A Pathway to Cardiac Recovery
Standardised program content for Phase II Cardiac Rehabilitation

Acknowledgements

Acronyms

ACE	angiotensin-converting enzyme
ACRA	Australian Cardiovascular Health and Rehabilitation Association
ACS	acute coronary syndromes
AHA	American Heart Association
ARB	angiotensin II receptor blocker
BMI	body mass index
CHD	coronary heart disease
CPR	cardiopulmonary resuscitation
CR	cardiac rehabilitation
CSANZ	Cardiac Society of Australia and New Zealand
CVD	cardiovascular disease
DASH	Dietary approaches to Stop Hypertension
GP	general practitioner
HDL	high-density lipoprotein
IPAN	Institute for Physical Activity and Nutrition (Deakin University)
LDL	low-density lipoprotein
NHF	National Heart Foundation of Australia
NHMRC	National Health and Medical Research Council
PHQ	Patient Health Questionnaire
RPE	rating of perceived exertion

Foreword

It is with great excitement that the Heart Foundation welcomes the release of '*A Pathway to Cardiac Recovery* -Standardised program content for Phase II Cardiac Rehabilitation'.

The heart health sector congratulates the Victorian Government for their drive and vision to see this important resource created. Its publication will guide cardiac rehabilitation services on which education modules should be delivered to achieve a high-quality, evidence-based cardiac rehabilitation program. This program outline guide is based on the best available evidence, and has been developed in consultation with cardiac rehabilitation experts across Australia.

The Heart Foundation has a long and significant history in the establishment and advocacy of cardiac rehabilitation services in Australia, with a consistent commitment to supporting Australians living with heart disease. Cardiac rehabilitation saves lives, reduces hospital admissions, and improves quality of life for Australians who have experienced a cardiovascular event or diagnosis. However, across the country there is considerable variability in the content delivered in cardiac rehabilitation services, which can influence an individual's capacity for lifestyle modification and their health outcomes. Furthermore, this lack of consistency of education delivery across rehabilitation services influences the ability to reinforce broadly the benefit of cardiac rehabilitation in research studies.

This resource is designed to guide a service provider to determine what they will offer heart patients to support their recovery, and I encourage health professionals working in cardiac rehabilitation to embrace the document and bring it to life. For some cardiac rehabilitation services, this document will provide reassurance that you are covering the major education topics that evidence suggests will confer benefit for your patients. For others, it will provide clear goals to develop your cardiac rehabilitation program structure. This program outline demonstrates the comprehensive risk factor modification education and support that cardiac rehabilitation offers, and it is hoped this will encourage all clinicians to consistently refer cardiac patients who will benefit.

The Heart Foundation looks forward to continuing to work with the cardiac rehabilitation community as we strive to support Australians living with heart disease.

Kellie-Ann Jolly
CEO Victoria
National Heart Foundation of Australia

Foreword

The Australian Cardiovascular Health and Rehabilitation Association (ACRA) is pleased to support the release of 'A Pathway to Cardiac Recovery -Standardised program content for Phase II Cardiac Rehabilitation'.

The Pathway builds on the foundation of the *Core Components of Cardiovascular Disease Secondary Prevention and Cardiac Rehabilitation* publication developed by ACRA members in 2014 (Woodruffe et al, 2014). The *Core Components* provided a standard and the Pathway provides the detailed content needed to be delivered. Ten modules are provided, which include specific evidence-based content. If delivered in its entirety, these modules would meet international standards and ensure the highest quality cardiac rehabilitation program. Many cardiac rehabilitation programs would be delivering this content, and the Pathway would provide confirmation of the quality of their service. However, many new and developing services would benefit greatly from having access to standard content, as it is something they can aspire to over time.

As the peak organisation of cardiovascular health and rehabilitation professionals, ACRA provides educational opportunities and advocates for their members for resources to support their endeavours. The *Pathway* aligns directly with ACRA's mission to support the development of current and future content standards and future cardiac rehabilitation staff.

Professor Robyn Gallagher
Former President, Australian Cardiovascular Health
and Rehabilitation Association (ACRA)

Executive Summary

Taking the path to recovery can save a life

The aim of this resource is to provide a **standardised and evidence-based outline** of content that should be delivered in phase II CR for people with cardiovascular disease. Specific overarching principles are to provide a resource that is:

- **evidence-based** and builds upon the Australian Cardiovascular Health and Rehabilitation Association (ACRA) Core Components.[1]
(Companion Document: ACRA, Core Components of Cardiovascular Disease Secondary Prevention and Cardiac Rehabilitation, 2014)

- **person-centred;** guides the provision of care that is appropriate and accessible, and able to meet the needs of diverse groups of individuals and groups in the community.[2]
(Companion Document: Department of Health and Human Services, Care for people with chronic conditions – Guide for the Community Health Program, 2016)

- **culturally aware;** because cardiovascular disease is the leading cause of death for Aboriginal Australians, who have death rates up to two and a half times higher than the rest of the population, cardiac rehabilitation programs need to ensure they have resources to support Aboriginal and Torres Strait Islander people.[3] Further, CR services need to ensure culturally and linguistically diverse populations can access culturally competent CR programs.[4]
(Companion Document: National Health and Medical Research Council (NHMRC), Cardiac Rehabilitation and Secondary Prevention for Aboriginal and Torres Strait Islander Peoples. A Guide for Health Professionals, 2005)

- **flexible;** allows clinicians to deliver the program in a way that suits the requirements of their cardiac rehabilitation centre and clients.

- **applicable to any mode of delivery;** the content can be delivered via any method, e.g., face to face, telehealth or mobile health.

- **provides consistent and clear messages;** content from modules overlaps and is repeated to strengthen the messages provided to CR participants, particularly around risk factor modification.

How to use this resource

The aim of this resource is to provide evidence-based direction and guidance on the content to be delivered in Phase II Cardiac Rehabilitation (CR) programs, whether face to face or via telehealth. This resource will aid quality and consistency between Victorian CR services by offering a standardised program content outline.

We hope that this resource will help you to update the content your program is currently delivering and ensure it is based on the latest evidence. Each module includes example content and resources. In the future, we hope to update the resource as the evidence and supporting resources evolve.

Each module contains evidence-based Best Practice Statements. Best Practice Statements were ranked using a Delphi process, in which the expert advisory group rated its importance for inclusion in a CR program. These ratings allowed determination of priority for the program's Best Practice Statements.

Essential (Red Shade) The content presented in this Best Practice Statements should be prioritised for delivery in all CR programs.

Desirable (Blue Shade) The content presented in this Best Practice Statement should be considered for delivery in CR programs, based on capacity and resources.

A NHMRC Level of Evidence ranking is also included with each Best Practice Statement. Level I is considered the highest level of evidence and Level IV is the lowest level of evidence. For areas where no published evidence exists but are considered highly important by the expert advisory group, 'expert opinion' has been provided.

Presented in this resource are best practice statements within ten module categories, spanning four overall domains.

Domain	Module Category	Page
Cardiac rehabilitation Foundations	Initial assessment and goal setting	13
	Heart education and self-management	22
Developing heart health knowledge	Exercise training	27
	Healthy eating and weight management	32
	Tobacco cessation and alcohol reduction	38
	Medication education and review	43
	Managing medical risk factors	50
Psychosocial health	Psychosocial well being	56
Life beyond cardiac rehabilitation	Activities of daily living	64
	Reassessment and completion	69

How was this program outline developed?

The Heart Foundation and Deakin University's Institute for Physical Activity and Nutrition (IPAN) developed the program outline. In addition, an interdisciplinary expert advisory group consisting of clinicians, academics, policymakers and consumers, provided advice and guidance. Other stakeholders, such as members of ACRA Victoria, were also consulted during development of the program outline.

