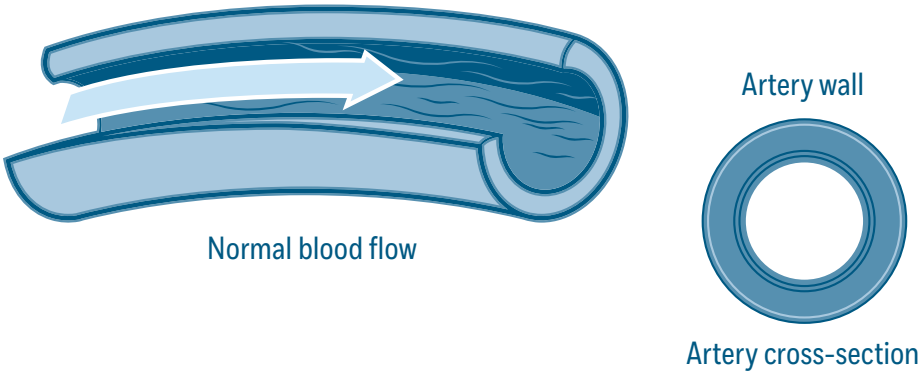
Your heart is a muscular pump about the size of your fist, sitting in the middle of your chest behind the breastbone *(sternum)*. Its purpose is to circulate blood throughout your body.

It does this by pushing the blood through the heart's four chambers and four one-way valves. The right side of the heart pushes the blood to the lungs to get oxygen; the left side pushes the blood out to the body to deliver oxygen and nutrients. The blood is returned to the heart through your body's veins so the process can start all over again.

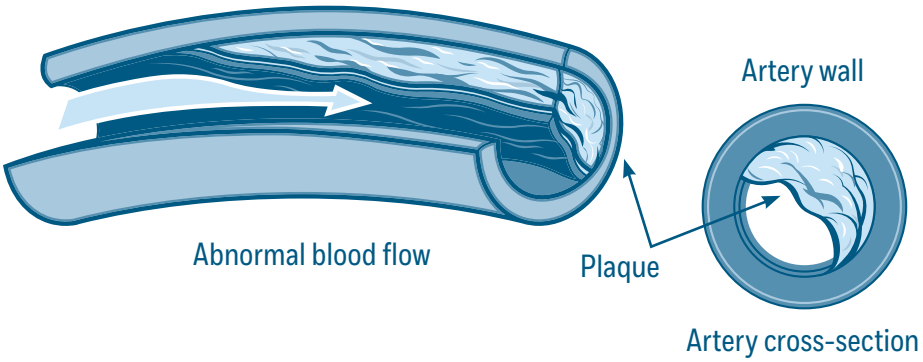
For your heart to do this work every minute of every day, it needs oxygen and nutrients, which are delivered by the coronary arteries. If blood supply through the coronary arteries is not adequate *(coronary artery disease)*, the heart muscle will not get the needed nutrients and oxygen, resulting in chest pressure/burning *(angina)*. When the blood supply to the heart muscle is very restricted, it will die/scar *(heart attack)*. Scarring of the heart muscle will make the heart weak *(heart failure)*.

Coronary artery disease is the most common form of heart disease in the United States. It is caused by atherosclerosis *(the buildup of cholesterol, calcium deposits and plaque)* within the coronary arteries. As these deposits build up, the vessels narrow, which restricts blood flow.

**A. Normal artery**




**B. Narrowing of the artery**



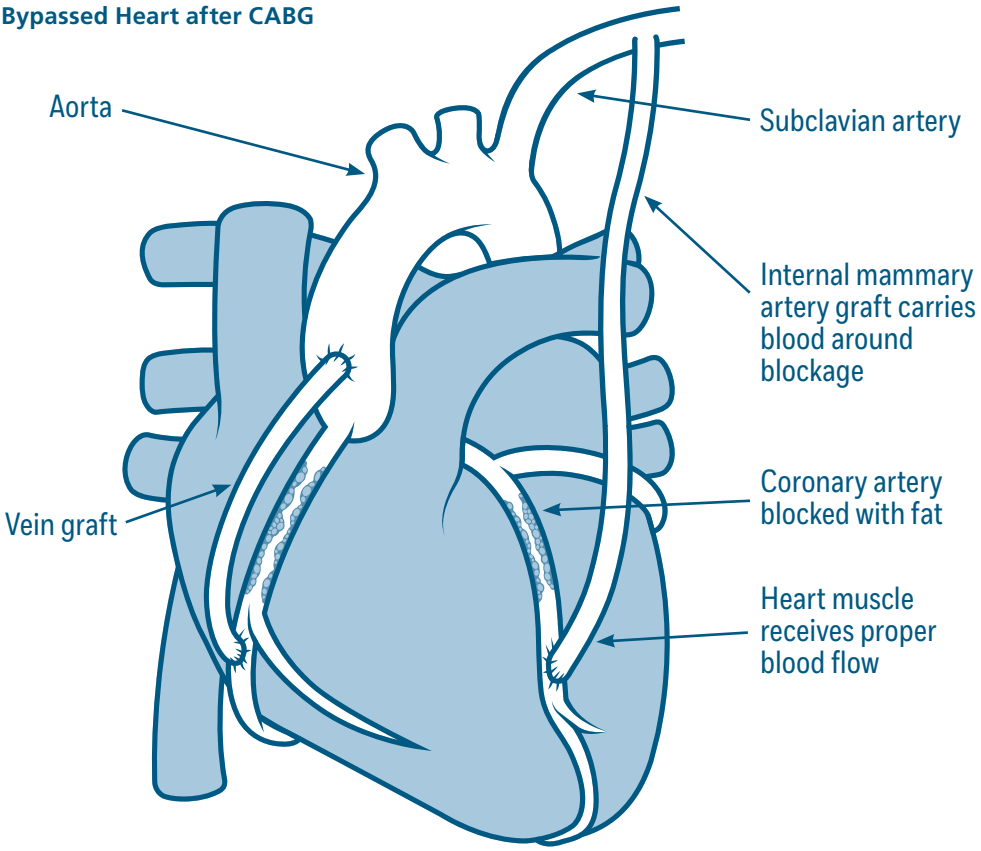
## Coronary Artery Bypass Graft (CABG)

If the buildup of plaque in the coronary arteries becomes severe, it may be necessary to have Coronary Artery Bypass Grafting *(CABG)* to restore adequate blood flow to the heart muscle. To perform the CABG, the surgeon typically makes an incision in the breastbone *(sternum)* to get to the heart. Once the heart is exposed, tubes are places into the heart so blood can be routed from the body to the heart-lung machine *(cardiopulmonary bypass machine)*.

