

Home Care Management Recommendations for Patients Subjected to Valvular Replacement Surgeries

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INTRODUCTION

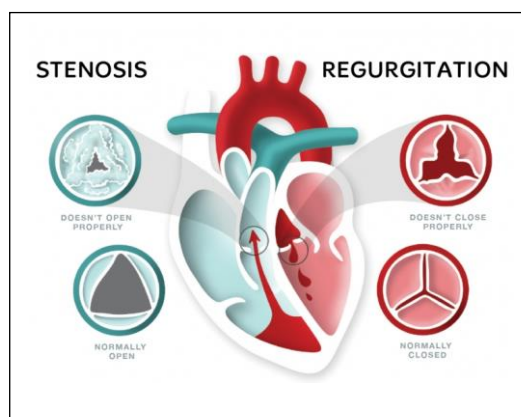
Human heart is a muscular pump that has four chambers, two atria, two ventricles each of these is closed by one way valves. The control of blood flow is controlled by these valves. Any damage to these valves leads to valvular abnormalities producing the regurgitation and stenosis.

Definition

Valvular heart disease is caused by infection of endocardium, Rheumatic fever, congenital abnormalities of heart, heart attack which affects the four valves of heart (the aortic and mitral valve on the left, pulmonary and tricuspid valve on right).

Types of Valvular Heart Disease

- **Mitral Valve Disease**
 - ✓ Mitral Stenosis
 - ✓ Mitral Prolapse
 - ✓ Mitral Regurgitation
- **Aortic Valve Disease**
 - ✓ Aortic Regurgitation
- **Tricuspid Valve Disease**
- **Pulmonary Valve Disease**



Causes of Valvular Heart Disease

Infective endocarditis, Rheumatic Heart disease, Congenital heart disorder occurring at birth, Age more than 60years, Heart attack.

Pathological Changes occurring in Valve

Due to the causes like Rheumatic heart disease and Infective endocarditis, leads to valvular lesions which is Composed by fibrin and blood clots that Affects the border of one or more valves. It causes damages to the valve by scar formation in one or more valve

CLINICAL FEATURES

The signs and symptoms of valvular heart disease are

No Specific symptoms for few patients, but most of them have Chest pain, Shortness of breath, Swelling of abdomen and legs, Irregular heart rate and palpitation, Wet cough, Tiredness or lethargy, Faint.

How to evaluate this condition?

- **Detailed Personal and Medical History:** About the family history of the disease congenital disorders, or about any history of fever with joint pain.
- **Physical examination** May reveal fluid in the lungs, an enlarged heart, or heart murmur, which is the sound made by blood moving through a stenotic or a leaky valve
- **ECG AND X-RAY**
- **Echocardiography**
- **Cardiac catheterization**
- **TEE-Trans oesophageal echocardiography:** It shows the function of valves

MANAGEMENT OF VALVULAR HEART DISEASE

Medical Management: Medicines are not a cure for heart valve disease, but treatment can often relieve symptoms.

These medicines may include:

- Beta-blockers,
- Digoxin,
- Calcium channel blockers to reduce symptoms of heart valve disease by controlling the heart rate and helping to prevent abnormal heart rhythms.

SURGICAL MANAGEMENT

Valvular replacement

- Mitral valve replacement
- Aortic valve replacement
- Double valve replacement

Types of valves used

- Tissue valve
- Mechanical valve
- Porcine valve

Post Operative Management of Valvular Replacement Surgeries

Breathing Exercise

Do exercise once a hour

Incentive Spirometry – Repeat 5 times every hour

- 1) Breathe out (exhale) completely.
- 2) Seal your mouth around the mouthpiece and breathe in (inhale) as much air as you can.
- 3) Keep the ball suspended as long as you can (5-15 seconds).

Deep Breathing – Repeat 5 times

- 1) Breathing deeply engages your lungs to cough more readily to help move secretions:
- 2) Take a very deep breath in through your nose and expand your ribs.
- 3) Hold breath in for three seconds.
- 4) Breath out through your mouth until all of the air is gone.
- 5) If you are able change your position in bed, move from your back onto your side or from side-to-side.

Breath and Cough – Repeat 2 times

- 1) Coughing may be needed to clear mucous in your lungs:
- 2) While lying down, bend knees and support your incision firmly with a pillow or your hands.
- 3) Take 3 deep breaths then breathe in and cough sharply.
- 4) Clear mucous into a tissue; rest and then repeat as needed.
- 5) Coughing will not damage your chest incision if you support the sternum when you cough.

Leg Exercise

It helps to maintain good blood circulation

- 1) Pump the feet up and down
- 2) Make the circles with the feet

Care of your Incision

- 1) Patient may or may not have dressing while going home
- 2) Teach how to perform surgical dressing
- 3) Don't rub the incision site
- 4) Check for any oozing
- 5) Apply only betadine at the surgical site
- 6) Protect the skin from sun for one year it may cause your scar darker and more visible

Bathing

- 1) Avoid soaking the incision in water
- 2) Gently pad the incision with clean towel don't rub the area
- 3) Apply new dressing after bathing

Changing Cloths

- 1) Dress while sitting
- 2) Wear loose fitting cloths made cotton material

Steps of Clothing

- 1) Place both arms through sleeves.
- 2) Use one arm to place head through the opening. Keep the arm tight to your body.
- 3) Push fabric over your shoulder by reaching across your body.
- 4) Adjust the shirt by reaching across the front of your body and pulling on the front and sides of the shirt

Sleep

- 1) Sleep on back for 6 weeks after surgery you may sleep partially on your side
- 2) Go to bed and get up at the same time
- 3) Avoid long naps
- 4) cannot sleep get out of your bed and read books, or watch TV or listen to music
- 5) Contact the doctor if continue to have sleep problem less than 4 hours of sleep which affecting the way of your recovery

Healthy Eating

Before going home ask your doctor or nurse if you should follow the diet restrictions

- 1) Low cholesterol low fat diet
- 2) No added salt
- 3) Vitamin K precautions.