The initial step was to review the scientific literature related to CR, cardiac populations and international CR guidelines. This review strongly suggested that the approach to delivering content should be modular. After development, each module was assessed for completeness and more literature sourced if necessary, then reviewed by a content expert, the expert advisory group and end users – ACRA Victoria members and CR clinicians (Figure 1).
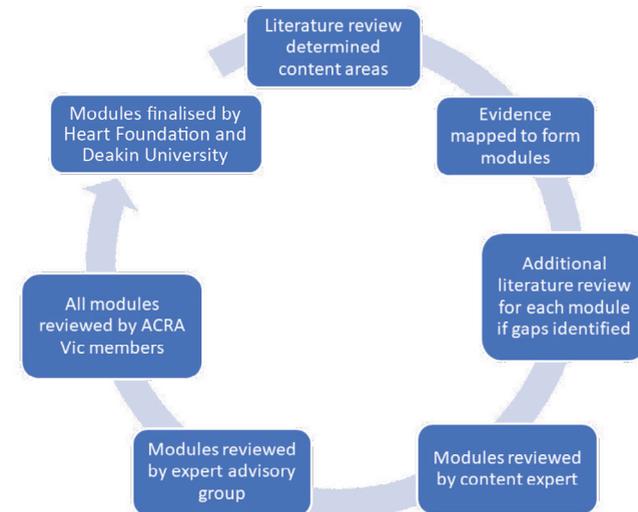
Figure 1. Overview of the process of module development

The Cardiac Rehabilitation Program Outline underwent a final review process with the National Heart Foundation to ensure concordance with the organisation's secondary prevention recommendations and clinical guidelines. After review from the Heart Foundation Clinical Committee, minor adjustments were made to wording, assessment priorities and suggested screening tools. No change to the overarching Best Practice Statements was required; as such, the rigorous methodology adopted to create this resource was maintained.

The resource authors intend for this resource to aid and guide clinicians working in CR about what program content the evidence suggests are the best investments of their time, energy and resources, toward positive patient outcomes.

References

1. Woodruffe S, Neubeck L, Clark RA, Gray K, Ferry C, Finan J, et al. Australian Cardio-vascular Health and Rehabilitation Association (ACRA) Core Components of Cardiovascular Disease Secondary Prevention and Cardiac Rehabilitation 2014. Heart, Lung and Circulation.

2. Department of Health and Human Services. Care for people with chronic conditions. Guide for the Community Health Program (Internet). Melbourne: Victorian Government; 2016 Nov (cited 2018 May 28). Available from: https://www2.health.vic.gov.au/primary-and-community-health/community-health/community-health-program/chronic-care-guide

3. Nichols M, Peterson K, Herbert J, Alston L, Allender S. Australian heart disease statistics 2015. (Internet). Melbourne: National Heart Foundation; 2016. Available from: https://www.heartfoundation.org.au/images/uploads/publications/RES-115-Aust_heart_disease_statstics_2015_WEB.PDF

4. Australian Government, National Health and Medical Research Council. Strengthening Cardiac Rehabilitation and Secondary Prevention for Aboriginal and Torres Strait Islander Peoples. A guide for Health Professionals. (Internet). Australian Government; 2005. Available from: https://daa.asn.au/wp-content/uploads/2016/07/MR_Cultural_Competency_Toolkit_NHMRC_2005.pdf

Essential cardiac rehabilitation Best Practice Statements

Initial assessment	
1	Comprehensively assess the CR participant's needs and develop an individualised care plan. This initial assessment should include: • socio-demographic information • clinical history • exercise capacity • lifestyle risk factors (physical activity, diet, smoking, alcohol) • psychosocial health (depression, anxiety) • medications.
2	Following the initial assessment, encourage and support participants to set achievable goals.
Heart education and self-management	
3	Educate CR participants about self-management strategies.
Medication education and review	
4	Give CR participants medication education that includes basic indications and benefits of commonly prescribed medication therapy.
5	Encourage and support participants to adopt strategies that lead to medication adherence.
Managing medical risk factors	
6	Equip CR participants with the skills to self-manage or prevent hypertension.
7	Equip participants with the skills to self-manage or prevent dyslipidaemia.
8	Equip participants with the skills to self-manage or prevent diabetes.
Exercise and physical activity	
9	Give CR participants a tailored, progressive and supervised exercise training program.
10	Educate participants about strategies to increase general physical activity and reduce sedentary behaviour.
Healthy eating & weight management	
11	Focus advice on making healthy dietary choices to reduce total cardiovascular risk.
12	If resources allow, offer individualised consultation with a trained health professional to discuss diet. The goals are to understand the CR participant's current eating habits, and give personalised advice that is sensitive to culture, needs, socio-economic status, and capabilities.

Tobacco cessation and alcohol reduction	
13	Give CR participants who smoke a brief intervention for smoking cessation, using the Ask, Advice and Help model.
14	Encourage participants who continue to smoke to use a combination of nicotine replacement products (patch plus gum or spray or lozenge or inhaler) and/or to visit their doctor to discuss other 'stop smoking medications' to assist quitting.
15	Offer participants who are excessive drinkers brief advice/counselling to encourage reduction of alcohol intake.

Psychosocial wellbeing	
16	Screen CR participants for depression and anxiety at the beginning and end of the CR program using a validated tool.
17	Give participants an opportunity to discuss the typical emotional response to a heart event.
18	Educate participants about the signs and symptoms of depression and other mood disorders.
19	Assist participants to respond appropriately to ongoing psychological symptoms including when to seek help.

Activities of daily living	
20	Discuss driving restrictions with CR participants and help them to find further information.
21	Give participants an opportunity to discuss any concerns related to resuming sex after their cardiac event.

Reassessment and completion	
22	The post-program assessment should include, at a minimum: • exercise capacity • lifestyle risk factors (physical activity, diet, smoking, alcohol) • psychosocial health (depression, anxiety) • medications
23	Review CR participants' goals at the completion of the program.
24	Give the participant and their general practitioner and cardiologist a discharge or summary letter.

Desirable cardiac rehabilitation Best Practice Statements

Initial assessment	
1	CR programs should undertake a comprehensive initial assessment that enables the needs of the participant to be understood and leads to an individualised care plan. The initial assessment should include: • adiposity (waist circumference) • medical risk factors (blood pressure, lipids, blood glucose) • ability to return to activities of daily living • quality of life.

Heart education and self-management	
2	Give CR participants education (tailored to their condition, if possible) about: • the anatomy and physiology of the heart • how to return to activities of daily living • risk factors modification for secondary prevention in heart disease • chest pain management or a heart failure management plan.

Medication education and review	
3	CR staff (including a pharmacist, if possible) should ensure CR participants are receiving optimal cardio-protective medications.

Healthy eating & weight management	
4	An Accredited Practising Dietitian should assess and manage CR participants with complex dietary requirements due to co-morbidities.
5	Provide education and advice on the importance of maintaining a healthy weight for heart health. For participants who are overweight or obese, develop an individualised, achievable plan working towards an initial goal of losing 5–10% of body weight and a longer-term goal of achieving a body mass index (BMI) below 25.
6	Consider referring participants requiring assistance with weight management to weight loss programs delivered by experts.

Alcohol reduction	
7	Consider referring alcohol-dependent CR participants to specialised services and notify their general practitioner.

Psychosocial wellbeing	
8	Assess the social support available to CR participants and determine their social support needs.
9	Discuss the importance of social support to heart health recovery, and encourage participants to reflect on how they can enhance or better utilise their social support networks.
10	Consider how social networks can be enhanced for participants who report low levels of social support.
11	Consider the contributions family members and carers can make to a participants' recovery.
12	Consider encouraging partners or carers to join specific carer support groups to help them to cope with their family member's cardiac condition.
Activities of daily living	
13	If a CR participant is unable to drive, explore alternatives to assist with independence.
14	Include vocational guidance to facilitate graded return to work and discuss any barriers an individual may face returning to work.
15	Give CR participants an opportunity to discuss and/or train in cardiopulmonary resuscitation (CPR).
Reassessment and completion	
16	If possible and applicable, reassess CR participants': • adiposity (waist circumference) • medical risk factors (blood pressure, lipids, blood glucose) • quality of life • success in returning to activities of daily living.

Initial Assessment

Aim of module

To identify the individual needs of CR participants, which will inform the agreed personalised goals and initiation of appropriate CR services.

Logic

• All the major CR guidelines recommend that individualised assessments should be provided in the initial stages of CR and re-assessed prior to completion.

• Collaborative goal-setting and shared decision-making is essential to fostering self-care in a chronic disease population.[1] This process should commence at the initial assessment and continue to be reviewed throughout the CR program.