The bypass machine does the work of the heart and lungs while the heart is stopped and the surgeon is performing the bypass. In some instances, the surgeon may choose to do the operation "off-pump" while the heart is beating. In this case, the chest will be opened in the same manner.

To complete the bypass procedure, one end of the graft will be sewn onto the aorta; the other end will be sewn onto the artery downstream from the blockage. This re-routes blood so it can flow unobstructed, around the blockage to the heart muscle. Blood vessels *(grafts)* used for the bypasses may be the Internal Mammary Artery *(in the chest)*, Radial Artery *(from the arm)* or Veins *(from the leg)*. These are removed with open incisions or by endovascular harvest. Depending on how many areas are blocked, one or more bypasses may be necessary. Your surgeon will perform as many bypasses as necessary to maximize the blood flow back into the heart muscle. After open heart surgery, the breastbone *(sternum)* is closed with stainless steel wires and the skin is sutured or stapled closed.

**Bypassed Heart after CABG**



## Heart Valve Surgery

Blood is pumped through the heart by the muscle, but it is the valves that keep the blood flowing in the right direction. These valves are normally thin and very strong. They move like sails in the wind, opening for blood that is moving in the right direction and snapping shut when the blood tries to flow backward. When the valves are not working as designed, you may experience shortness of breath, fatigue or swelling.

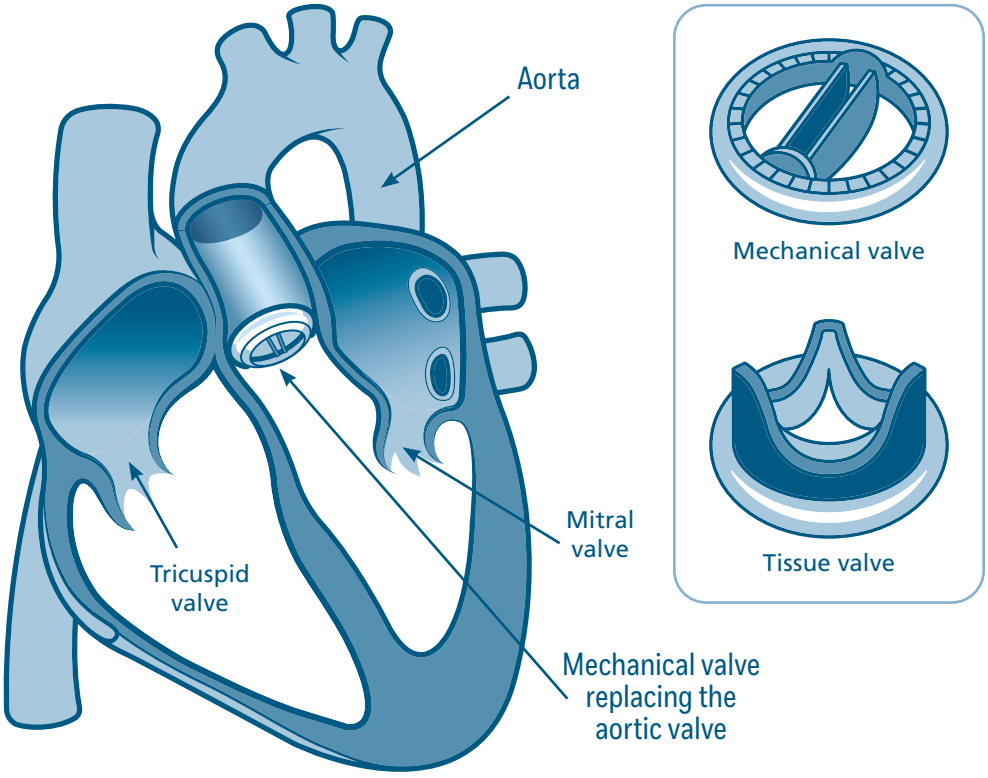
Abnormal valves will either become thickened and narrow *(stenosis)* or they will fail to meet well together, which allows blood to leak backwards *(regurgitation)*. Depending on which valve is not working properly and what's causing the problem, the surgeon will either repair the valve or, if necessary, replace it.

If valve replacement is necessary, the chest will be opened and closed in a similar manner as for CABG. There are two types of artificial valves from which to choose: tissue or mechanical. As the name implies, tissue valves are made from real tissue, either a pig's heart or the sack that surrounds a cow's heart. The body considers a tissue valve to be natural, so the recipient does not need to take long-term blood thinners, like Coumadin. The downside of this valve is that it typically breaks down and wears out in 8-12 years.

A mechanical valve, on the other hand, can last forever. But it requires patients to take a blood thinner for the rest of their lives. Mechanical valves look like metal but are actually made from carbon.

Your doctor will discuss the available options and help you come to a decision about which valve is best for you.

**Bypassed Heart after Aortic Valve Surgery**



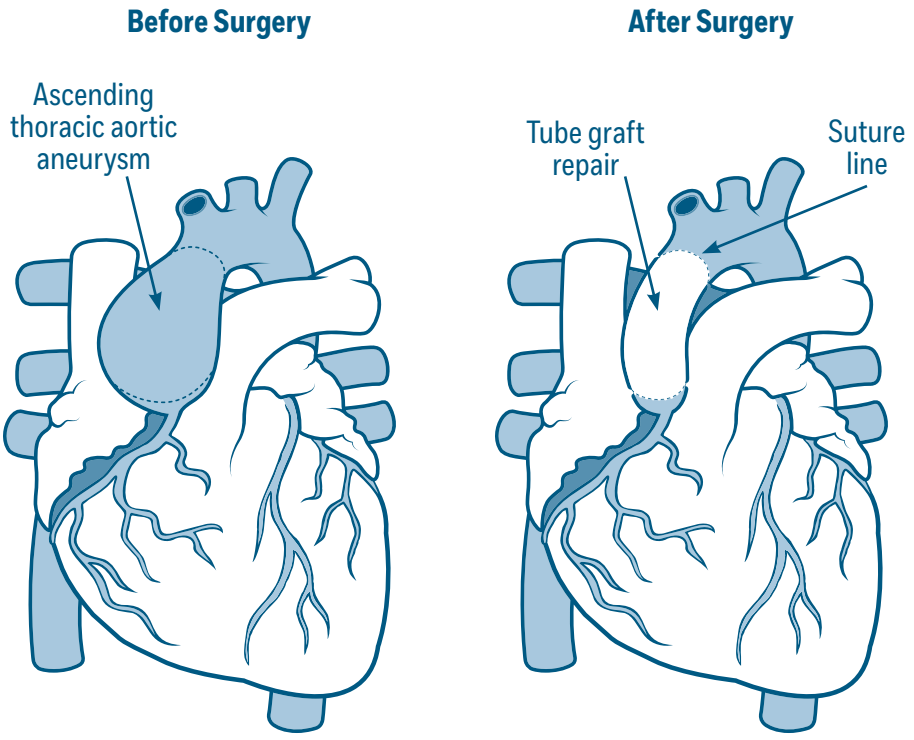
## Aortic Aneurysm Repair

The aorta is the largest blood vessel in the body directing blood out of the heart. An aneurysm is an outpouching or bulging of a portion of a blood vessel. When the aorta bulges, it becomes thin and tense, just like blowing too much air into a balloon. At a certain size the dilated portion of the vessel wall is in danger of rupturing or tearing, which is a life-threatening emergency. The goal of surgery is to prevent that from happening by removing the dilated portion of the vessel and replacing it with a graft or tube of synthetic material.

