

HDHI CARDIAC REHABILITATION PROGRAMME



Department of Physiotherapy



**DAYANAND MEDICAL COLLEGE & HOSPITAL
UNIT - HERO DMC HEART INSTITUTE**

TAGORE NAGAR, LUDHIANA - 141 001

Introduction

Q. What is Cardiopulmonary Rehabilitation ?

A. Cardiopulmonary rehabilitation consists of a comprehensive interdisciplinary management programme, including physical activity & exercise, education & behavioural change designed to improve the physical & emotional (status of individual) with cardiopulmonary dysfunction on their risk factor.

Q. Who needs the cardiopulmonary rehabilitation ?

A. You may benefit from cardiac rehabilitation if your medical history include :-

- * Heart Attack.
- * Coronary Artery Disease.
- * Coronary Artery Bypass Surgery.
- * Angioplasty & Stents.
- * Heart Valve Replacement.
- * High Blood Pressure.
- * Diabetes.

Q. What are the benefits of cardiopulmonary rehabilitation ?

A. The cardiopulmonary rehabilitation programme helps the patient to :

- * Improve exercise capacity.
- * Improve the muscle strength & tone.
- * Improve oxygen uptake in the body.
- * Improve circulation
- * Maintain the normal range of motion of the Joints.
- * Improve the ability to perform activities of daily living.
- * Improve relaxation & reduce stress.

Q. What, not to do during cardiopulmonary rehabilitation ?

A. A patient undergoing cardiopulmonary rehabilitation should avoid:-

- * Smoking
- * Drinking alcohol
- * Over exertion activities
- * Jerky movements
- * Lifting weights
- * Complete side turn for at least 1 month

Exercise Program

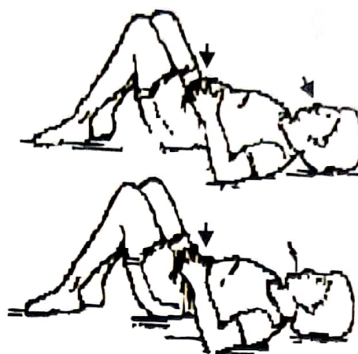
Session :- 4-5 session in a day or as patient feel comfortable.

Warm up period

Breathing exercise

Patient should inhale through nose & exhale through mouth.

This breathing pattern should be repeated for 10 times before & after each exercise session.



Spirometry

Uses of Spirometry

Increases lung expansion and tone of respiratory muscles which helps to reduce the secretions and improve the lung function. It also helps in teaching long, sustained and deep breaths which is more important in maintaining airway hygiene and avoids infection.



Method:-

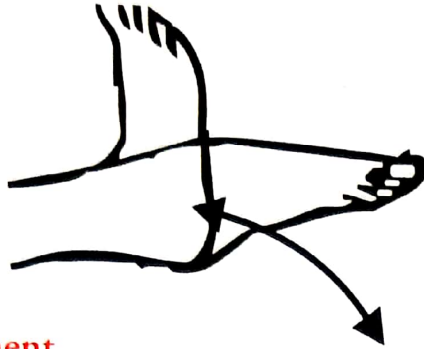
1. Make sure there is no leak when you inhale through mouth piece.
2. Try and be as comfortable as you can. Sit, and sit straight if you can. You can use a pillow or towel to support where you had surgery.
3. Hold or stand the "SPIROMETER" in an upright position.
4. Exhale (breathe out) normally. Then place your lips tightly around the mouthpiece. Don't block the opening in the mouthpiece.
5. Inhale (breathe in) slowly to raise the ball in the chamber. Continue inhaling and try to raise other balls as high as you can.
6. Try to inhale longer, then hold your breath for two to three seconds, and then slowly let the air out.
7. You should breathe in and out through the mouthpiece (not through nose).
8. Repeat the drill eight to ten times with the gap of two hours after meals.

Exercise of Lower Limb

Frequency of each movement 10-15 repetitions

Ankle movement

Patient has to move his feet inwards & outwards.



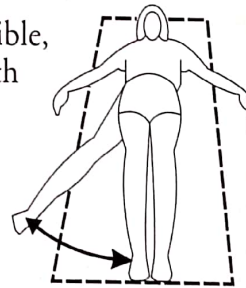
Knee Movement

Patient has to bend his knee & extend it.



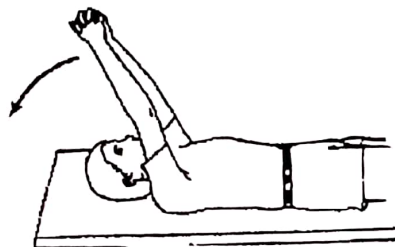
Hip Movement

Patient has to move his leg as far as possible, slowly return to the starting position with leg straight.

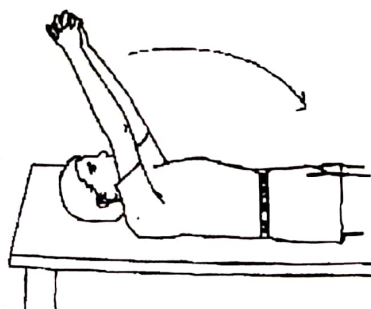


Exercise of Upper Limb

Shoulder joint



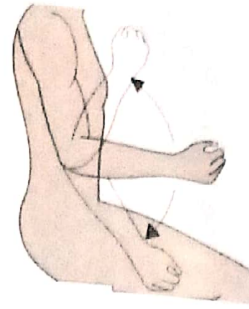
Patient has to raise his arm forward above the level of head.



Bring down the arms, at the level of bed.

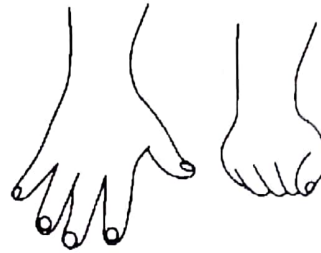
Elbow Movement

Patient has to fully bend his forearm and then extend it fully.



Hand Exercise

Hold your hands upright, fingers apart, gently draw your fingers into a fist, placing your thumbs on the outside and then open your hands back to the starting position with fingers spread apart.



Walking

1. Initially walk with a companion to gain your confidence. Wear a good pair of footwears.
2. Start your cardio walking program in hospital. When you get home continue with the same schedule.
3. Begin walking, 5 minutes each walk, 3 walk per day, preferably outdoor or in spacious area at home. Try to increase walk upto 2 minutes each day.
4. Gradually progress your walk upto 30 minutes twice a day.



Note :

1. Use chest binder during lying, walking, stair climbing & coughing. (For open heart surgery patients)
2. Patient should have chest binder on while coughing to remove secretions.
3. Stair climbing should only be started after 3-4 weeks of surgery and patient should climb 3-4 stairs up and down initially then progress to 10-15 stairs day by day.
4. Outward movements of shoulder should be started after 3-4 weeks of surgery.