Initial Assessment

CR programs should undertake a comprehensive initial assessment that enables the needs of the CR participant to be understood and leads to an individualised care plan.
Essential components of the initial assessment include:

• socio-demographic information

• clinical history

• exercise capacity

• lifestyle risk factors (physical activity, diet, smoking, alcohol)

• psychosocial health (depression, anxiety)

• medications

Other **desirable components** to consider at the initial assessment include:

• adiposity (waist circumference)

• medical risk factors (blood pressure, lipids, blood glucose)

• quality of life

• return to activities of daily living

NHMRC Level of Evidence: Expert Opinion

• Enter assessment data directly into an electronic database to enable easy review of participant goals, progress and outcomes and to facilitate data extraction, analysis, outcome evaluation and report generation.[2]

Cardiac rehab:
if it's not offered they can't attend – **the conversation is vital**

Example Content

Table 1. Core elements to include in an initial patient assessment common to all clinical conditions adapted from Piepoli et al. (2014)[3] and Woodruffe et al. (2015)[2]

Socio-demographics	Including name, medical record number, gender, residential postcode, date of birth, living circumstance, culturally and linguistic diverse background, language spoken at home, Aboriginal or Torres Strait Islander status, employment status, education level, social support.
Clinical history	Principal referral diagnosis, cardiac interventions/ complications, past and current medical history, symptom and wound pain review (frequency, severity, management, medical review required), sternal instability, required aids: hearing aids, glasses, gait aids. **Tool option:** Sternal instability: sternal instability scale.
Exercise capacity	**Assessment:** Symptom-limited exercise testing, either on bicycle ergometer or on treadmill, may be considered. Other options include sub-maximal exercise evaluation and/or Six-Minute Walk Test or Incremental Shuttle Walk Test. Mobility/physical limitations that impede exercise should be assessed. If feasible, peak exercise capacity assessment may be considered.
Adiposity	**Assessment:** Measure waist circumference (cm) **Target:** men: <94cm; women <80cm
Medical risk factors	
Lipid management	**Assessment:** Total cholesterol, low density lipoprotein (LDL), high density lipoprotein (HDL), Triglycerides. • **Target:** Secondary prevention targets in CVD: Low-density lipoprotein cholesterol (LDL-C) < 1.8 mmol/L • High-density lipoprotein cholesterol (HDL-C) > 1.0 mmol/L • Triglyceride (TG) < 2.0 mmol/L.
Blood pressure	**Assessment:** Blood pressure using the Heart Foundation hypertension guidelines. **Target:** <140/90mmHg.
Diabetes	**Screening:** Assess presence of diagnosed Type 1 or 2 diabetes. Document glycosylated haemoglobin (HbA1c) and fasting blood glucose level (BGL) where available. **Target:** HbA1c < 7mmol/L or individualised target set by healthcare provider based on duration of diabetes, presence of CVD and hypoglycaemic risk.

Lifestyle risk factors	
Physical activity	**Assessment:** domestic, occupational, and recreational needs; activities relevant to daily life; barriers to increased physical activity, upper limb assessment. **Tool option:** Validated self-report: e.g., EPIC Physical Activity Questionnaire; Objective measures: physical activity monitors and Apps (e.g. Fitbit, Apple watch), step counters (e.g. pedometry). Difficulty Questionnaire (FDQ) for upper limb ADLs. **Target:** Minimum of 150mins/week of moderate intensity physical activity.
Diet/nutrition	**Screening:** Assessment of nutritional status. **Tool option:** Healthy Eating Quiz (University of Newcastle), Mini Nutritional Assessment. **Target:** Adoption of a healthy dietary pattern.
Tobacco use	**Screening:** History of tobacco use. Determine if current smoker (within 1 month of assessment); Ex-smoker (quit >1 month); or never smoked; previous attempts at quitting. **Target:** Tobacco cessation.
Alcohol use	**Screening:** History of alcohol intake. **Target:** < 2 standard drinks per day.
Illicit substances	**Screening:** History or current use of illicit substance use.
Psychosocial health	
Depression	**Screening:** Past history of depression; screen for current signs of depression using a validated tool. **Tool option:** Initial screening tools such as PHQ-2. Participants who screen positive should have further evaluation with the longer form (PHQ-9). Alternatively, use nominated screening tool of health service or consider Cardiac Depression Scale (CDS), Hospital Anxiety and Depression Screener (HADS), BDI-II.
Anxiety	**Screening:** Past history of anxiety, screen for current signs of anxiety using nominated screening tool of health service.
Quality of life	**Use nominated screening tool of health service or consider** WHOQOL-BREF, AQoL (e.g. AQoL-4D), EQ-5D-5L.
Medications	
Medications	**Assessment:** List all cardiac medications (dose and frequency); assess adherence to pharmacotherapy and understanding of medications.

Activities of daily living	
Return to activities of daily living	**Screening:** Has the participant: • Graded return to work (as applicable) and time after event • Returned to driving (as applicable) and time after event • Resumed sexual activities (if applicable) and time after event • Recorded reasons/concerns for not achieving the above.

Goal-setting

Following the initial assessment, CR participants should be encouraged to set achievable goals with support from CR staff.

NHMRC Level of Evidence: Expert Opinion

Example content:

• Use the needs determined in the initial assessment to inform the goal-setting process.

• Assess CR participants continuously throughout the program and review their goals regularly based upon the initial assessment.

• Ensure each participant has a copy of their CR management plan.

• Give a copy of the care plan to the participant's cardiologist and general practitioner.

Rationale: Many international guidelines identify goal-setting as a critical component of CR. Goal-setting has been shown to be an effective intervention to increase engagement for participants in CR.[4] The British and Scottish guidelines recommend assessment after completion of the CR program to determine achievement of goals during the program and to formulate plans for transition into long-term management.[4,5]

Resources for clinicians

• Sample data collection tool (see Table 2)

References

1. Department of Health and Human Services. Care for people with chronic conditions. Guide for the Community Health Program (Internet). Melbourne: Victorian Government; 2016 Nov (cited 2018 May 28). Available from: https://www2.health.vic.gov.au/primary-and-community-health/community-health/community-health-program/chronic-care-guide

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3. Piepoli MF, Corra U, Adamopoulos S, Benzer W, Bjarnason-Wehrens B, Cupples M, et al. Secondary prevention in the clinical management of patients with cardiovascular diseases. Core components, standards and outcome measures for referral and delivery: a policy statement from the cardiac rehabilitation section of the European Association for Cardiovascular Prevention & Rehabilitation. Endorsed by the Committee for Practice Guidelines of the European Society of Cardiology. European Journal of Preventive Cardiology. 2014;21(6):664–681.

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5. British Association for Cardiovascular Prevention and Rehabilitation. The BACPR Standards and Core Components for Cardiovascular Disease Prevention and Rehabilitation 2017 (3rd Edition) (Internet). 2017 (cited 2018 Jan 2). Available from: http://www.bacpr.com/resources/BACPR_Standards_and_Core_Components_2017.pdf

Table 2. Sample data collection tool of each component during and after a CR program adapted from Piepoli et al (2014)

Patient Name:			Patient Identifier:		
Address:				Post code:	
Date of Birth:		Medicare Number:		Gender: ☐M ☐F ☐Indeterminate/unspecified	
Are you of Aboriginal or Torres Strait Islander origin? ☐N ☐ Y Aboriginal ☐ Y Torres Strait Islander			Culturally and linguistically diverse: ☐Y ☐N ☐Unknown Language spoken at home:		
Employment status:			Social support:		
Current Cardiac Diagnosis: a) Cardiothoracic surgery b) STEMI c) NSTEMI d) Unstable angina/IHD/Angina e) Congestive Heart Failure / Cardiomyopathies f) Atrial fibrillation/Flutter/SVT g) ICD h) PPM i) Elective Percutaneous Coronary Intervention j) Percutaneous Cardiac Interventions (TAVI/ASD repair/volvotomies) (POBA/Stent/Rotoblator/DEB) k) Other …………………………………………………………………………………………………….					
Interventions received/complications: a) Cardiothoracic surgery b) Primary Percutaneous Cardiac Interventions c) Cardiogenic shock/Congestive Heart Failure d) Atrial fibrillation/flutter/SVT e) ICD/LifeVest f) PPM e) Elective/Staged Percutaneous Coronary Intervention					
Date of event/s:					
Other Medical history:					
Required aids: (hearing aids, glasses, gait aids)					
GP name:			GP contact details:		
Cardiologist name:			Cardiologist contact details:		