Surgery involves making an incision in the breastbone *(sternum)* to access the aorta. Once the aorta is exposed, you will be placed on the heart-lung machine *(cardiopulmonary bypass machine)*. The bypass machine does the work of the heart and lungs while the aneurysm is removed. The aneurysm is then cut out and a fabric graft is sewn in to replace the portion that was removed.

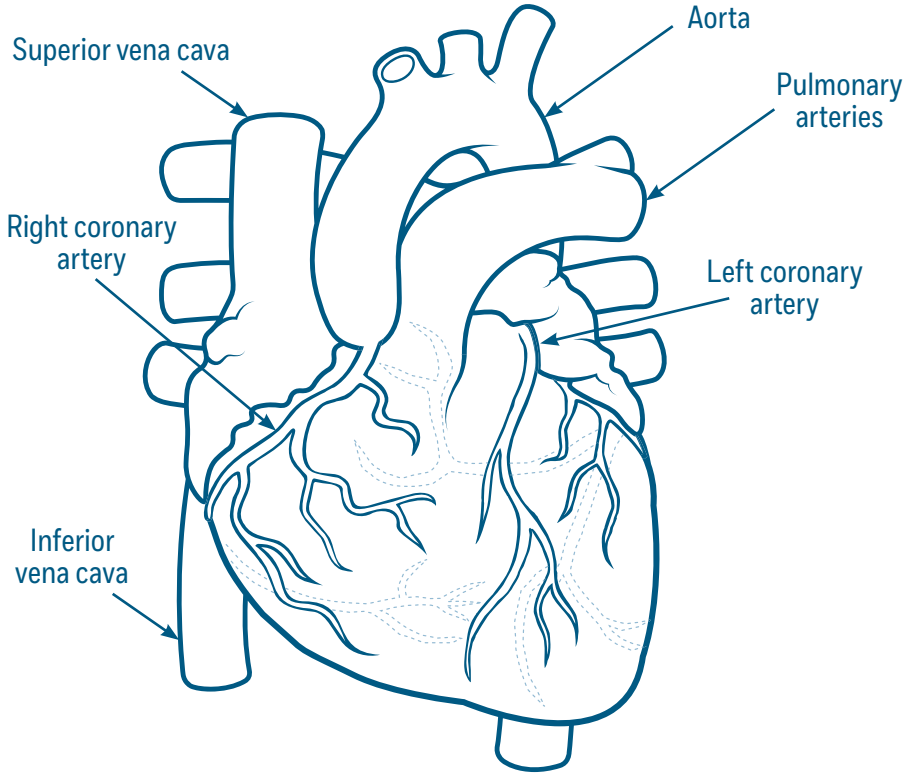
Some aortic aneurysms are located very close to the aortic valve, which interferes with its function and can cause some blood to leak backward into the heart. When this happens, it may be necessary to replace both the aneurysm and the aortic valve. After this is completed, the breast bone *(sternum)* is closed with stain-less steel wires and the skin is sutured or stapled closed.

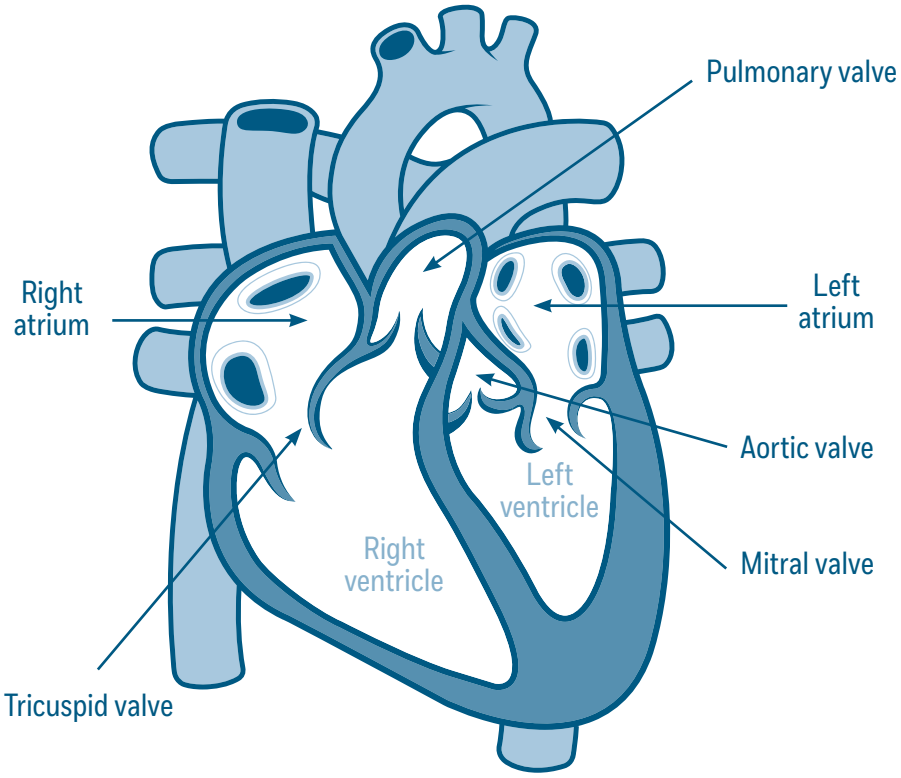
**Bypassed Heart before and after Aneurysm**



## Your Heart

Ask your surgeon to show you what your surgery entailed by marking on these diagrams.



## Blood Transfusions

During heart surgery, some blood is lost and some is damaged by the bypass machine. Prior to surgery, your surgeon will discuss the likelihood of you needing a transfusion and will explain the associated risks.

Some patients may have the option of donating their own blood to use for their surgery. Keep in mind that it takes time to rebuild your blood supply following a transfusion, so if you choose to use your own, your surgery may need to be delayed up to several weeks.

If you have religious or personal objections to the use of blood transfusions, treatment options that avoid use of transfusion are available. To learn more, please request a copy of the Transfusion-Free Medicine and Surgical Program booklet.

All these options can be discussed with your doctor prior to surgery.

