CARDIAC REHABILITATION

What is cardiac rehab.?

- The 2005 AHA/AACVPR scientific statement developed the following definition of cardiac rehabilitation:

- The term cardiac rehabilitation refers to coordinated, multifaceted interventions designed to optimize a patient's physical, psychological, and social functioning, in addition to stabilizing, slowing, or even reversing the progression of the underlying atherosclerotic processes, thereby reducing morbidity and mortality.

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- Phase I - Inpatient Rehabilitation
- Phase II - Outpatient Rehabilitation
- Phase III - Long Term Maintenance

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Examples of conditions appropriate for cardiac rehabilitation

- Myocardial Infarction
- Stable angina
- Coronary Artery Bypass Graft Surgery (CABG)
- Percutaneous transluminal coronary angioplasty (PTCA)/stent procedures
- Valve surgery
- Chronic stable Heart Failure
- Ventricular Assist Devices
- Diabetes
- Cardiac Transplantation
- Peripheral Arterial disease
- High Risk for Coronary Artery Disease

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components of cardiac rehabilitation

- Patient Assessment
- Exercise Training and other therapeutic exercise (aerobic strength)
- Education/Counseling
- Physical Activity Counseling
- Nutritional counseling
- Lipid Management
- Blood Pressure Management
- Smoking Cessation
- Weight Management
- Diabetes Management
- Psychosocial Management
- Facilitating a life-long committment to exercise and other lifestyle changes

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STABLE ANGINA

- The upper HR for exercise should be set 10 beats or more below the HR or RPP which ischemia was first noticed.
- It is prudent to ensure that patients take their medication before undergoing an exercise test administered for the purpose of establishing the correct exercise training HR range.
- Consider prophylactic Nitroglycerin 15 min before exertion.

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REVASCULARIZATION

PTCA with or without stent

- Begin 24-48 h after procedure.

Open heart surgery

- Begin 3-4 weeks after surgery however upper body exercise should be limited to ROM and light repetitive activities such as arm ergometry until 4-8 weeks after surgery.

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Benefits of Cardiac Rehabilitation

- Decreases Mortality at up to 5 years Post Participation
- Decreases Cardiovascular Events
- Improves Modifiable Risk Factors
- Improves Adherence with Preventive Medications
- Improves Function and Exercise Capacity
- Improves Quality of Life

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Meta-analyses show that the improvement in survival with exercise-based CR appears to be similar to that of many accepted cardiac drug therapies.

TABLE 2-3. Comparison of the mortality benefits of CR* versus cardiac therapies

	No. of trials (no. of patients)	Relative reduction in all cause mortality	Reduction in all cause mortality per 1000 per year
Beta-blockers[17]	31 trials (24,974)	23% (15–31%)	12 (6–17)
ACE inhibitors[18]	22 trials (102,476)	17% (2–11%)	4 (1–6)
Statins[19]	3 trials (17,617)	23% (15–30%)	4 (2–6)
Antiplatelets[20]	11 trials (18,773)	24% (16–32%)	7 (1–3)
Cardiac rehabilitation*	44 trials (8700)	16% (4–27%)	9 (15 to 116)

*Exercise-based CR.

Source: From Taylor et al.[5]