

Inpatient Surgery Booklet

Pre-Op Information and Personal Recovery Plan

Patient Name

Phone Number

Physician

Phone Number



Open Heart Surgery Education for Patients

St. Joseph Hospital presents this guide with a goal to educate patients and the general public on open-heart surgery and what to expect before and after surgery. With this guide, we hope to answer common questions and concerns about your surgery. The guide will take you from preparation for the surgery through your hospitalization to your recovery at home.



What is Open Heart Surgery?

Depending on the part of your heart that is not working properly, your physician will decide what procedure to perform. The two most common procedures are:

Coronary Artery Bypass Surgery (CABG):

<http://www.sts.org/doc/3706#1>

Aortic Valve Replacement:

<http://www.sts.org/doc/3621>

Mitral Valve Replacement/Repair

Replacement: <http://www.sts.org/doc/4102>

Repair: <http://www.sts.org/doc/4108>

Heart-Lung Machine

While open-heart surgery is being performed the blood still needs to circulate the body.

While the physicians are working on the heart, a heart-lung machine (also called a bypass machine) will be used to do the heart's work until the physician repairs your heart and then you will be taken off the machine when your heart can function on its own.



Preparation for Surgery

Once it has been decided that you need open-heart surgery, you will either remain in the hospital or will be sent home for the surgery to be scheduled at a later time. The decision to stay in the hospital or go home is based on the severity of the problem with your heart. Whether you are sent home to return on the day of the surgery or remain in the hospital, you will have a series of labs and procedures done to get you prepared for surgery.

If you are released to go home:

Prior to your surgery you will have a series of tests done. Usually, this is done one or two days prior to hospitalization. The tests done may include:

- Lab Work
- Chest X-ray
- Electrocardiogram – Link to site to explain
- Pulmonary Function Test- Link to site to explain

If you have a loved one who has a similar blood type and would like to donate for you, they will need to donate 5 days prior to the procedure. Call the St. Joseph Hospital Blood Bank to set up an appointment to donate blood prior to the procedure, 714-744-8721.

You may be asked to do the following in addition to the above:

- Stop smoking
- Stop taking aspirin or other medications unless instructed otherwise by your cardiologist
- If you are a diabetic and currently taking Metformin/Glucophage you may be advised to stop taking the medication prior to surgery. If you have any questions call your physician
- Stop eating or drinking by midnight the night before surgery
- If your drink more than 12oz of beer, 6oz wine, or 4oz of alcohol per day, inform your physician prior to the surgery

In the Hospital

If you stay overnight at the hospital, the above procedures will be done at the hospital. The Cardiac Liaison will provide education on the procedure.

Cardiac Liaison

My name is Megan, and I'm the Cardiac Liaison, Nurse Practitioner at St. Joseph Hospital. I would like to extend a warm, "heart"-felt welcome from our Cardiovascular Surgery Services. If you are already scheduled or are contemplating our services for your heart needs, it is our wish to provide you with all your educational needs as well as to allow your surgery and hospitalization experience to be as smooth as possible. My role as the cardiac liaison is to provide pre- and post-operative education and to coordinate your care from the day of admission to the day of discharge. If you have any questions, please feel free to contact me. I am available Mon-Fri 8:30 a.m. – 5:30 p.m.

Megan Liego, RN, MSN, ACNP/CNS
(714) 771-8000 ext. 7046
megan.liego@stjoe.org



Day of Surgery

Surgical Prep Unit (SPU)

Whether you are coming from home or are already in the hospital, you will be taken to the surgical prep unit (SPU) about two hours prior to surgery. At this time you will:

- Have an IV started in your hand or arm
- Will be shaved from the neck down
- Will meet the anesthesiologist
- Have additional questions answered and sign the consents for the surgery

Close family members can wait in SPU with you, but please limit the number of individuals that accompany you since there is limited space within the area.