Date	Target goal	Initial Assessment	Intervention Plan and Communication	Re-assessment Prior to Completion	Changes in Intervention Plan and Communications
Physical activity/sedentary behaviour	Minimum 150 mins/week of moderate intensity physical activity Aim to increase awareness around sedentary behaviour and reduce periods of sedentary behaviour	☐ At target ☐ Below target	☐ Education completed concerning optimal physical activity, barriers to increasing physical activity. *Complete only if below target* ☐ Intervention plan developed with the CR participant	☐ At target ☐ Below target	*Complete only if below target* ☐ Intervention plan developed with the CR participant ☐ Health care provider notified
Exercise capacity	Assessment of exercise tolerance and development of an individualised exercise prescription	☐ Assessment and tailored exercise prescription completed ☐ Assessment and tailored exercise prescription not completed	☐ Exercise prescription communicated to the patient and health care provider	☐ Re-assessment and exercise prescription completed ☐ Re-assessment and exercise prescription not completed	☐ Revised exercise prescription communicated to the patient and health care provider
Diet/Nutritional counselling	Heart healthy dietary pattern, wide variety; e.g. DASH, Mediterranean diet	☐ Assessment of eating pattern completed ☐ Assessment of eating pattern not assessed	Education completed: ☐ Target dietary pattern ☐ Recommended portion sizes ☐ Interpreting nutritional information and food panels ☐ Referral to a dietitian if complex dietary requirements	*Complete only if below target on initial assessment* ☐ At target ☐ Below target	☐ Communicate with health care provided as needed ☐ Referral to a dietitian if required
Adiposity	Waist circumference: men <94cm women <80cm	☐ At target ☐ Above target	☐ Education completed concerning target goals, diet, regular physical activity ☐ Provided strategies to enhance self-monitoring of weight ☐ Referral to a dietitian / weight management program if required/available	☐ At target ☐ Above target	*Complete only if remains above target* ☐ Additional education completed concerning target goals, diet, behaviour change, exercise ☐ Referral to a dietitian / weight management program ☐ Health care provider notified of above target

Lipid control	Low-density lipoprotein cholesterol (LDL-C) < 1.8 mmol/L§ • High-density lipoprotein cholesterol (HDL-C) > 1.0 mmol/L • Triglyceride (TG) <2.0 mmol/	☐ Optimal control ☐ Suboptimal control	*Applies to all participants with CVD.* Education completed: ☐ Target lipid goals ☐ Medication compliance ☐ Lifestyle modification	*Complete only if suboptimal control on initial assessment* ☐ Patient encouraged to contact healthcare provider about reassessment	☐ Policy in place to communicate with health care provider as needed
Blood pressure control	<140/90mmHg	☐ Participant with diagnosis of treated or untreated hypertension ☐ Not hypertensive	*Complete only if participant has a diagnosis of hypertension:* Education completed: ☐ Target BP goals ☐ Medication compliance ☐ Lifestyle modification	☐ Intermittent monitoring of BP during CR	☐ Policy in place to communicate with health care provider, including thresholds for communication
Diabetes status	• HbA1c $<$ 7mmol/L. Or individualised target set by healthcare provider based on duration of diabetes, presence of CVD and hypoglycaemic risk	☐ Participant with diagnosis of treated or untreated diabetes ☐ Not diabetic	*Complete only if participant has a diagnosis of diabetes:* Education completed: ☐ Target BP goals ☐ Medication compliance ☐ Lifestyle modification	*Complete only if suboptimal control on initial assessment* ☐ Patient encouraged to contact healthcare provider about reassessment	☐ Policy in place to communicate with health care provider, including thresholds for communication
Tobacco use	Complete cessation of tobacco	☐ Never ☐ Ex-smoker (quit > 1 month ago) ☐ Current (within 1 month of assessment)	*Complete only if current or recent tobacco use* ☐ Brief intervention provided using the Ask, Advise, Help model ☐ Offered referral to a tobacco cessation program (e.g. QUIT) ☐ Healthcare provider notified	☐ Abstaining ☐ Still smoking	*Complete only if still smoking* ☐ Individual education and counselling ☐ Encouraged to use nicotine patches or medications ☐ Referral to a tobacco cessation program ☐ Healthcare provider notified
Alcohol use	< 2 standard drinks per day	☐ Does not drink or below target levels ☐ At target ☐ Above target	*Complete only if above target levels:* ☐ Education/counselling provided ☐ Healthcare provider notified	☐ At target ☐ Above target	*Complete only if drinking above target levels* ☐ Individual education and counselling ☐ Healthcare provider notified
Psychosocial health	Screen for depression and anxiety. HRQoL using a valid and reliable screening tool	☐ Participant screened for depression/anxiety ☐ Participant not screened for depression/anxiety	☐ Results discussed with participant *Complete only if screening tool indicates possible distress* ☐ Healthcare provider notified	☐ Participant re-screened for depression/anxiety ☐ Participant not rescreened	*Complete only if screening indicates possible distress* ☐ Results discussed with participant ☐ Healthcare provider notified

| Medications | Understanding of basic indications and benefits of commonly prescribed cardiac medications

Improving medication adherence | ☐ Participant has been prescribed preventive medications by his/her health care provider ☐ Participant has not been prescribed preventive medications by his/her health care provider | ☐ Education and counselling about the importance of adherence to appropriate preventive medications | ☐ Participant has been prescribed preventive medications by his/her health care provider ☐ Participant has not been prescribed preventive medications by his/her health care provider | ☐ Participant is encouraged to discuss questions or concerns about prescribed medication with his/her healthcare provider |
|---|---|---|---|---|---|
| **Return to daily activities** | Return to previous activities including (as applicable), return to work, return to driving, return to sexual activities | ☐ Returned to daily activities ☐ Not returned to daily activities | ☐ Discussed barriers/concerns the participant has regarding returning to daily activities ☐ Provided education/resources to assist participant to return to daily activities e.g. information on driving restrictions ☐ Referral to occupational therapist if available | *Complete only if not returned to daily activities* ☐ Returned to daily activities ☐ Not returned to daily activities | *Complete only if not returned to daily activities* ☐ Participant is encouraged to discuss questions or concerns ☐ Healthcare provider notified ☐ Referral to occupational therapist |

Heart Education and Self-Management

Aims of module

- To facilitate discussion of self-management techniques and build self-efficacy.
- To outline the basic principles of the anatomy and physiology of the heart and how this relates to participants' own condition.

Logic

It is well known that cardiac patients leave hospital with information deficits.[1] CR provides the opportunity to deliver patient education about disease management, introduce self-management strategies and build self-efficacy.

Heart Education and Self Management Best Practice Statement 1

Educate CR participants about self-management strategies

NHMRC level of evidence: Expert Opinion

Example content:

- Explain self-management and its importance in both management and prevention of cardiovascular disease.
- Encourage CR participants to identify challenges to managing their health that may be related to their disease or condition.[2]
- Show participants how to act on identified challenges.
- Encourage participants to formulate their own short-term action plans and use the action plans provided throughout the program.[3]
- If capacity exists, use cognitive behavioural therapy and motivational interviewing to assist CR participants with self-management.[4]

patient education
increased knowledge

= improved patient outcomes

+ increases in physical activity and improved nutrition
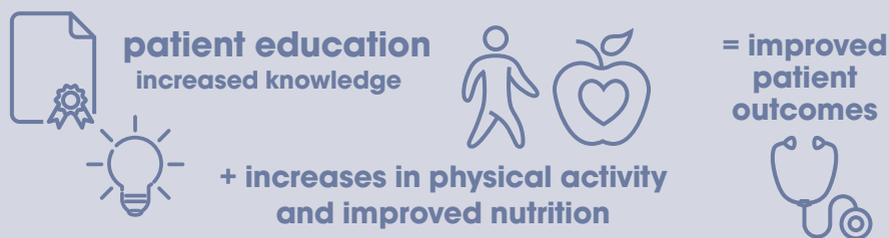
Rationale: Self-management education gives people problem-solving skills, allowing CR participants to identify problems and take action.[2] Examples of self-management actions include taking medication, participating in physical activities or self-weighing. CR participants require knowledge of cardiovascular anatomy and disease to engage in self-management.[5,6]

The American Heart Association (AHA) conducted an integrative review on participant education and self-management and provided recommendations.[4] In terms of content and delivery, AHA recommends self-management education be continual and that "brief, tailored interventions can be effective for follow-up to support patient engagement in self-management" (p. 17).[4]

A wealth of literature covers self-management in heart failure. This literature demonstrates that targeted self-management programs for patients with heart failure decrease hospital readmissions.[7] Delivering interventions via structured telephone support or non-invasive home telemonitoring also improved heart failure knowledge and self-care behaviours significantly.[8]

Heart Education and Self-Management Best Practice Statement 2

Give CR participants education, tailored to their condition if possible, about:
- anatomy and physiology of the heart
- return to normal activities
- risk factors for secondary prevention in heart disease
- action plans chest pain management or a heart failure management plan.

