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Cardiac Rehabilitation-What, Why and How?

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What is Cardiac rehabilitation?

Cardiac rehabilitation (CR) represents an essential component in the continuum of care for patients contending with cardiac pathologies.

This structured intervention, endorsed by healthcare professionals, aims to enhance cardiac health especially following a cardiac event, such as myocardial infarction, cardiac surgical procedures, or heart disease diagnosis.

The fundamental objectives of CR encompass supporting patient recovery, possibly avert subsequent cardiac complications, and improving quality of life through lifestyle changes and consistent medical monitoring [1,2].

Is CR evidence-based practice?

Some recent studies have provided evidence supporting the effectiveness of CR in improving patient outcomes.

- CR is indicated to be clinically effective for improved quality of life in patients with acute coronary syndrome, heart failure with educated ejection fraction, myocardial infarction, and post-coronary revascularization. CR is a cost-effective for patients with cardiac disorders, and there is importance in considering various types of CR, such as home versus center-based programs, and the blend of aerobic and resistance training in program designs [3].
- For patients with coronary heart disease, participation in exercise-based cardiac rehabilitation has been shown to reduce

cardiovascular mortality, recurrent cardiac events, and hospitalizations. This study highlights the importance of CR in managing coronary heart disease in improving health-related quality of life (HRQoL) and cost- effectiveness. The inclusion of regular physical activity as a core component of CR highlights its integral role in comprehensive disease management [4].

- A study comparing two programs, a 6-week high contact frequency and a 12-week standard program. Both showed improvements in lipid profiles, left ventricular ejection fraction (LVEF), and exercise parameters. The study indicates that the 12-week program participants experienced greater increases in METs achieved, exercise time, and peak support the efficacy of CR in improving patients' post-cardiac event recovery [5].
- An article from Circulation highlights several important aspects of 'A New Era in Cardiac Rehabilitation'. It emphasizes that CR programs, which typically include exercise training, risk factor management, and psychosocial counseling, are proven to reduce hospitalization and mortality rates while improving quality of life. Despite their effectiveness, there is a low enrollment rate in these programs, with only about 25% of eligible patients enrolling. This gap is partly attributed to disparities in access based on factors like sex, race, ethnicity, socioeconomic status, and location [6].
- The COVID-19 era forced many programs to go virtual, which provided an opportunity to include patients who might have been unable to participate otherwise. This period has highlighted the potential of virtual and hybrid models in overcoming barriers to access and participation in CR programs [6].

Different components of CR

Cardiac rehabilitation typically includes a combination of:

- **Exercise training/physical activity:** Customized exercise plans are developed to suit each patient's specific needs, abilities, and medical history. The goal is to strengthen the heart and improve endurance and heart health in a safe monitored environment.
- **Psychological support, education, and nutritional counseling:** Patients receive education about their heart disease, risk factor management, heart-healthy and self-care strategies. Topics such as nutrition, smoking cessation, weight management, cholesterol management, addressing hypertension, diabetes, and stress reduction are addressed. Psychological support/counseling may also address stress and emotional health, such as coping with the challenges of a heart condition.
- **Medical evaluation:** A multidisciplinary team approach to patient care requires regular medical evaluations to ensure that the rehabilitation plan is working effectively and allows for adjustments as needed. This may include vital signs monitoring, glycemic control, functional outcomes, and other relevant health indicators.
- **Support and guidance:** Many programs offer peer support groups and individual counseling to help patients navigate the emotional aspects of recovering from a heart condition [7-9].

CR phases

- **Phase 1: In-Hospital/Inpatient**
  This phase begins while the patient is still in the hospital, often starting immediately after a cardiac event or surgery. It involves basic mobility and self-care activities, as well as education about heart health and risk factor management. The main goal of this phase is to stabilize the patient's condition and prepare them for discharge.
- **Phase 2: Outpatient**
  After discharge from the hospital, patients enter Phase 2 in an outpatient setting, which typically lasts several weeks. This phase includes supervised exercise, ongoing education, and support for lifestyle changes to improve the patient's physical conditioning and foster self-management so patients can manage their condition and maintain a heart-healthy lifestyle on their own.
- **Phase 3: Post cardiac rehabilitation**
  Patients continue their exercises independently and build on goals established in Phase 1 and Phase 2. Medical visits to specialists are recommended to ensure progress and prevention management [10-12].

Important considerations

- Patients are typically referred to cardiac rehabilitation by their cardiologist or primary care physician.
- Eligibility criteria usually includes heart attack, heart surgery, or living with a chronic heart condition. It is essential to check with the patient's insurer to determine CR coverage. Medicare coverage resources are available at https://www.medicare.gov/coverage/cardiac-rehabilitation
- Accessibility to CR programs can vary depending on location, insurance coverage, and healthcare systems.

Disclaimer

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