When they are ready to begin the surgery you will be given a little medicine to help you relax and then will be taken to the OR. Further preparation will be done and you will be given some additional medicine that will allow you to sleep through the procedure.

What family and friends should do while patient is undergoing surgery

When your loved one is taken into the operating room you should go to the main lobby of the hospital. If you do not know how to get to the main lobby, ask the nurses in the area. Once in the lobby, check in to the surgical reception desk and let them know you are there. If at anytime you need to leave the area let them know and just give them a phone number to reach you at. This is important because, while the procedure is underway, you will be updated twice about your loved one's condition. The Cardiac Liaison will provide these updates to you Monday through Friday and the Chaplain will update you on the weekend.

After the second update, the reception desk will let you know when to move to the Cardio-Vascular Intensive Care Unit (CV-ICU) waiting area. This should be about 1-2 hours after the second update. When the procedure is completely over, the surgeon will come out and talk to you about the procedure and how your loved one is doing.

When you go to the CV-ICU waiting area, you will be allowed into the room by the nurse when the patient is stable and all the postoperative tests are done. This is usually about 30-45 minutes after you go to CV-ICU.





Cardio Vascular Intensive Care Unit (CV-ICU)

The critical care environment can be a very stressful and unpleasant place to be for both the patient and family members. Here is some information regarding the ICU experience that will hopefully make your stay a little less stressful and a little more enjoyable.

What to expect when you first see your loved one

When you first walk into the room you will notice 5 monitoring devices:

- **Breathing Tube**

When you first see your loved one after surgery they will be asleep with their eyes closed and will not respond to any loving words you say to them. This is normal and we have them asleep to help their heart and body rest after the surgery. The tube is often one of the scariest things for the patient and family. It helps the patient breathe while they are asleep and when they wake up the tube will be removed as soon as the patient can breathe on their own. The patient may become anxious and feel like they can't breathe. They are breathing fine and it is just the awkward nature of the tube. Usually the tube is out within two hours of waking up. This depends on the patients breathing status and may be in longer with other patients.



- **Swan Ganz Catheter**

A large IV placed in the patient's neck. It monitors your heart function and also allows nurses to give needed medications.

- **Arterial Line**

This line is placed in the patient's wrist. It is a continuously monitors your blood pressure.

- **Chest Tubes**

These tubes help drain leftover blood in the chest area.

- **Foley Catheter**

The tube drains urine from the patient's bladder into a bag at the end of the bed.

Other items you might notice

- Additional IV sites in the patients arm to give medications when needed.
- One or both legs wrapped in an ace bandage to allow the graft site heal
- White dressing over sternal incision in chest area
- Patient's skin color will be orange/yellow due to Betadine applied during surgery. The Betadine helps prevent infections.



Cardio Vascular Intensive Care Unit (CV-ICU) - Cont.

Expectations of Patients in CV-ICU

Family & Visitors

There are a couple rules about visiting to help the medical team care for your loved one. There are no further visitors allowed between 7am-8am and 7pm-8pm. This is to keep information regarding the patients confidential while the nurses are giving report during change of shift. Only two people are allowed in the room at a time. We encourage you to visit your loved ones for short periods of time. They will get tired very easily and their rest is very important. Please limit visitors to immediate family only while in CV-ICU.

Activity of Patient's after Surgery

Once the patient is awake and the breathing tube is removed the patient will be sitting in the chair for all three meals.

Breathing Exercises

The patient will also be given an INCENTIVE SPIROMETER. An incentive spirometer is a small hand-held device. It is used to measure how well the patient is filling their lungs and encourages them to circulate air in their lungs. They should use it 10/times every hour while awake. This helps improve breathing and prevents an infection in their lungs. Deep breathing is also important with coughing in order to get any left over fluids out of your lungs. They will be given a heart pillow to splint your chest area while coughing or deep breathing. This helps to decrease pain and allows your sternal bone to heal.