NHMRC level of evidence: Level I

Example content for basic anatomy and physiology of the heart:

- Educate CR participants (depending on their individual needs) about the anatomy and physiology of the heart and heart function.
- Explain how heart anatomy and physiology relates to the participant's own cardiac condition and cardiovascular disease.

Example content for return to normal activities:

- Develop an outline of timelines for return to normal activities (return to work, gardening, cleaning, etc.) relevant to the participant's condition or procedure.
- Identify precautions relevant to the participant's condition or procedure.

Example content for modifiable and non-modifiable risk factors:

- Introduce the participant to risk factor management, distinguishing modifiable risk factors and actions that can be taken to address them (increasing self-efficacy).

Risk factor management is also covered in depth in other modules (healthy eating and weight management, tobacco cessation and alcohol reduction, psychological wellbeing).

Example content for chest pain management

- Ensure CR participants, if applicable, have a chest pain management action plan.[9]
- Include education on:
  - chest pain and symptoms (not always the same for repeat events)[10]
  - rest and self-administration of prescribed short-acting nitrates
  - calling Triple Zero (000) for an ambulance if symptoms are severe, worsen quickly or last for 10 minutes or more.

Example content for heart failure management

- Ensure CR participants, if applicable, have a heart failure management action plan.[11]
- Include education on:
  - everyday activities: measuring daily weight, restricting fluid, taking medication, being physically active, calling for medical assistance if required
  - signs and symptoms that require a doctor's assessment (i.e., change in weight, change in symptoms)
  - an action plan for angina.

Rationale: The challenge with patient education literature is the differing nature of interventions trialled and the lack of adequate description.[4,12,13] This makes it difficult to form strong evidence-based recommendations about intervention type, method and duration.

One Cochrane review has examined patient education in the management of coronary heart disease (CHD).[12] While there was no improvement in recurrent myocardial infarction (fatal or non-fatal), total revascularisations or hospitalisations, there was some evidence of a reduction in subsequent cardiovascular events and that education-based interventions improve health-related quality of life. The authors concluded that education should be included in comprehensive CR programs in addition to exercise and psychological interventions.

Another recent systematic review found that patient education for cardiac patients increases knowledge, especially about medication and action in response to cardiac symptoms. Increases in physical activity and improved nutrition were also observed.[13]

Resources

- National Heart Foundation chest pain management action plan
  https://www.heartfoundation.org.au/images/uploads/main/Your_heart/Heart_Attack_Action_Plan.JPG
- National Heart Foundation "Living well with heart failure- Information to help you feel better" (including action plan)
  https://www.heartfoundation.org.au/images/uploads/publications/Living_well_with_heart_failure_-_Information_to_help_you_feel_better.pdf
- Education topics (Heart Online)
  https://www.heartonline.org.au/articles/patient-education/education-topics
- Education topics for heart failure (Heart Online)
  https://www.heartonline.org.au/articles/patient-education/education-topics-for-heart-failure-education
- Motivational interviewing (Heart Online)
  https://www.heartonline.org.au/articles/behaviour-change/supporting-behaviour-change#motivational-interviewing

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Medication education and review

Aims of module

* To increase CR participants' medication knowledge by:
  o   discussing the basic indications and benefits of commonly prescribed cardiac medications
  o   identifying and discussing strategies to improve medication adherence.
* To ensure participants are receiving optimal medication.

Logic

Most CR participants will be prescribed new medications during inpatient admission, so it is essential that they understand why and how to take them. CR also provides the opportunity to review prescribed medications to ensure optimal cardio-protective medication prescription and dose.

Medication education and review Best Practice Statement 1

Educate CR participants about the basic indications and benefits of commonly prescribed medication therapy.

NHMRC level of evidence: Expert Opinion

Example content:

* Explain medication indications and the planned duration of therapy to CR participants.
* Describe how to take each medication, including (as required) nitrates, and follow a chest pain management action plan (see resources).
* Explain the benefits of taking the medication, using patient-relevant outcomes (e.g., beta blockers reduce the risk of repeat heart attack and death).
* Inform CR participants that individual medications have two types of names (brand name versus generic name) and general acceptability of generic medications.
* Encourage participants to carry and regularly update a list of their medications, and outline methods of documenting medications (e.g., on a card in a wallet, in a notes application on a mobile phone, or using the My Heart, My Life app).
* Emphasise the importance of consulting a general practitioner (GP) or cardiologist before stopping or changing medication.

Rationale: Poor patient education about medications is probably related to poor medication concordance.[1] While there is no robust evidence for the effect of consistent interventions, such as education, on increasing medication concordance and adherence, it is reasonable that patients should receive medication counselling to improve medication adherence.[2,3]

Medication education and review Best Practice Statement 2

Encourage and support CR participants to adopt strategies that lead to medication adherence.

NHMRC level of evidence: Expert Opinion

Example content:
- Encourage CR participants to incorporate taking medication into a routine.
- Discuss common barriers to taking medications and strategies to overcoming them.
- Discuss common side effects of medications.
- Encourage participants to plan script refills.

Rationale: Medication adherence is often suboptimal for many reasons, including affordability, treatment complexity and lack of consumer understanding. In Europe, it has been shown that up to 9% of cardiovascular events are attributed to poor adherence. Optimal medication adherence has been associated with a 20% reduction in cardiovascular disease risk and a 35% reduction in all-cause mortality.[4]

A Cochrane systematic review demonstrated that medication adherence for chronic health problems is complex, but all evidence agrees that patients should be educated about strategies to improve medication adherence.[2,3]

Medication education and review Best Practice Statement 3

CR staff (a pharmacist, if possible) should ensure CR participants receive optimal cardio-protective medications.

NHMRC level of evidence: Expert Opinion

Example content:
- Ensure optimal medication classes and doses are prescribed.
- If medications are found to be sub-optimal or the CR participant has concerns or is experiencing problems, options for management include:
  - liaison with the participant's cardiologist or GP
  - referral to a pharmacist within the program (if available) for review
  - referral to a community pharmacist for review (see the resources section below for more information)
- If participants have complex medication regimes (e.g., due to many comorbidities), refer them to a pharmacist for individualised consultations.

