HEART online
Heart Education Assessment Rehabilitation Toolkit

Guidelines for Exercise Program Participation

Participation in outpatient cardiovascular disease prevention and rehabilitation and heart failure management programs may begin 1-2 weeks post discharge from hospital assuming the following indications and contraindications criteria are met.

Indications for Program entry

- Medically stable post myocardial infarction (MI)
- Stable angina
- Coronary artery bypass graft (CABG)
- Percutaneous coronary intervention (PCI) or other percutaneous procedure
- Compensated heart failure
- Cardiomyopathy
- Heart transplant
- Other cardiac surgery including valvular and pacemaker insertion (including ICD)
- Peripheral vascular disease (PVD)
- High risk cardiovascular disease ineligible for surgical intervention
- Sudden cardiac death syndrome
- At risk for CAD with diagnosis of risk factors for CVD
- Other patients who may benefit from structured exercise and/or education based on physician referral and consensus of the rehabilitation team

Entry should be a staff decision with approval of a medical officer. Unstable conditions such as unstable angina and decompensated heart failure are contraindicated.

NB: The table is a guide to assist clinical decision making. Exercise modifications should be made where appropriate to cater for and address all co-morbidities.

Condition / Procedure	Barrier	Potential solution
Stable angina	Commence aerobic training, ROM & light resistance exercises 1-2 weeks post diagnosis / treatment if tolerated. [a]	• Monitor occurrence of symptom onset, frequency, duration, triggers and associated intensity • Modify intensity to remain below angina threshold • Consider longer warm-up • Carry anti-angina medication
Percutaneous procedures Angiogram PCI Transcatheter aortic valve implantation (TAVI)	Commence aerobic training, ROM & light resistance exercises 1-2 weeks post procedure if tolerated. [a] Minimum 2-3 weeks before resistance training. [b]	• Monitor for signs and symptoms present prior to procedure • Observe percutaneous access site and modify exercise if wound or pain related issues

Guidelines for Exercise Program Participation continued...

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Condition / Procedure	Barrier	Potential solution
Myocardial Infarction	Commence aerobic training, ROM & light resistance 1-2 weeks post procedure if tolerated. [a] Commence supervised endurance training 4 weeks post event. Minimum 5 weeks before commencing resistance training. [b]	• Monitor for signs and symptoms present prior to event/ treatment • Consider 'Angina' guidelines • Consider 'Percutaneous Procedures' guidelines as above
Cardiac Surgery Coronary artery bypass grafting (CABG) Valve Repair Valve Replacement	Commence aerobic training, ROM & light resistance exercises 1-2 weeks post procedure if tolerated. [a] Commence supervised endurance training 4 weeks post event. Minimum 5 weeks before commencing resistance training. [b] Progression of activities will be dependent upon sternal stability.	• Monitor for signs and symptoms present prior to event/ surgery • Consider 'Angina' guidelines as above • Refer to sternal precautions algorithm to determine appropriate activity
Implantable Devices Permanent pacemaker (PPM) Implantable cardioverter defibrillator (ICD)	Commence aerobic training 1-2 weeks post procedure. Avoid upper limb activities above the level of the shoulder on the implanted side for 4-6 weeks to prevent lead dislodgement. Commence and progress upper limb activities above shoulder level after 4-6 weeks or when cleared by the cardiologist.	• Identify reason for device and programmed settings • Check wound and seek medical advice if concerns • Requires 10% safety margin with HR upper limit at least 10bpm below programmed HR threshold for defibrillation • Avoid contact activities • Use pulse oximeter to monitor HR in preference to HR monitor
Compensated Heart Failure (HF)	Commence aerobic training, ROM & light resistance 1-2 weeks post discharge if tolerated [a] (RPE 9-11 on 6-20 scale). Commencement of resistance training [b] will be determined by aetiology of HF and additional procedures.	• Initiate resistance training conservatively and progress slowly (RPE 9-13 with progression to 15 on 6-20 point scale) • Avoid isometric exercises • Monitor for signs and symptoms of decompensation or other adverse events including hypotension, sudden weight gain, SOB, peripheral oedema and unusual fatigue • Note increased potential for complex arrhythmias in these patients

[a] 0.45kg up to 1.36kg hand weights/light free weights and elastic bands are appropriate
[b] Resistance training defined as lifting 50% 1RM

This information is a guide only. It does not replace clinical judgement.

Adapted from the: American College of Sports Medicine (2010). ACSM's Guidelines for Exercise Testing and Prescription, Eighth Edition. Lippincott, Williams & WilkinAACVPR 2004 and American Association of Cardiovascular and Pulmonary Rehabilitation (2004). Guidelines for cardiac rehabilitation and secondary prevention programs. Champaign, USA. Human Kinetics Publishers.

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