Pain

Pain is something that can't be avoided with open-heart surgery, but it can be alleviated by various techniques including:

- Medication
- Using heart pillow to splint chest area when cough, deep breath, or move
- Relaxation techniques

Pain is an individual experience for each patient. In order to alleviate your pain it takes communication and teamwork between you and the medical staff.

Transfer out of CV-ICU

Once the patient is stable and the line in their neck and wrist are out the patient can be transferred to the telemetry unit. The telemetry unit is located on the 4th floor of the hospital.



Telemetry Unit

The next stop on the journey is the telemetry unit on the fourth floor. Here the patient will be able to have more independence and will get ready to return home.

Visitors & Family

Visiting hours are from 8am to 8pm on the telemetry unit. Please limit visitors to two at a time and make your visits short. The patient needs their rest in preparation to return home, so please limit your visitors.

Activity

Once on the Telemetry floor the patient will be expected to start walking in the hallway three times a day until discharge. The first couple walks the patient should walk with the nurse. As the nurse feels appropriate the patient will be allowed to walk independently in the halls.

Breathing Exercises

Continue INCENTIVE SPIROMETER and deep breathing exercises with heart pillow.

Pain

Pain will decrease as time passes. If the pain is not being controlled please let the nurse or physician know about your pain.

Discharge Teaching

Recovery at home may create anxiety and fear for the patient and family members/ caretakers. Discharge education begins early in your hospital experience to help decrease this anxiety and fear. The cardiac liaison will assist the patient throughout their hospitalization and will also provide a majority of the education on going home. The education will be given through various methods including videos, booklets, pamphlets and this website. If you have any concerns or questions during your recovery, please call the cardiac Liaison or your physician.

At Home

You can expect to wait 6-8 weeks until you are able to return to your usual routine. Each person recovers differently so recovery time may be a little shorter or longer. Just remember to be patient and take care of yourself as you recover.

If at anytime you have any questions regarding your at home care please call Megan Liego the Nurse Practitioner and she will be happy to answer your questions over the phone (714) 771-8000 ext. 7046.



Guidelines for Easing Back into your Normal Activity

If given any other guidelines by your physician upon discharge please follow those guidelines if they differ from the ones below.

Incisional Care

Once you return home it is safe to wash gently over your incisional areas. Do not place any oils, powders, or creams over the incisional areas. Check your incisional sites every day. During or after your shower is the best time. Notify your physician if you notice any of the following:

- Increased tenderness over the incisional areas
- Increased redness or swelling over the areas
- A fever greater than 100 degrees Fahrenheit
- Increased swelling and tenderness in your legs that reoccurs for several days
- Any drainage from the surgical sites. If it is clear (it may be slightly red or yellow tinged), this is normal body fluid. Let it drain. If it is now thick and purulent, call your surgeon.

If you went home with gauze on any of your incisions (i.e. chest tube site or leg drain site), you may need to replace them with new gauze. A good rule of thumb is to check for wetness on the gauze when you remove them, which will indicate that the sites are still draining. If they are dry, you can use Band-Aids instead. Steri strips down your chest incision or leg incisions should be left alone to fall off on their own. If they start to peel off at the ends, you can trim them to avoid getting caught on your clothes.

Shower

The first thing many patients want to do when they return home is take a shower. Since you may be tired and fatigued from your first day at home, start taking showers your second day at home. Place a plastic chair or stool in the shower to sit on while you bathe. Make your showers short between 5-7 minutes. Have your clothes laid out and ready to put on to help with fatigue. This will help with any weakness or fatigue you may feel. Avoid tub baths until your physician says ok. With your back to the showerhead, use lukewarm water and gently wash your body and cleanse your surgical incisions. Use mild soap and avoid such soaps as Dial and Zest to avoid dry skin. Neutrogena, Dove, or soaps with moisturizers are a better alternative since they are not as harsh on your skin.