Rationale: Mortality from cardiovascular disease has decreased dramatically with the growing use of secondary preventive medical therapies such as antiplatelet therapy, beta-blockers, statins and angiotensin-converting enzyme (ACE) inhibitors.[5] CR is the ideal time to review and optimise cardio-protective therapies, as per the latest National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand (NHF/CSANZ) acute coronary syndromes (ACS)[6] and heart failure guidelines,[7] by working with a program pharmacist or through communication with the CR participant's cardiologist or GP

Resources

- National Heart Foundation chest pain management action plan
https://www.heartfoundation.org.au/images/uploads/main/Your_heart/Heart_Attack_Action_Plan.JPG

- Improving adherence in cardiovascular care; A toolkit for health professionals
https://www.adma.org.au/clearinghouse/doc_download/97-improving-adherence-in-cardiovascular-care-toolkit-pdf.html

- National Heart Foundation of Australia & Cardiac Society of Australia and New Zealand: Australian Clinical Guidelines for the Management of Acute Coronary Syndrome.
https://www.heartfoundation.org.au/images/uploads/publications/Clinical_Guidelines_for_the_Management_of_Acute_Coronary_Syndromes_2016.pdf

- National Heart Foundation of Australia & Cardiac Society of Australia and New Zealand: Guidelines for the Prevention, Detection, and management of Heart Failure in Australia 2018
https://www.heartlungcirc.org/article/S1443-9506(18)31777-3/fulltext

- Community pharmacy resources via http://www.6cpa.com.au
  - o Medication adherence programs
  - o Medication management programs
  - o Home medicines review
    http://6cpa.com.au/files/home-medicines-review-brochure/
  - o Meds check http://6cpa.com.au/files/medscheck-a2-poster/

- National Prescribing Service (NPS) Medicines Line: 1300 633 424
https://www.nps.org.au/medicines-line

- Medicines – Heart Foundation
https://www.heartfoundation.org.au/your-heart/living-with-heart-disease/medicines

- Heart Online
http://www.heartonline.org.au/articles/medications/medication-adherence#barriers-to-medication-adherence

Is there an app for that?

Medication tracker apps

- My Heart, My Life App on android and iOS
- Medicinewise App on android and iOS

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Managing medical risk factors

Only just over half of **ACS patients** received dietary advice within **6 month** post event

Source: Chow CK, Brieger D, Ryan M for the CONCORDANCE Investigators, et al Secondary prevention therapies in acute coronary syndrome and relation to outcomes: observational study *Heart Asia* 2019; 11: e011122. doi: 10.1136/heartasia-2018-011122

Aims of module

- To ensure CR participants are aware of the importance of managing medical risk factors as part of their overall management of cardiovascular disease.
- To educate CR participants and develop their skills in managing medical risk factors, and motivating and enabling them to self-monitor and practise self-care (making necessary lifestyle changes and following prescribed medical treatments).
- To increase CR participants' awareness that management of other modifiable risk factors (covered in other modules) will assist in managing the medical risk factors outlined in this module.

Logic

Medical conditions such as hypertension,[1] dyslipidaemia[2] (abnormal lipid levels) and diabetes[3] significantly increase the risk of subsequent cardiovascular events. SNAPSHOT ACS[4] data from 2012 demonstrates that 63% of a cohort of ACS patients had hypertension, 54% had dyslipidaemia and 25% had diabetes.

Research on heart failure populations shows that the most common comorbidity is hypertension (67%),[5,6] with 40% having dyslipidaemia[5] and 30–40% type 2 diabetes.[7] Therefore, CR participants must be educated and assisted to modify and self-manage these risk factors.

Managing medical risk factors Best Practice Statement 1

Equip participants with the skills to self-manage or prevent hypertension

NHMRC Level of Evidence: As per the Australian Guidelines, there is Level I–II evidence

Example content:
The overall aim is to control hypertension as per the Australian guidelines for management of hypertension in adults.

Control and prevention of hypertension consists of making the following lifestyle changes, as outlined in other modules:

- Exercise training and physical activity (refer to Exercise Training and Physical Activity module).
- Weight control (refer to Healthy Eating and Weight Management module).
- Better diet – including salt restriction (refer to Healthy Eating and Weight Management module).
- Smoking cessation and reducing alcohol intake (refer to Tobacco Cessation and Alcohol Reduction module).

For CR participants diagnosed with hypertension, the overall aim is to control blood pressure.

- Emphasise the importance of taking medication as prescribed. See further strategies in the Medication Education and Review module.
- The target blood pressure for most CR participants is <140/90 mmHg. Monitoring and follow-up is required for participants whose blood pressure target is <120 mmHg systolic.
- If CR participants need or wish to monitor their blood pressure at home, discuss home blood pressure monitoring and training in this skill.
- CR provides an opportunity for medication optimisation in conjunction with the CR physician or the participants' cardiologist or GP.
  - Most CR participants with hypertension and prior myocardial infarction are prescribed ACE inhibitors, angiotensin II receptor blockers (ARBs), beta blockers and calcium antagonists,[8] but this is patient dependent
  - Most CR participants with hypertension and chronic heart failure are prescribed ACE inhibitors and selected beta-blockers (carvideolol, bisoprolol, metoprolol XR, nebivolol), or ARBs if patients cannot tolerate ACE inhibitors[8]
  - Most CR participants with hypertension and diabetes and systolic blood pressure >140 mmHg (LOE I) are strongly recommended to receive antihypertensive therapy.[8] A blood pressure target of <140/90 mmHg is recommended
- Any first-line antihypertensive drugs that effectively lower blood pressure are recommended.

Rationale: CR provides an opportunity to address risk factors that contribute to cardiovascular disease. Controlling hypertension using pharmacotherapy reduces the likelihood of cardiovascular events and mortality[9]

Managing medical risk factors Best Practice Statement 2

CR programs should equip participants with the skills to self-manage or prevent dyslipidaemia

NHRMC Level of Evidence: As per Australian Guidelines, there is strong Level I evidence

Example content:
The overall aim is to control cholesterol levels in order to both prevent and manage dyslipidaemia.

- Emphasise the importance of making lifestyle changes as outlined in other modules
    - Regular physical activity (refer to Exercise Training and Physical Activity module)
    - Weight control (refer to Healthy Eating and Weight Management module)
    - Diet – improve the quality of the CR participant's eating pattern; in particular, replace saturated and trans fats with unsaturated fat and increase fibre (refer to Healthy Eating and Weight Management module)
    - Smoking cessation and reducing alcohol intake (refer to tobacco cessation and alcohol reduction module).
- Emphasise the importance of taking medication as prescribed. Statin compliance is crucial for cholesterol management. See further strategies in the Medication Education and Review module.
- There is benefit in progressively lowering cholesterol levels (with no apparent lower limit). A target LDL cholesterol level of ≤1.8mmol/L is suggested for most CR participants.[10]

Rationale: CR provides an opportunity to address risk factors that contribute to cardiovascular disease. Lowering LDL levels reduces morbidity and mortality from cardiovascular disease.[11]

Managing medical risk factors Best Practice Statement 3

CR programs should equip participants with the skills to self-manage or prevent diabetes

NHRMC Level of Evidence: III-2

Example content:
Prevention of type 2 diabetes consists of:
- Regular physical activity (refer to Exercise Training and Physical Activity module).
- Maintaining a healthy weight and diet (refer to Healthy Eating and Weight Management module).
- Managing blood pressure and cholesterol (see above).
- Smoking cessation (refer to Tobacco Cessation and Alcohol Reduction module).

For CR participants with diabetes, the overall aim is to control blood glucose levels.
- Emphasise the importance of making the lifestyle changes outlined in other modules
    - Exercise training and physical activity
    - Weight control
    - Diet – improve the quality of the CR participant's eating pattern (refer to Healthy Eating and Weight Management module)
    - Smoking cessation and reducing alcohol intake
    - Modifying the other medical risk factors outlined in this module.
- Outline the importance of monitoring and managing complications of diabetes such as neuropathy, eye complications and foot complications. Ongoing self-monitoring is recommended for people with diabetes using insulin or other antidiabetic agents as directed by an individual health care team.
- For CR participants with heart failure, gradual glucose lowering with moderate glycaemic targets (around HbA1c 7.1–8.0%) is appropriate. If lifestyle factors do not result in adequate glycaemic control, metformin is generally the first-line oral hypoglycaemic agent.[12]

Rationale: CR provides an opportunity to address risk factors that contribute to cardiovascular disease. People with both diabetes and cardiovascular disease have an even greater risk of myocardial infarction. Diabetes and cardiovascular disease have similar risk factors, so reducing them will benefit both conditions.[13] Glycaemic control has been shown to reduce cardiovascular morbidity and mortality.

Resources

Hypertension

Guideline for the diagnosis and management of hypertension in adults (2016).
https://www.heartfoundation.org.au/images/uploads/publications/PRO-167_Hypertension-guideline-2016_WEB.pdf

Summary for health professionals: https://www.heartfoundation.org.au/images/uploads/publications/Key_Messages_for_GPs_and_Nurses.pdf

This guideline has a secondary prevention focus and the contemporary management of hypertension in the context of an aging population with increasing comorbidities.