YOUR SURGERY AND HOSPITAL STAY

# Preparing for Surgery

Prior to your surgery, you will need to have blood tests, a urine test, chest X-ray, and an EKG, as well as get swabbed for methicillin-resistant Staphylococcus aureus *(MRSA)*. If you are not admitted to the hospital before surgery, these tests will be done as an outpatient through our Pre-Admission Testing *(PAT)* department.

Additionally, your surgeon will obtain an ultrasound to study the carotid arteries in your neck to see if they are narrowed by disease. This is a painless study and only takes a few minutes. If these results show severe decrease of blood to the brain, your surgeon may contact a vascular surgeon to get their opinion on your condition prior to proceeding with surgery.

## Bathing before surgery

You will be instructed to take a bath the night before your surgery and again on the morning of your operation using special soap. It is very important that you use this specific soap because it kills bacteria on your body and decreases your chance of infection.

## Eating and drinking before surgery

You may drink and eat until midnight before your operation. But once the clock strikes midnight, you cannot have anything to eat or drink unless instructed by your doctor or nurse. The same holds true even if your surgery is scheduled later in the day.

Sometimes an opportunity arises to move your surgery up, but we can only take advantage of it if you have no food or liquid in your stomach.

## Packing for your hospital stay

Please bring these items with you:

- ☐ List of all current medications.
- ☐ Toiletries *(i.e., comb, toothbrush, toothpaste, deodorant)*.
- ☐ Glasses, dentures, hearing aids
- ☐ In lieu of flowers, you are encouraged to bring photos from home.

Please DO NOT bring these items with you:

- ☐ Jewelry (i.e., wedding ring, watch, earrings) **It is very important to remove all rings to prevent having them cut off before surgery.*
- ☐ Cash
- ☐ Credit cards

*NOTE: Your family will be instructed to bring clean, comfortable clothes for you to wear when it is time to go home.*

To ensure that none of your valuables get lost or misplaced as you are transferred to different areas, we kindly ask that you leave all valuables at home.

## Surgery Day Has Arrived

Every member of your care team is committed to making your day of surgery a smooth one. There are times, however, when an operation must be delayed due to an emergency. Should such a situation arise, your surgical team will let you know right away and will keep you updated about the status of your surgery.

On the day of surgery, it is important that you arrive at your scheduled time. If you are the first case of the day, we look forward to seeing you bright and early at 5 a.m.

After you have been prepped for surgery, you will meet the members of your Operating Room *(OR)* team. Your anesthesiologist will explain going to sleep before surgery and waking up afterward; the OR nurses will make sure you understand what your operation entails; and your surgeon will make every attempt to meet with you and your family to review your planned procedure.

Each member of your team will be asking you questions – many of which will be the same. Please understand that this repetition is intentional and is proven to promote the safest delivery of care.

## While You Are Asleep

You will have an IV started in preop and be given a light sedative as you go into the operating room. Once you are drowsy, the anesthesiologist will place additional IV lines in your neck, wrist, groin or chest. These are used to give you fluids and medications, and to monitor your vital signs during and after surgery. Once these lines are in place, you will go to sleep.

While you are asleep, we will place a tube into your trachea *(the breathing tube to your lungs)* to help you breathe. This is necessary because you will be so asleep that your body will forget to breathe on its own. Another tube, called a foley catheter, will be inserted into your bladder so you won't have to worry about urinating. Finally, we will cleanse your surgery site with more bacteria-killing solution. Now, you are officially ready for surgery to begin.

## When You Awake

Your road to recovery begins in the Cardio-vascular Intensive Care Unit *(CVICU)* on the third floor of the North Wing. You will stay in the CVICU for 2-4 days if recovery goes as expected. This unit offers open visitation for immediate family only. However, please understand that visits are at the discretion of the care team, based on your condition and care needs. As you begin to heal, you will transition to one of our private Telemetry rooms in the North Wing.

## Breathing tube

When you awake from surgery, you will notice that the breathing tube is still in your mouth, connected to a breathing machine. Rest assured, as soon as your nursing staff and respiratory therapist determine that you are ready to breathe on your own, they will gently remove the tube.

## Chest tube

During surgery, several tubes will have been placed near your heart to monitor for blood loss after surgery. These usually stay in place until the fluid has slowed down or quit draining from your chest and your lungs have re-expanded.

Just like your finger may drain clear fluid after a cut, it is normal for your chest to have clear or blood-tinged drainage for several days. This is normal and watched closely by your nurses and surgeons. Having the tubes removed may seem scary, but it's very normal ... and it does not require a return trip to the operating room.

## Deep breathing and coughing

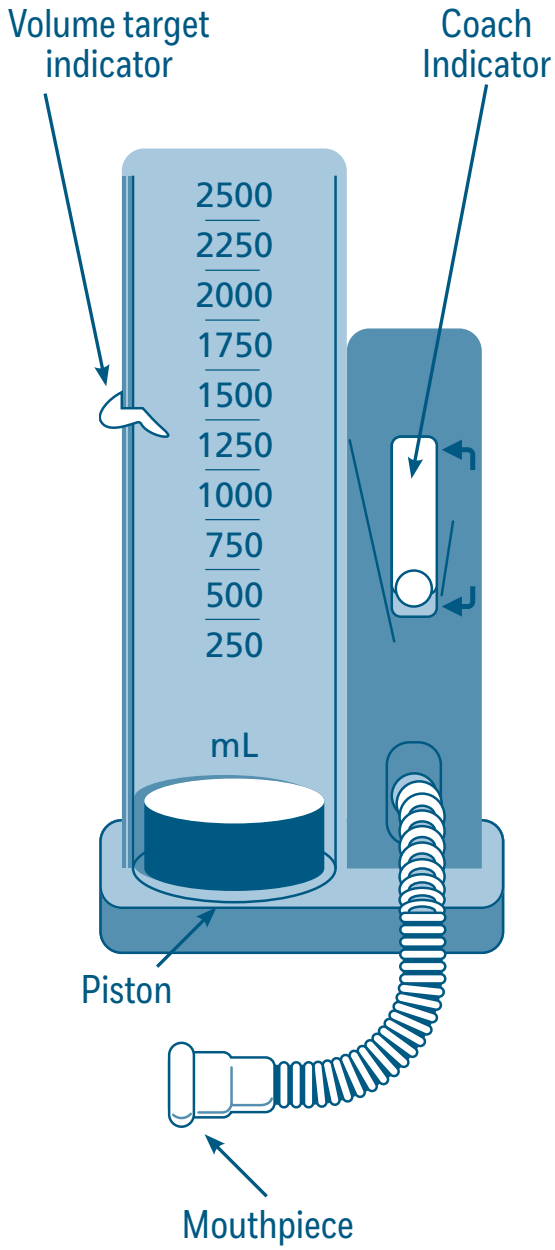
Essential to preventing pulmonary infections and helping rid your lungs of mucous and phlegm are proper deep breathing and coughing techniques. Your Heart Hugger pillow, which you will receive after surgery, makes this easier and will also help you better control your pain. Your nurse will show you how to "hug your pillow" close to your chest.