This is a great time to look over all your incisional areas for signs of possible infection. If you have gauze on any of your incisions remove them prior to showering. This does not include steri strips, please leave them alone and let them fall off naturally.

Dress

Wear loose comfortable clothing that doesn't place extra pressure on your surgical sites. For men, it is better to wear boxers instead of briefs especially if you have incisions down your leg.



Guidelines for Easing Back into your Normal Activity - Cont.

Walking

Walking is a very important part of the recovery process. You can follow the following guideline unless instructed otherwise by your doctor.

- On your first day at home, take 4 walks throughout the day, 5 minutes each. Then, increase your walk by 1-minute everyday until you reach your goal. You can walk less frequently as you take longer walks. It is generally recommended that one 30-minute walk is good for everyone.
- Walk inside the house for the first few days. Walk on leveled ground and avoid hills once you feel comfortable walking outdoors.
- Avoid using a treadmill or a stationary bike during your recovery period.

Walk slowly to avoid over-exertion on the heart. Two good rules of thumb:

- Walk – talk test: You should be able to walk and talk without experiencing shortness of breath. Slow your pace accordingly.
- Pulse check: Check your pulse at rest, then, check it again in the middle of your walk. You are allowed 20 to 30 beats above your resting heart rate, e.g. if your resting pulse is 80 beats per minute (bpm), you should be no higher than 100 – 110 bpm at the midpoint.
- Keep your feet elevated when not walking to minimize swelling in your feet and ankles.

Stairs

You can climb stairs once a day if you have a two-story complex or you live on the upper level. Make sure to give yourself plenty of rest before climbing stairs. If you have a landing on your stairway, placing a chair there will allow you to sit and rest when needed.

Rest

Resting between activities is very important. Nap or rest for 20 to 30 minutes between each activity such as showering or taking a walk. When you do sit down make sure to elevate your legs above hip level to help decrease swelling. Do not cross your legs and avoid sitting or standing in one position for too long.



Guidelines for Easing Back into your Normal Activity - Cont.

RETURN TO NORMAL ACTIVITY SLOWLY. Remember your sternum (breastbone) takes approximately 6-8 weeks to fuse.

- Until your physician says differently, **DO NOT** lift anything heavier than 5-10 pounds. Start with 5 pounds and then increase as tolerated. For example a gallon of milk is approximately 7.5-8 pounds.
- Use your pillow when you cough or sneeze to splint your chest to prevent opening of your incision or movement of your bone.
- Avoid any activity that requires you to push or pull something, such as vacuuming, mowing the lawn or walking the dog. After 2-3 days, if you feel well enough, you may do light housework, such as folding laundry or dusting.
- Avoid uneven movements such as being pulled out of bed, chairs, or the car by the arm, opening the refrigerator against suction, or opening cans or jars.
- Avoid placing all your weight on your arms for support when getting in and out of a chair or car. Reposition yourself to the edge of the chair to align your center of gravity with your legs. You can use your arms to stabilize yourself but place your weight on your legs.
- Avoid sleeping on your stomach or your side. You can wedge a pillow on one side to allow yourself to be turned slightly. You can use as many pillows under your head as preferred.

Driving

NO driving for six weeks. This time period will allow your breastbone and sternal area to heal. If you are a passenger in the car take your heart pillow or another pillow from your home and place over your sternum and then put your seatbelt on. This will protect the area in case you make any sudden stops. If you take a trip make a stop about every two hours so you can relieve some of the pressure on your sternal area.

Sexual

You can resume sexual activity when you feel comfortable or when you can walk two flights of stairs without any shortness of breath. This is around the 4th week. Remember the sternum is still healing so avoid any position which may put strain or pressure on your chest. Often it is the spouse or partner of the patient that may feel uncomfortable about resuming sexual activity in fear of hurting the patient. It is important to talk it over with your partner and resume when you both feel comfortable and ready.



Guidelines for Easing Back into your Normal Activity - Cont.