Diabetes

www.diabetesaustralia.com.au

Heart Foundation Diabetes Action Plan: https://www.heartfoundation.org.au/images/uploads/main/Diabetes_action_plan_(PDF).pdf

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Exercise training and physical activity

30% of heart disease **is caused by** physical inactivity

Source: World Health Organisation. (2010). Global recommendations on physical activity for health.

Aims of module

To ensure CR participants are given:

- An individualised exercise assessment.
- A tailored exercise program of increasing intensity, frequency or duration. This program should be tailored based on diagnosis, outcome of assessment, risk factors and participant preferences.
- Education on increasing physical activity and reducing sedentary behaviours.

Logic

There is a very high level of evidence that exercise training, as part of CR, decreases mortality and morbidity.[1] As a result, all international CR guidelines recommend exercise training.

In addition, increasing physical activity and reducing sedentary behaviour is beneficial for the primary and secondary prevention of cardiovascular disease.[2,3]

Exercise training and physical activity Best Practice Statement 1

Give CR participants a tailored, progressive and supervised exercise training program.

NHMRC level of evidence: Level I

By increasing adherence to exercise we can **reduce hospital admissions** and increase **health-related quality of life**

Source: Anderson, L., & Taylor, R. S. (2014). Cardiac rehabilitation for people with heart disease: an overview of Cochrane systematic reviews.

Example content:

- **Aim:** CR participants should aim for adherence, using an individualised exercise program tailored to diagnosis, assessment, functional capability, risk factors and exercise preferences.[4]
- **Mode of exercise:** Aerobic exercise involving large muscle groups (such as circuit training and walking with incorporation of stretching and flexibility). Incorporate resistance training if possible.
- **Exercise frequency, intensity and session duration:** Exercise prescription should be tailored to the participant's baseline fitness, severity of cardiac disease and comorbid conditions. The desired intensity should be at least a minimum of 55%HR_{max} or 11–14 on a 6–20 Borg rating of perceived exertion (RPE) scale. Recent evidence suggests that there are benefits of exercise with a Borg RPE score down to 9.

There is emerging evidence of the benefits of high intensity/vigorous activity in CVD patients. However, a gradual build-up to vigorous/high intensity activity should occur in consultation with medical staff and under close supervision.

Aerobic exercise sessions should last a minimum of 30 minutes, but if combined with resistance training, balance training or stretching, should last longer. Formal exercise sessions should be scheduled at least 1–3 times per week, but some form of physical activity on most days is advised.

- **Monitoring:** Monitor heart rate regularly, and blood pressure and oxygen saturation as required. Use a Borg RPE scale or other similar validated tool.
- **Adherence:** Home-based session adherence should be checked regularly.
- **Supervision:** While all participants should commence CR with at least one supervised exercise session, supervision may be periodic if exercise is not conducted in a centre-based setting. Give CR participants an ongoing exercise prescription at discharge from the program or refer to maintenance programs if available.

Rationale: Exercise training decreases mortality and morbidity in CHD patients.[1] As part of a comprehensive CR program, exercise training reduces hospital admissions and increases health-related quality of life.[5] These results demonstrate that exercise-based CR is a safe and effective therapy that can be used in the management of clinically stable cardiac populations.

All national and international CR clinical practice documents and guidelines recommend exercise training, but vary in their guidance (particularly with respect to frequency, intensity and program duration). Nonetheless, adherence to some form of exercise is critical and exercise must be tailored to the CR participant's preferences and needs, with less emphasis on dose-duration, number of sessions or intensity of exercise[4].

Exercise training and physical activity Best Practice Statement 2

Educate CR participants about strategies to increase general physical activity and reduce sedentary behaviour

NHMRC level of evidence: Level I

Example content:
- Provide information about Australian physical activity goals – 150 minutes (2.5 hours) of moderate-intensity physical activity per week.[6]
- Discuss ways to incorporate more activity and less sitting each day, such as:
  - using active transport modes (walking to public transport)
  - joining a Heart Foundation walking group
  - being aware of screen time and breaking it up with other activities like gardening and walking.

Rationale: Physical activity is critical for both primary and secondary prevention of cardiovascular disease and significantly decreases all-cause mortality.[7] Specifically, physical inactivity is estimated to be the cause of approximately 30% of ischaemic heart disease.[8] Physical inactivity also has implications for other diseases such as diabetes and cancer, and for associated risk factors such as hypertension, hyperglycaemia, increased weight and depression.[8]

Resources

Exercise training
- Norton K, Norton L, Sadgrove D. Position statement on physical activity and exercise intensity terminology. Journal of Science and Medicine in Sport. 2010 Sep 1;13(5):496-502.
- Exercise Right, a useful blog from Exercise & Sports Science Australia including information about how to find a qualified exercise professional http://exerciseright.com.au/
- International guidelines – American College of Sports Medicine's Exercise Testing and Prescription: https://www.acsm.org/read-research/books/acsms-guidelines-for-exercise-testing-and-prescription

Physical Activity and Sedentary Behaviour
- Australian Government Physical Activity Guidelines for adults brochure: http://www.health.gov.au/internet/main/publishing.nsf/content/F01F92328EDADA5BCA257BF0001E720D/$File/brochure%20PA%20Guidelines_A5_18-64yrs.pdf
- Australian Government "Choose Health: be Active: A physical activity guide for older Australian": https://www1.health.gov.au/internet/main/publishing.nsf/content/3244D38BBBEBD284CA257BF0001FA1A7/$File/choosehealth-brochure.pdf
- Heart Foundation Walking Groups: http://walking.heartfoundation.org.au/
- Physical Activity and Heart Failure booklet: http://www.heartonline.org.au/media/DRL/Physical_activity_and_heart_failure_booklet.pdf

Is there an app for that?
Heart Foundation Walking App

https://walking.heartfoundation.org.au/terms-and-conditions/walking-mobile-app/

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Healthy eating and weight management

Aims of module

- To involve CR participants in discussion about the basic principles of healthy eating for heart health.
- To support CR participants to adopt healthy eating patterns.
- To ensure CR participants understand the importance of maintaining a healthy weight for heart health and enable them to self-monitor changes in weight and waist adiposity.

Logic

An eating pattern based on the Heart Foundation's five healthy eating principles is naturally low in saturated and trans fats, salt and added sugar. Eating this way will help to reduce CVD risk factors such as high blood pressure and dyslipidaemia.

Health Eating and weight management Best Practice Statement 1

Focus advice on making healthy dietary choices to reduce total cardiovascular risk.

NHMRC level of evidence: Level I

Example content:

- Emphasise that healthy eating involves a combination of nutrients or foods chosen regularly over time. As per the Heart Foundation's Eating for Heart Health Position Statement, eating patterns for heart health are based on the following five principles:
  - o plenty of vegetables, fruits and wholegrains
  - o a variety of healthy protein sources including fish, seafood, lean meat and poultry, legumes, nuts and seeds
  - o reduced-fat dairy such as unflavoured milk, yoghurt and cheese
  - o healthy fat choices with nuts, seeds, avocados, olives and their oils for cooking
  - o herbs and spices to flavour foods, instead of adding salt.

These principles should be used to identify healthy foods to build into healthy meals.

> See the *National Heart Foundation's Healthy Eating Principles* for more information

- Information and activities to identify healthy foods can be based on the serving sizes, recommended number of serves and meal planning activities outlined in the Australian Dietary Guidelines.
  - > *See the tools and resources for the* *Australian Dietary Guidelines*

- Advise CR participants that water is the drink of choice. Plain tap water is best; our bodies need it, it quenches thirst, has no kilojoules and is very cheap. In addition to water, it is fine to have the following drinks in moderation: plain soda water, reduced-fat milk, herbal tea, caffeinated tea and coffee (with reduced-fat milk). Sugar-sweetened beverages (e.g., soft drink, cordial, fruit drinks and sport and energy drinks) should be avoided.
  - > *See the* *National Heart Foundation's Healthy drinks* *for more information*

- Give CR participants information on how healthy eating patterns relate to nutrients. An eating pattern based on the five healthy eating principles is naturally low in saturated and trans fats, salt and added sugar. Eating this way will reduce CVD risk factors such as high blood pressure and dyslipdaemia.
  - > *See the following National Heart Foundation's website for further information on:*
  - > *Fats and cholesterol*
  - > *Salt*

- Provide tools to assist with making healthy food choices.
  - o Nutrition information panels and ingredient lists on food packaging are a good way of comparing similar foods so you can choose the healthiest one.
    - > *See the National Heart Foundations 'Food labels' for more information*
  - o Encourage recipe modification.
    - > *See the National Heart Foundation's How to make healthier meals and Healthy Meal Ideas.*
  - o Sample recipes and meal plans are available via the *Live Lighter* website.
    - > *The FoodSwitch mobile application developed by Bupa and the George Institute can help you find out what is in the food you are eating and suggest simple, healthier switches.*
- Assist with building a healthy eating plan.

