Clinical Care Program

Therapy for the Cardiac Patient

What's CHF?

• Not a kind of heart disease
  o Heart disease is called cardiomyopathy
  o Heart failure occurs when the heart can't pump enough blood to meet needs
• Fluid settles in the lungs
• Weak heart, probably enlarged
• Symptoms are variable

Expected Symptoms

• Dyspnea
• Fatigue
• Edema
• Balance issues
• Poor STM
• Dry cough
• Dry skin
• Palpitations
• Discomfort
• Numbness
• Can't lie flat
• Nausea
• Loss of appetite
• Difficulty sleeping
• Lower leg/foot pain
Rehabilitation Phase I

• Typically in the hospital
• Close assessment of exercise including stress test
• ADL assessment
• Education and lifestyle changes

Rehabilitation Phase II

• Follows hospital discharge
• Lasts up to 12 weeks
• Low-impact aerobic exercises
• Enact lifestyle changes to lower risk

Rehabilitation Phase III

• Increase in exercise and intensity
• Lasts up to 12 weeks
• Exercises to increase endurance, strength, coordination, balance
• Stretching exercises, increased aerobic activity
• Self-monitored exercise
• Enact lifestyle changes to lower risk
Rehabilitation Phase IV

- Long-term lifestyle changes and habits
- Focus on wellness
- Aerobic fitness
- Strength training or resistance exercises
- Lifestyle changes

Therapy Intervention

- Cardiac precautions
- Functional strength
- Range of motion
- Bed mobility
- Sitting and standing balance
- Ambulation/functional mobility
- Transfers
- Dressing
- Bathing
- Personal Hygiene

Exercise

1. Flexibility and balance
2. Resistance training
3. Endurance

Exercise programs:
- Low to moderate intensity
- At least 3X/wk
- Accompanied by a home program
Equipment
• Stethoscope and blood pressure cuff
• Pulse oximetry
• Theraband
• Weights
• Steps
• Stationary cycle
• Restorators (UE/LE)
• Walking area

Assessment
• Physical assessment
• Review hospital record
• Patient goals to resume ADL
• Needs for muscle strengthening

Standardized Assessment
• Graded exercise test
  • Objective evaluation of exercise capacity
• 6 minute walk test
  • Patients asked to walk as hard as they can in 6 minutes
• Shuttle walk
  • Closely mimics a graded exercise test
• Katz Index of ADL
  • Measures independence with ADL
Warm Up/Cool Down

- Head tilt
- Arm bends
- Shoulder Shrugs
- Calf Stretch
- Side Reach

Monitoring Intensity

- Patients’ symptoms
- Observation of patient’s responses
- Patient’s rate of perceived exertion
- Observer measured heart rate
- Patient measured heart rate
- Blood pressure
- Respiratory Rate

Borg Scale of Perceived Exertion

6 = very, very light
7 = very light
8 = fairly light
9 = somewhat hard
10 = hard
11 = very hard
12 = very, very hard
13 = 19
14 = 20
Heart Rate

• Peak heart rate
  o How fast heart beats during an exercise test
• Target heart rate
  o 70–85% of peak heart rate
• Exercise at target heart rate for 30–45 minutes four to five times a week

Guidelines

• Take a pulse reading before starting exercise
• Exercise
• Count the pulse immediately following exercise
  o Should reach target heart rate
• Rest 3–5 minutes and count pulse again
  o Should return to pre-exercise heart rate

Exercise Program

• Aerobic exercise
  o Improve heart muscle efficiency
• Strength exercises
  o Conditioning and balance
• Stretching exercises
  o Flexibility
Exercise Sessions

• Low to moderate intensity
• Short warm up with stretches
• Walking program or a light training circuit
  - Maintained 20–30 minutes
• Stationary bicycle program
• Cool down and rest segment
• Keep records of exercise intensity, duration, heart rate or perceived exertion
• Report any problems to nursing immediately
• Duration 45–60 minutes, including rests

Upper Body Stretches

• Shoulder and upper back stretch
• Shoulder rolls
• Neck side stretch
• Neck rotation
• Shoulder circles
• Shoulder stretch
• Chest stretch
• Overhead reach
• Reach back
• Triceps stretch
• Hand stretch
• Arm raises

Lower Body Stretches

• Seated lifts
• Standing quadriceps stretch
• Back stretch
• Inner thigh stretch
• Calf stretch
• Hip side stretch
• Hip rotation stretch
• Soleus stretch
• Ankle circles
• Hamstring stretch
• Knee to chest
• Ankle stretch
Strength and Balance Exercises

- Arm raises
- Walk heel to toe
- Triceps extension
- Leg extensions
- Side leg raise
- Plantar flex
- Hamstring curl
- Standing on one foot
- Bicep curl

Special Considerations

- Heart failure/transplant
  - Recommend dynamic exercise (e.g., walking) and resistive training
- Pacemakers/ICD
  - Low to moderate intensity
  - Heart rate not a suitable measure
  - Rate of perceived exertion should be used

Special Considerations

- Elderly
  - More likely to have dyspnea, fatigue, angina, impaired balance
  - Co-morbidity may impact exercise
  - Reduced ability to increase cardiac output
  - Light exercise, walking program, circuit exercises directed towards retention of muscle strength
  - Continued access to exercise programs through community exercise/support programs
Keep in Mind
Avoid:
• Exercising shortly after eating
• Exercising when too hot or humid
• Heavy lifting
• Exercises that cause chest pain, SOB, dizziness

Warning signs you’re working too hard:
• Angina, extreme SOB
• Lightheaded, dizzy or confused
• Feeling extremely tired
• Fast or uneven heartbeat

FAQ
• Is physical activity safe?
• What if I can’t find time?
• Can I lift weights?
• How can I include more activity in my day?

Common Patient Problems
• Not in the habit of being physically active
• Lack of time
• Not feeling well
• Bored with exercise
• Pain or injury
Home Exercise Program

• Home assessment
• Home exercise program
• Patient education with return demonstration prior to discharge
• Referrals to community and wellness programs as appropriate
• DME ordered as needed

Core Education
Medical Topics

• Anatomy, physiology, pathology of cardiovascular disease
• Coronary heart disease/ischemic heart disease
• Acute cardiac events
• Investigations and procedures
• Symptoms and their management
• Cardiac medications

Modifiable Risk Factors

• Smoking
• Raised lipids, nutrition and dietary fat
• High blood pressure
• Overweight, obesity and diabetes
• Physical inactivity
• Alcohol
• Salt
• Other risk factors
Non-Modifiable Risk Factors
- Older age
- Male gender
- Positive family history
- Existing disease

Behavioral and Psychosocial Topics
- Behavior change
- Adhering to medication and advice
- Mood and emotions
- Psychosocial risk factors
- Social support
- Stress
- Impact upon family
- ADL
- Return to work

Therapy Outcomes
- Functional capacity
- Activities of daily living
- Physical status
- Physical activity
Program Outcomes

- Quality of life
- Knowledge
- Smoking
- Cholesterol
- Blood pressure
- Body weight
- Dietary habits
- Adherence to medication and advice
- Work (paid employment)
- Hospital readmissions

Program Success

- Communication
- Education
- Safety protocols
- Outcomes
- Holistic

Next Steps