Depression

Depression or mood changes are a normal part of the recovery process. You may have some good days and bad days. Do not get discouraged. The support of your family members or caretakers will help you in the process. If you feel that the depression or mood changes are not getting better, contact your physician for additional help.

Visitors

Limit your visitors the first couple of weeks while you are at home. You need your rest and having too many visitors can increase fatigue during recovery

Returning back to Work

Depending on the type of work you do will determine when you will be able to return to work. Your physician will let you know when you will be able to return back to work. Remember you need time to heal so follow the physician's advice.

Smoking

DO NOT SMOKE

All current or former smokers:

- Try to avoid situations that trigger you to smoke.
- Use tips recommended in the "Smoking Cessation" patient education material
- Increase your chances of success by joining a support group

All Patients- avoid second hand smoke



Food & Nutrition

Upon returning home you will need to modify your diet to avoid further heart complications. We recommend a low-fat, low-cholesterol and low-sodium diet.

Nutrition Facts		
Serving Size 1 oz (28g)		
Servings Per Container 8		
Amount Per Serving		
Calories 90	Calories from Fat 50	
% Daily Value*		
Total Fat 6g	9%	
Saturated Fat 4g	20%	
Cholesterol 20mg	7%	
Sodium 240mg	10%	
Total Carbohydrate less than 1g	0%	
Dietary Fiber 0g	0%	
Sugars 0g		
Protein 7g		
Vitamin A 6%	●	Vitamin C 0%
Calcium 20%	●	Iron 0%

One of the best ways to help improve your diet is to start reading labels on the back of food products.

Look to sections on fat, cholesterol and sodium. Total fat intake should be limited to a total of 30% of your overall fat intake. Cholesterol should be limited to 300 milligrams per day.

Restrict your salt intake to 2000 to 2500 mg a day. The reduction in salt will help decrease water retention in your body and will also help decrease the swelling in your legs. Decreased salt intake also aids in reducing your blood pressure and any further heart complications.

The American Heart Association has some great tips on reducing your fat, cholesterol and salt intake. They also provide recipes to help you in your new healthy diet

http://www.deliciousdecisions.org/ee/wbd_easy_main.html

Depending on the type of surgery and your physician, you may be placed on a drug called Coumadin. If you are placed on this med you need to watch your intake of Vitamin K. This drug does not work like it is suppose to when you increase

your intake of Vitamin K. Vitamin K is found in many green leafy vegetables as well as a variety of other foods. REMEMBER you do not have to get rid of vitamin K in your diet you just need to eat it in moderation. Below is a site that contains foods that are high in Vitamin K as well as some information on Coumadin and how to take the medication at home. <http://www.coumadin.com>



Journal

A journal (simple notebook will do) will become a necessary tool in your recovery. The journal will be used to keep track of your:

- Blood Pressure
- Heart Rate
- Temperature
- Weight
- Other information like lab/ test result, medications and dosages

Date	Time	Weight	Temperature	Blood Pressure	Heart Rate	Lab Results/ Other

An example of how to set up your journal

Blood Pressure

You will be placed on some medications that will lower your blood pressure. As your heart recovers, we may need to adjust these meds. A good way that the physician can tell if they need adjustment is by monitoring your blood pressure at home. You can get a blood pressure cuff at your local drugstore or Costco. Get one that goes over your upper arm NOT YOUR WRIST and one that also takes your heart rate. Take your blood pressure once in the morning before you take your meds and once at night before you take your meds. The top number is your systolic number and the bottom number is your diastolic

$\frac{100}{60}$ = Systolic
= Diastolic

If your systolic blood pressure is < 90 and you are light headed or dizzy do not take your blood pressure medication. Wait an hour and retake your blood pressure if it is still < 90 and you are light headed or dizzy do not take your medication and call your physician. An adjustment in your blood pressure medications may be needed. Make sure to write down your blood pressure readings and the time you took it.