Alcohol and Smoking

- 1) Avoid alcohol and smoking after surgery
- 2) The alcohol may induce the effect of warfarin

PREVENTION OF CONSTIPATION

Changes in food and activity levels can cause constipation. As well, most pain killers and iron pills can cause constipation. You can help avoid constipation by:

- 1) Being as active as possible within limits of your surgery.
- 2) Drinking lots of fluids, especially water, if you are not on fluid restriction.
- 3) Eating high fibres foods such as fresh fruits, vegetables, whole grain breads and cereals, or bran.
- 4) Taking a mild laxative when needed. Ask your pharmacist or doctor to suggest one to make sure that there are no interactions

MEDICATIONS

- 1) Be sure to take all your medication
- 2) Take all your regular medication if you think it is not necessary

Pain killers

- 1) While taking any pain medication you may feel drowsy or dizzy don't drive or drink alcohol
- 2) Antiarrhythmics
- 3) Open heartsurgical patients often experience abnormal heart rhythms called arrhythmias. Arrhythmias occur after surgery because of irritation and swelling around the heart.
- 4) Pay attention to your heart rate and take your pulse every once in a while.

Anticoagulant medication

- 1) Anticoagulants are medications taken to reduce the forming of blood clots it is also called blood thinners. *Eg: Tab.warfarin, Tab.acitrom*
- 2) Too much of drug leads to serious bleeding and too little leads no effect.



How to take anticoagulant?

Proper use.

- 1) Take anticoagulant once a day after your evening meal.
- 2) Tell the doctor if you miss a dose. Store the medication in a cool dry place (not a bathroom cabinet), away from the reach of children.
- 3) Regular blood test is important.
- 4) PT, INR is checked once or twice a week at first and then less often as time goes on.
- 5) Keep id band.

Side effects of Anticoagulants

Bleeding is most potential serious complication side effect of anticoagulation

- 1) Red or dark brown urine or red or black stool
- 2) Severe headache
- 3) Excessive menstrual bleeding

- 4) Vomit or cough up blood
- 5) Prolonged bleeding from gums or nose
- 6) Dizziness, trouble breathing or chest pain
- 7) Unusual pain, swelling or bruising
- 8) Dark, purplish or mottled fingers or toes
- 9) Unusual weakness of an arm or leg .
- 10) Do not take any aspirin or aspirin-containing medications or any herbal medications without consulting your doctor. This may increase the risk of bleeding.
- 11) Anticoagulants can be affected by the Vitamin K content of some foods

Driving

- 1) You must not drive for 6 - 8 weeks after surgery.
- 2) Wear your seat belt at all times.
- 3) On long drives, stop your car every hour to stretch your legs. This helps prevent blood clots.

Returning to Work

Expect to be off work for 6-12 weeks.

Travelling

- 1) Ask your heart doctor about when it is safe to travel.
- 2) Take enough medication to last the entire trip.
- 3) Keep all of your medications with you. Do not put them in your checked baggage.
- 4) If sitting for long periods, get up, walk and stretch your legs at least once an hour. This helps prevent blood clots.

Dealing with Feelings Emotions and Stress

Talking to someone who has had similar surgery. Share their feelings with a close friend.

- 1) Relaxation technique yoga
- 2) Practice acceptance
- 3) Listen to music
- 4) Find quiet place to calm

ACTIVITY AND EXERCISE

Sternal Precautions: *Protecting your sternum (breast bone)*

- 1) Your breast bone takes 6-8 weeks to heal.
- 2) Do not use your arms to get out of bed, a chair, or a car for 8 weeks.
- 3) Avoid lifting, pushing and pulling more than 2 kg (e.g. lifting groceries, small children, pets, etc.) for 8 weeks.
- 4) Avoid reaching behind you to put your arms through shirt sleeves.
- 5) Wear loose fitting, stretchy or button front tops. When putting on a T-shirt, pull it over your head and then put your arms in one at a time.
- 6) Take frequent rest breaks with any arm activities.
- 7) Avoid sitting for long periods in a chair without armrests.

Neck Stretch

Face forward. Tip your ear toward your right shoulder. Repeat to left side. Turn your head to the right side. Repeat to the left side.

Shoulder Shrug

Hunch shoulders up towards your ears and then relax.

Shoulder Circles

Rotate shoulders backward and then forward.

Elbow Circles

Place your fingertips on your shoulders. Make large, full circles with your elbows in either direction.

Ankle Pumps

Sit in a chair. Lift one leg so your foot is slightly off the floor. Move your foot up and down and then in circles both ways. Repeat with other foot.

Knee Extension and Flexion

- 1) Sit in a chair. Bend your knee and pull your foot under your chair, as far as you can, then bring your foot forward as you straighten your knee.
- 2) Walking will be your main form of exercise during the early recovery period. It is one of the best exercises for improving your health.

Activity

- 1) Do minimal work
- 2) Don't lift more than 2 kgs

Follow Up

- 1) Visit the doctor according to the prescribed schedule.
- 2) Get appointments in between if you have chest pain swelling in legs sign of bleeding from nose, gums irregular heart rate
- 3) Confirm that when is the next visit, when to take the antibiotics, regularly check PT,INR at prescribed interval

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