### Deep breathing and coughing Instructions

| | |
|---|---|
| **1** | Breathe in slowly through your nose. Hold heart pillow over your chest. |
| **2** | Hold your breath for 3-5 seconds before exhaling. |
| **3** | Lean forward as you breathe out. |
| **4** | Cough 2 or 3 times as you exhale with your mouth slightly open. Make the coughs short and sharp. The first cough brings the mucus through the lung airways. The next coughs bring it up and out. |
| **5** | Inhale again but do it slowly and gently through your nose. Do not take quick or deep breaths through your mouth, as this can block the mucus coming out of the lungs. It also can cause uncontrolled coughing. |
| **6** | Rest and repeat if you need to. |

## Incentive Spirometer

An Incentive Spirometer *(IS)* is key to minimizing complications and preventing pneumonia after surgery. Immediately after surgery, your respiratory therapist will teach you how to use an IS to fully inflate your lungs. This important exercise should be performed regularly during your hospital stay and once you go home, as directed by your therapist.




### Incentive Spirometer Instructions

1. Move the volume target indicator on the outside of the large column to the level that you want to reach or that your doctor has recommended.
2. Sit straight and hold the spirometer in front of you. Be sure to keep it level.
3. To start, breathe out normally. Then close your lips tightly around the mouthpiece.
4. Make sure that you do not block the mouthpiece with your tongue.
5. Take a slow, deep breath. Breathe in as deeply as you can. As you breathe in, the piston or ball inside the large column will move up. Try to move the piston or ball as high up as you can or to the level your doctor has recommended.
6. When you cannot breathe in anymore, hold your breath for 2-5 seconds.
7. Relax, take the mouthpiece out of your mouth, and breathe out normally.
8. Repeat steps 1 through 7 ensuring the piston has returned to the bottom of the large column before starting again, do this ten times every hour while awake in the hospital and every 2 hours while awake at home.
9. After you have taken the recommended number of breaths, try to cough a few times.
10. When at home, record your best effort in the worksheet provided on pages 26 and 27.

## Bipap

Post open heart surgery BIPAP use can improve oxygenation, reduce atelectasis *(lung collapse)* and potentially decrease the risk of reintubation and other respiratory complications.

When using a BIPAP, the patient will wear a mask and receive two levels of pressurized air. One pressure level is delivered when you inhale, and a lower pressure is delivered when you exhale. Your provider will order BIPAP for you if indicated.

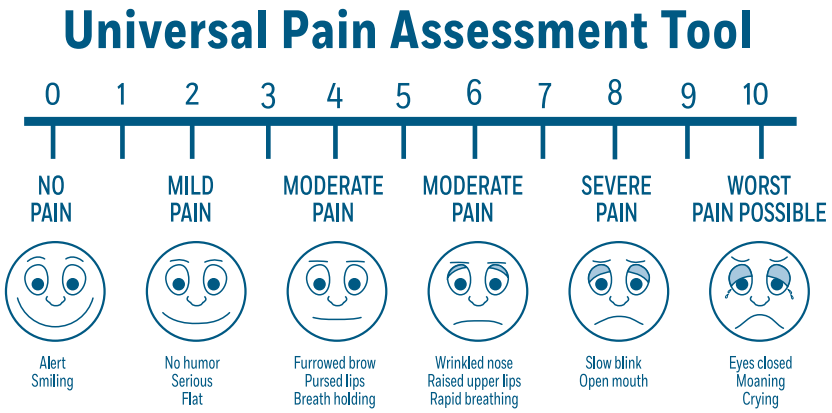
## Lung expansion therapy

There are several non-invasive techniques used to administer hyperinflation therapy *(e.g. I.S., IPPB, CPAP, or EzPAP)*. Lung Expansion Therapy is a common therapy that involves applying volumes greater than normal to reinflate collapsed alveoli in the lungs which can sometimes result after surgery or heavy sedation. Preventing atelectasis is important because it can lead to a decrease in lung function and an increased risk of pneumonia or the development of lung scarring.

## Pain management

You will experience pain after surgery ... but with proper medication, given on a timely and consistent basis, we can manage it and keep you comfortable. Please do not hesitate to let us know if you are experiencing pain so we can address it before it becomes intolerable.

You may also wish to consider non-pharmalogical methods to reduce pain, such as relaxation techniques, music therapy and deep breathing exercises.



## Patient-controlled analgesia pump

You may be placed on a patient-controlled analgesia *(PCA)* pump. This is a safe way for people in pain to give themselves pain medicine when they need it. A PCA pump gives you the ability to control your pain. It can also help you feel less anxious and less worried about your pain. You may also be able to use less medicine. When you feel your pain starting, you press a button that you hold in your hand.

After you press the button, the pump releases pain medicine. Your doctor or nurse will set the pump to make sure that you do not give yourself too much medicine. Even if you press the button, the pump will not give you more medicine if it is not time for your next dose.

Sometimes, family members or friends may offer to press the button on the PCA pump for you. But you are the only person who should press the button. Only you know when you need more pain medicine in your body. If you are too sleepy to press the button, you do not need more medicine.

## Progressive ambulation

Activity, including walking is very important to a speedy recovery. You will begin slowly – from sitting up on the side of the bed to eating all meals in a chair and, finally, to walking three to four times daily.

Within no time, you will be increasing your number of walks and distance each day. In between periods of activity, remember to get plenty of rest. Once you are cleared by the nurse, you can begin to walk independently.

## Daily weight

Close monitoring of your weight is an important part of recovery. While in the hospital, you will be weighed daily. You are encouraged to continue this practice for the first several weeks at home.

*Be aware that you may gain several pounds in water weight immediately after surgery.*

## Diet and appetite

It is common to experience nausea and vomiting after surgery. These can be relieved with medications. You are also likely to have a poor appetite for several weeks, but it is important to eat as tolerated to regain your strength and heal your incisions. Throughout your hospital stay your blood sugars will be closely monitored. Your first meal – usually the morning after surgery – will be clear liquids. As you can tolerate more, you will progress to a regular diet.

It is not unusual to have a poor appetite for several weeks after surgery. During recovery, small meals or snacks are encouraged to get the nourishment you need rather than eating three large meals.

Key to maintaining a healthy heart is establishing a healthy diet. But for some patients, reducing sodium, eating less red meat and consuming more fruits and vegetables is easier said than done.

A nutrition chart is provided on pages 23-24 to help you make healthier food choices.