Journal - Cont.

Heart Rate

It will be important to take your heart rate once in the morning and once at night when you take your blood pressure. This should be done while you are resting. Monitor how fast your heart beat per minute. If you feel heart palpitations or notice your heart rate goes up or down by 20 beats since you last took it call your physician.

You should also monitor your heart rate during activities like walking. If your heart rate goes up or down by more than 20 beats per minute from your resting heart rate slowdown or decrease your activity level. If you continue to see an increase or decrease call your physician.

To take your pulse without a machine place your index and middle finger NOT YOUR THUMB on the lower part of thumb where it meets your wrist. Count the number of pulses you feel in a minute. Remember to write down your heart rate in your journals and at what time you took them.

Temperature

Take your temperature once a day when you first wake up. If your temp is > 100 degrees Fahrenheit call your physician and monitor your incisional sites. An increase in temperature could be an indication of an infection in your incisional sites or somewhere else in your body. Remember to write down your temperature in your journal and the time you took it.

Weight

Every morning you need to weigh yourself when you first wake up. Write your weight down in your journal and compare your weight to the previous day. If you gain 2lbs in one day or 4lbs over a four-day period and see increased swelling in your extremities call your physician. You may need to reduce your fluid and salt intakes as well as be placed on some medication to help get rid of excess water that may build up in your body.

Blood Sugar

If you are diabetic, it is highly recommended that you check your blood sugars regularly for optimal control whether you are on oral medication or insulin

Check your blood pressure as instructed and consult with your primary care physician or endocrinologist for any concerns

Other

You can use your journal to keep track of other things such as lab and test results. You may also want to use the journal to keep track of the medications you are using and their dosages.

PALPATING THE RADIAL PULSE.





Medications

After your surgery you will probably be placed on some medications to help your new heart. They do a variety of things including:

- Lower your blood pressure
- Regulate your heart rate
- Increase blood flow
- Decrease blood clots
- Lower cholesterol
- Reduce pain

Make sure you follow your physicians' instructions and don't increase, decrease, or stop your medications unless advised by your physician. Keep a list of your medications and take it with you to every physician's appointment.



Cardiac Rehabilitation

Cardiac Rehabilitation

Cardiac rehabilitation is a way for people who have had heart surgery to get going again after surgery. You can begin the rehabilitation program after the first six weeks at home or when your physician approves. For further information talk to your physician or check out the website below on the program offered through St. Joseph Hospital. Their phone number is (714) 771-8727. For other support services please go to the website below

<http://www.sjo.org/HeartCenterSub.aspx?pagelid=416>



**All the pictures have been pre-approved by hospital administrators and do not include actual patients



List of Physicians

Surgeons

Orange County Thoracic

Richard Gates

Brian Palafox

Office Number

(714) 997-2224

Fax Number

(714) 997-1187

Cardiologists

Cardiology Specialists of Orange County (CSOC)

Tyson Cobb

Stephen Cohen

Mahmoud Eslami

Ramin Ashtiani

James Pagano

Office Numbers

(714) 543-5555 Orange

(714) 245-1444 Santa Ana

Thomas Kim

Donald Mahon

Warren Johnston

Paul Meltzer

Fax Numbers

(714) 835-5483 Orange

(714) 245-1447 Santa Ana

Orange County Heart Institute (OSHI)

Maged Azer

Jay Lee

David Pan

Babak Pezeshki

Lawrence Santora

Office Number

(714) 564-3300

Shalizeh Shokooh

Nordy Spivack

Kelly Tucker

Jack Vangrow

George Wesley

Fax Number

(714) 564-3318

Jairo Marin

Office Number

(714) 545-5170

Fax Number

(714) 545-6724

Other Adult Cardiologists

Dicran Baron

Office Number

(714) 744-1529

Fax Number

(714) 744-1102

James Grimes

Office Number

(714) 838-5610

Fax Number

Not Available