## Wound care

Your nurse will change your incision dressings once a day or more, as needed. Once the incisions are clean and dry with no signs of infection, they will not need to be covered. Leaving them open to air helps to speed the healing process.

## Bowel function

It may be a couple days after surgery before you have a bowel movement. If you are having difficulty, please talk to your nurse, who can give you medication to provide relief. Be careful not to strain or bear down as this can increase pressure on the heart.

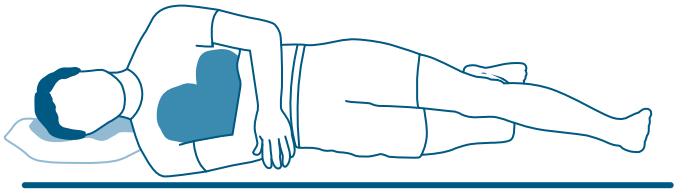
## Quiet time

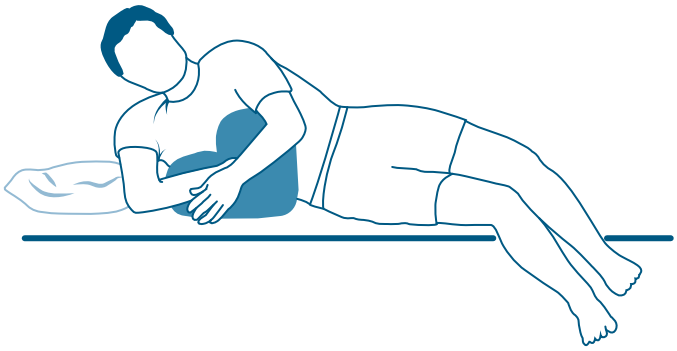
To promote rest and healing for your loved ones during their stay, we provide quiet hours from 1-4 p.m. and 10:30 p.m.-3:30 a.m. Please plan visitation and phone calls outside of these times.

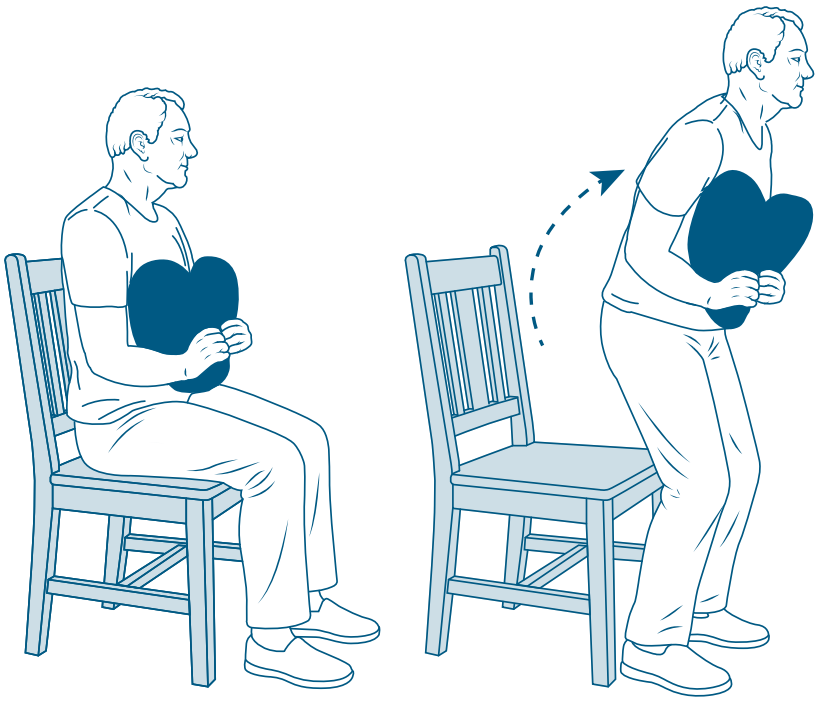
## Getting in and out of bed

To gain access to the heart during surgery, a large incision is made through the breastbone *(sternum)*. For this incision to heal properly, please follow these guidelines and precautions during the next 6 to 8 weeks.

- ☐ When getting up from bed, roll on your side like a log and slowly let your legs drop to the floor as you raise your upper body.
- ☐ When getting up from the chair or the edge of the bed, lean forward and use the strength of your legs to stand up. Do not push or pull yourself up with your arms. Arms should be used only for balance.
- ☐ To ensure your safe and speedy recovery at home, your nurse will review these instructions with you before you leave the hospital.







# CONTINUING RECOVERY AT HOME

## Support at home

You are encouraged to have a family member or a friend stay with you the first week after you are discharged home. While you are recovering, you will need support with daily activities. It is okay if this person leaves for a short time to run errands. If you are unable to have someone stay with you, you should plan to have someone check in on you several times throughout the day and evening.

## Hand washing

Proper hand washing is the single most effective way of preventing infection. So be sure to wash your hands frequently, for at least 15 seconds, before eating, after using the restroom, before cleaning or touching any surgical incision, or anytime hands are soiled. Also, have plenty of hand sanitizer on hand to offer your family and other visitors.

## Signs of infection

Call your surgeon's office if you notice any warmth, redness or swelling around your incision extending greater than one inch. A small amount of clear or blood-tinged drainage is normal, but if the drainage increases, has a strong odor, or looks creamy, call your surgeon.

## Incision care

To lower the risk of infection, it is important to properly clean your surgical incisions. Thorough daily cleaning of your surgical incision is essential. At home during your shower, use a soapy washcloth to gently wipe along your incision, moving up and down 3-5 times, then rinse the incision from top to bottom with water. Gently pat dry. Please do not put any ointments, rubbing alcohol, aerosol, lotions or powders on incision sites.

If there is drainage, re-dress with a clean dressing. If there is no drainage, leave open to the air.

## Bathing and showering

Shower only – NO tub baths. You may use a shower chair if needed for stability. You can rinse your incisions with the shower head, then turn yourself so the spray does not stay on the incision for an extended time. Be careful not to allow high pressure water to hit the incisions directly. Use a clean cloth for every shower. Pat your incisions gently. Wash incisions first, then the rest of your body. Washcloths already used on a part of the body without incisions **SHOULD NOT TOUCH YOUR INCISIONS**. This may contribute to an infection in your incisions.

NOTE: Please do not use a pool or spa after your surgery until instructed by your doctor. This will usually not be permitted until 6-8 weeks after surgery.

## Blood Pressure

Take your blood pressure at the same time every day. First, sit quietly in a chair for five minutes. Place the cuff on your bare upper arm, just above your elbow, and make sure it is snug but not too tight. Rest your arm on a table so it stays at the same level as your heart, then press the start button on the monitor and stay very still and quiet until it finishes. It is very important for you to check your blood pressure before you take your medicine. You will be prescribed medicine that affects blood pressure, and your doctor will give you a number that if your blood pressure is below, you should not take that medicine. If you do not take your medicine for two consecutive days you should contact your doctor.

## Blood sugar control

If you are diabetic, resume eating an approved diabetic diet. You should be measuring your blood sugar every morning before breakfast and throughout the day as directed by your doctor.

## Taking your pulse

Using a light but firm pressure, place the second and third fingers on your opposite wrist to feel your pulse. If you can't find your pulse in one wrist, try the other. It is important to count your pulse after you have rested 10 minutes or more or first thing in the morning. Find the beat and count it for 10 seconds. Then multiply by 6 to obtain the count for one minute.

## Temperature

Take your temperature in the morning right after you weigh yourself and again in the afternoon between lunch and dinner. Be sure you do not eat or drink anything hot or cold before you take your temperature, as this will affect the number. If your temperature is greater than 101˚, take Tylenol. Ensure you do not exceed 4000mg in 24 hours, and increase the frequency of performing your incentive Spirometry *(see page 13)*.

## Weight monitoring

Every morning after you get up and have used the restroom, record your weight. It is important to weigh yourself because this will tell your physician if you are retaining water. One gallon of water weighs about 8 pounds. Swelling is also a sign that you are retaining fluid.

Please call your surgeon's office if you gain more than 4 pounds in one day, or 5 pounds or more in two days.

## Activity progression

A sensible balance of rest and activity promotes a safe and speedy recovery. During the day, balance periods of activity with periods of rest. Lie down for about 30 minutes each morning and afternoon with your legs elevated to the level of your heart. This will help prevent leg swelling. Walk daily, each day walking farther than the day before.

It's also important to get a good night's sleep. If you are having difficulty sleeping, you may be taking too many naps during the day.

Please let your physician know if you are having trouble sleeping throughout the night.

## Sleep and rest

It is okay to take a nap during the day. Realize that your sleep cycle may be altered for several weeks after surgery and your nighttime sleeping patterns may be disrupted. This is normal. You may sleep on your side, however, try not to sleep with your arms raised above your head.

## Walking

Walking is one of the best exercises for improving circulation, muscle tone, and strength. It also contributes to your overall feeling of well-being.

Start slowly, walk 3 or 4 times a day, walk continuously at a leisurely pace for about the same number of minutes as you were able to on your last day of hospitalization. Gradually increase your walking time 1-2 minutes every day.

If the air quality is poor or it is excessively hot outside, consider going to an indoor location to walk, like an indoor mall.

Walking should feel like you are doing exercise but not overworking. Wear comfortable shoes, soft absorbent socks and loose-fitting clothes.

## Leg exercises

Flex your feet up and down several times throughout the day while you are sitting or lying down. This helps the blood in your legs return to your heart.

## Sitting

When sitting do not cross your legs, this decreases the blood flow to your legs. You should sit with your feet raised to prevent swelling of the legs and feet.

## Pets

You should not pick up or carry your pet after surgery due to the strain on your chest. Small animals may sit on your lap, but pets should not be allowed to lie directly on your incisions, nor should they lick your incisions. Pets should be kept off of your bed until your incisions have healed completely.

## Post-op cardiac rehabilitation

Your doctor may ask you to be involved in a post-op cardiac rehabilitation program – one of which is offered at Saint Agnes Medical Center.

## Mended Hearts – Peer support program

Mended Hearts is a peer-to-peer support organization for individuals living with cardiovascular disease, as well as their families and caregivers. Our volunteers are cardiac survivors who understand the emotional impact of heart disease and can provide encouragement, hope and connection throughout recovery. Upon request, we offer inpatient hospital visits from trained volunteers, guidance as patients transition into cardiac rehabilitation and access to community resources. Members also benefit from educational programs on heart healthy topics and ongoing peer support after discharge and recovery.

For more information contact (559) 515-4081 or *mendedhearts@samc.com.*

## Doctor appointments

Before leaving the hospital, you will be given a discharge sheet with instructions about your care and a follow-up appointment with your surgeon. Appointments are generally made for two weeks after discharge.

## Emotional response

Understand that mood changes are normal in the recovery period. Some days you will feel great, other days you may feel sad or depressed. Your emotions may swing from happy and energetic one day, and the next you may feel depressed, overwhelmed, cooped up and tearful. It is important to talk with someone about your feelings and frustrations.

## Pulmonary care routine

Incentive Spirometery *(IS)* and coughing/deep breathing are still very important in the weeks after surgery to expand your lungs and prevent pneumonia. Also, continue to use your Hugger Heart pillow when coughing and deep breathing.

## Support stockings

If your surgeon has ordered support stockings for you to wear, keep them on during the day while you are up and about. Remove them at night while you are sleeping. Your support stockings should be laundered regularly with your regular laundry. It is common for your ankles and legs to swell, this is normal. When this happens, rest with your feet elevated for 30 minutes.

## Pain management

Appropriate pain management will allow you to increase your activity, adequately do your breathing exercises, and have a strong cough. To help manage your pain, take your prescribed pain medications as directed. After the first week or two, your pain should get better, so you can taper off the use of pain meds. Tylenol/acetaminophen may be used for mild pain *(DO NOT exceed 4 grams or 4000 mg of in 24 hours)*.

## Intimacy

Intimacy and expressing feelings of love are an important part of the recovery process. However, you should not resume sexual relations until you have discussed it with your surgeon at your 2-week follow-up appointment.

## Limiting visitors

Socialization is important for emotional well-being. Too much, however, can be exhausting. For the first two weeks at home, limit visitors to short periods of time and plan blocks of time where there are no visitors. **DO NOT** allow visitors who have cold symptoms or other signs of illness. You should also be cautious about going places with large numbers of people.

## No lifting more than 10 pounds

To make sure the sternum heals well, **DO NOT** lift, pull or push anything over 10 pounds *(the equivalent of a one-gallon milk container)*. This includes vacuuming, carrying laundry baskets, carrying bags of groceries and/or luggage. There should also be no repetitive lifting over your head, no attempting to screw or unscrew tight jars or objects, and no pulling on arms to assist getting to a sitting/standing position.

## No driving until seen by doctor

You will be weak and tired; you have altered judgment due to pain medication. To keep your sternum safe from steering wheel or airbag impact, you may not drive until you've been given clearance by your doctor. It is **OK** to ride as a passenger in a vehicle. Take your Heart Hugger pillow with you for splinting.

Once cleared by your doctor to drive, you may not take pain medication and drive. Always wear a seat belt.

## Smoking

Smoking Damages your blood vessels and decreases circulation to your heart. While quitting smoking is important, DO NOT use nicotine patches or Nicotine gum for at least 30 days after your surgery and consult your doctor prior to starting these products.

*www.samc.com/lung-health*

## Heart Healthy Diet

Choosing a healthy diet can feel overwhelming, but the basics of healthy eating and good nutrition are the same for everyone.

### Eat a variety of fruits and vegetables

- Choose meals where fruits or vegetables are the main ingredient, such as stir-fries
- Keep your diet interesting by eating a variety of fruits and vegetables to provide you with different sources of nutrients
- Leave the skin on fruits and vegetables to increase your fiber intake
- Select colorful fresh or frozen fruits and vegetables

### Choose whole grains vs. refined grains

- Choose high-fiber cereal, couscous, quinoa and barley

Flaxseeds are high in omega-3 fatty acids and can lower your cholesterol and blood pressure.

- Stir them into yogurt, cereal, applesauce and oatmeal

**Select products made with:**

- Whole-wheat flour
- Whole-grain or whole-wheat bread
- High-fiber cereal (5 grams or more of fiber per serving), brown rice, barley, buckwheat, oatmeal (steel cut or regular), couscous, quinoa, flaxseed.

### Stick to the "good" fats

- Decrease the amount of solid fats you eat, including butter or shortening
- Check the labels of most snack foods, like cookies, crackers or chips, to make sure you're taking in the least amount of "bad" fats as possible

Try healthier fats like olive oil, trans fat-free margarine, canola oil or cholesterol-lowering margarine

### Foods to Avoid

- Vegetables cooked with cream sauces
- Fruit packed in syrup
- Fried or breaded vegetables
- Frozen or canned fruit with sugar added
- Frozen or canned vegetables with salt added
- White flour
- Cakes and pies
- White bread
- Egg noodles
- Muffins
- Buttered popcorn
- Frozen waffles
- High-fat snack crackers
- Doughnuts
- Butter
- Cream sauce
- Bacon fat
- Nondairy creamers
- Gravy Hydrogenated margarine and shortening

## Limit your salt intake

### Choose lower sodium alternatives like:

- Herbs and spices
- Salt substitutes
- Reduced-salt canned soups or vegetables
- Reduced-salt versions of condiments

## Consume low-fat protein sources

### Choose lean meats and low-fat dairy products like:

- Skim milk
- Skinless poultry
- Egg whites
- Legumes
- Beans
- Lean ground meats
- Soybeans and soy products
- Cold-water fish like salmon, mackerel and herring

## Foods to Avoid

- Table salt
- Frozen dinners
- Tomato juice
- Soy sauce
- Canned soups
- Prepared foods
- Full-fat/whole milk
- Cold cuts
- Hot dogs
- Sausages
- Bacon
- Organ meats
- Egg yolks
- Fatty and marbled meats
- Fried or breaded meats

### Watch the caffeine

Do not consume caffeine for 30 days after surgery, this includes coffee, tea and prepared drinks. Be aware that most sports and energy drinks contain caffeine. Decaffeinated coffee and tea are okay.

# Home Care Worksheet

| Activity | Date(s) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Pain management** | | | | | | | | |
| **Weigh every morning**<br>*(call md if weight gain of 4 lbs. In 24 hours or 5 lbs. In two days)* | | | | | | | | |
| **Maintain strict control of blood sugar**<br>normal range is 100-130 | | | | | | | | |
| **Taking your pulse** | | | | | | | | |
| **Take blood pressure twice a day** | | | | | | | | |
| **Take temperature twice a day** | | | | | | | | |
| **Watch diet**<br>eat nutritious meals, low fat, low salt | | | | | | | | |
| **Walk 3-4 times a day** | | | | | | | | |
| **Lie down with legs up every morning and afternoon**<br>keep legs up whenever you are sitting | | | | | | | | |
| **Do daily leg exercises**<br>frequently, throughout the day | | | | | | | | |
| **Wear support stockings**<br>*(if your surgeon ordered)* | | | | | | | | |
| **Use incentive spirometer**<br>every 2 hours, 10-15 breaths | | | | | | | | |
| **No smoking!** | | | | | | | | |
| **Inspect incisions daily for redness or drainage**<br>*(call md if any new redness or drainage)* | | | | | | | | |
| **Take showers**<br>do not take tub baths! | | | | | | | | |

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# SHOPPING LIST FOR CARDIAC SURGERY PATIENTS

You will need to have these items available to use at home while you are recovering:

- ☐ **Oral Thermometer** – you will need to check your temperature daily at home after your surgery.
- ☐ **Tylenol** – to use for mild pain.
- ☐ **Blood pressure cuff and machine** – you will be taking medicines that affect your blood pressure. you should check your blood pressure before taking these medicines or any time you feel lightheaded or dizzy.
- ☐ **Scale** – you will need to check your weight every day at home after your surgery.
- ☐ **Hand sanitizer** – for frequent hand cleansing. Hands should be cleaned before touching any of your incisions.
- ☐ **Soups and juices** – you may not have a good appetite for a while. You will probably want to eat light meals. Consider low sodium whenever possible. Buy what you think will taste good while you are recovering at home.
- ☐ **Extra throw pillows** – at hand for coughing/splinting.
- ☐ **Clothing** – have clean clothing daily including pajamas for night wear. For large-chested women, you will need 1-2 sport-type bras that fasten in the front. For comfort, the bras should be a little bigger around than your normal size.
- ☐ **Clean sheets for your bed** – recommended to change sheets every 5-7 days.
- ☐ **Home cleanliness** – contributes to a trouble-free recovery. We encourage that the home be maintained in generally clean condition for the duration of the recovery period.

# Know the three heart surgery recovery zones.

Use this guide to help you associate changes in how you feel with how you should manage your recovery.

## SAFE

*Your weight goal:*_____

**Safe zone: All clear**

No Shortness of breath

No weight gain

No chest pain

Able to maintain normal activities.

Wound has no drainage or swelling (slight discoloration is normal)

**Safe zone means**

Symptoms are under control.

Continue taking your medications as ordered.

Continue to weigh yourself daily.

Follow your low salt diet.

Keep all your doctor's appointments.

## WARNING

*Doctor Name:*

_____

*Phone number:*

_____

*Instructions:*

_____

_____

**Warning zone: Caution**

Weight gain of four or more pounds in 24 hours or five pounds in 2 days

Increased cough

Increased swelling of ankles, feet, legs

Increased shortness of breath with activity

Need more pillows to sleep at night.

Other unusual symptoms

**Warning zone means**

Follow up with your doctor is needed!

May need adjustments to your medications.

Please contact your doctor today to report these serious symptoms

## DANGER

**Danger Zone: Medical Alert**

Wheezing or chest tightness at rest

Difficulty breathing

Purulent drainage from wound

**Danger Zone means**

Call your doctor immediately.

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Coughing up red or pink frothy sputum

Unrelieved chest pain

Unrelieved shortness of breath

Alteration in consciousness

**Call 9-1-1 immediately.**



*(Revised 7/26)*