Action plans can help CR participants to see how they can improve their diet and where they are doing well.
  - > *Use the National Heart Foundation's Nutrition Action Plan for heart attack recovery*

Rationale: Previous literature for healthy eating in secondary prevention tended to focus on limiting specific nutrients (e.g., dietary fat, cholesterol and salt). The evidence has now shifted to focusing on dietary patterns for cardiovascular health to encompass the types and combinations of foods, chosen regularly over time, which contribute to better health outcomes.[1,2] As the 2015 US Dietary Guidelines Advisory Committee advised, a healthy dietary pattern is high in vegetables, fruits, whole grains, low-fat or no-fat diary, seafood, legumes, and nuts, and low in red and processed meat, sugar-sweetened foods and drinks, and refined grains.[1] Dietary patterns based on the Mediterranean diet and the Dietary Approaches to Stop Hypertension (DASH) have been found to be protective against CVD.[3] For people with existing CVD, the Portfolio dietary pattern has strong evidence for reducing CVD risk factors, as does the DASH diet.[3] The common elements of these diets are summarised in the Heart Foundation's *Healthy Eating Principles* and reflected in the nutritional advice above.

Health Eating and weight management Best Practice Statement 2

If resources allow, offer individualised consultation with a trained health professional to discuss diet, including understanding the CR participant's current eating habits and providing personalised advice that is sensitive to culture, needs, socio-economic status, and capabilities.

NHMRC level of evidence: Expert opinion

Example content

- Fill half the main meal plate with vegetables, and aim to include vegetables at other meal and snack times, to meet the recommended five serves per day.
- Choose fish and poultry over red meat.
- Choose nuts and seeds as a healthy snack or add to your breakfast.
- Cook with oils like olive, canola, avocado, peanut and sunflower.
- Swap salt with herbs and spices to flavour food.

- Fresh and unpackaged is best, but if they are unavailable or too costly, frozen vegetables are a great option. Legumes and lentils are cheaper alternatives to fresh fish and meat.
  - > *See the National Heart Foundation's 'Heart Healthy Eating Principles' for more tips*

Rationale: Participants' individual needs, preferences and circumstances should be taken into account when providing dietary advice.

Health Eating and weight management Best Practice Statement 3

An Accredited Practising Dietitian should assess and manage CR participants with complex dietary requirements due to co-morbidities.

NHMRC level of evidence: Expert Opinion

Rationale: Staff providing advice for participants with complex dietary requirements should be appropriately qualified, skilled and competent.

Health Eating and weight management Best Practice Statement 4

Provide education and advice on the importance of maintaining a healthy weight for heart health. For CR participants who are overweight or obese, develop an individualised, achievable plan working towards an initial goal of losing 5-10% of body weight and a longer-term goal of achieving a BMI below 25.

NHMRC level of evidence: Level I

Example content:

- Provide information on a healthy weight and the link between increased weight (particularly central obesity) and increased risk of CVD.
- Give participants strategies to enhance self-monitoring of weight (e.g., regularly weighing themselves at home) and dietary intake (e.g., recording food intake and physical activity) to assist with weight loss or maintenance.
  - > *See the National Heart Foundation's 'Healthy weight' for more information*

Rationale: Obesity is an independent risk factor for CVD. The literature suggests that intentional weight loss (achieved through behavioural weight loss and exercise) reduces risk markers such as hypertension, diabetes control, measures of inflammation, metabolic syndrome and blood lipid levels.[4,5] Consequently, weight loss and maintenance are encouraged for the prevention and control of CVD. Clinical practice guidelines (e.g., the AHA guidelines) recommend that CVD patients who are overweight or obese lose an initial 10% of body weight, with the longer-term goal of achieving a BMI below 25.[4] A central adiposity goal of a waist circumference of less than 94 cm in men and 80 cm in women should also be considered. Initial studies have suggested that intentional weight loss improves long-term prognosis in patients with CVD, regardless of initial BMI.[6]

Health Eating and weight management Best Practice Statement 5

Consider referring CR participants who need assistance with weight management to weight-loss programs delivered by experts.

NHMRC Level of evidence: Level I

Rationale: Studies based on the general population (rather than CR patients) suggest that referral to a commercial points-based weight-loss program, or a program with weekly meetings, is cost-effective compared to no active treatment.[7,8]

Resources

National Heart Foundation:

- Healthy eating (including after a heart attack) https://www.heartfoundation.org.au/healthy-eating
- Healthy eating principals for health professionals https://www.heartfoundation.org.au/images/uploads/main/For_professionals/Heart_Healthy_Eating_Principles_2017.pdf
- Have a heart healthy day brochure https://www.heartfoundation.org.au/images/uploads/main/For_professionals/Have_a_heart_healthy_day_brochure.pdf
- Evidence reviews, position statements and webinars for health professionals https://www.heartfoundation.org.au/for-professionals/food-and-nutrition/position-statements

Australian Dietary Guidelines resources (including posters for printing, Indigenous guide to healthy eating, and the Australian Guide to Healthy Eating in multiple languages)

> https://www.nhmrc.gov.au/guidelines-publications/n55

Live Lighter website

> https://livelighter.com.au/

Is there an App for that?

FoodSwitch App

https://www.bupa.com.au/health-and-wellness/tools-and-apps/mobile-apps/foodswitch-app

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Tobacco cessation and alcohol reduction

6 months post ACS
only approximately **1** in **3** smokers had quit

Source: Chow CK, Brieger D, Ryan M for the CONCORDANCE Investigators, et al Secondary prevention therapies in acute coronary syndrome and relation to outcomes: observational study *Heart Asia* 2019; **11**: e011122. doi: 10.1136/heartasia-2018-011122

Aims of module

To ensure CR participants who smoke tobacco (or other substances) and/or drink above recommended amounts of alcohol have been:

- Identified and their smoking/alcohol/substance use history ascertained.
- Provided with a brief intervention.
- Supported to take up medications (e.g., nicotine replacement therapies) as appropriate.
- Referred to appropriate services.

Logic

Compared with continued smoking, smoking cessation after a myocardial infarction has been shown to be an effective and cost-effective measure to reduce future myocardial infarctions and death.[1,2]

High-dose alcohol consumption increases risk of death and the development of a range of cardiovascular diseases (e.g., coronary and peripheral artery disease, dilated cardiomyopathy, heart failure, stroke).[3]

Tobacco cessation and alcohol reduction Best Practice Statement 1

Give CR participants who smoke a brief intervention for smoking cessation, using the Ask, Advice and Help model

NHMRC level of evidence: Level I

Example content:

The Ask, Advise and Help model (Figure 1) is an evidence-based framework for structuring cessation support. It involves:

- **Ask:** ask all CR participants if they currently smoke or have smoked in the past. If they have previously smoked, ask how long ago they stopped and whether they need support to continue abstaining. Record information in the medical chart.

- **Advise:** advise all current smokers to quit in a clear, non-confrontational and personalised way such as "the best thing you can do for your health is to stop smoking". Advise smokers that the best way of quitting is with a combination of behavioural support and medications to help stop smoking (e.g., nicotine replacement therapy).

- **Help:** all smokers should be offered help to quit. Offer to arrange a referral to smoking cessation programs or Quitline (referral form: https://www.quit.org.au/referral-form/).

Additionally, the CR clinician may

- **Arrange:** follow-up contacts to increase the likelihood of long term abstinence - especially useful in the first few weeks after quitting.
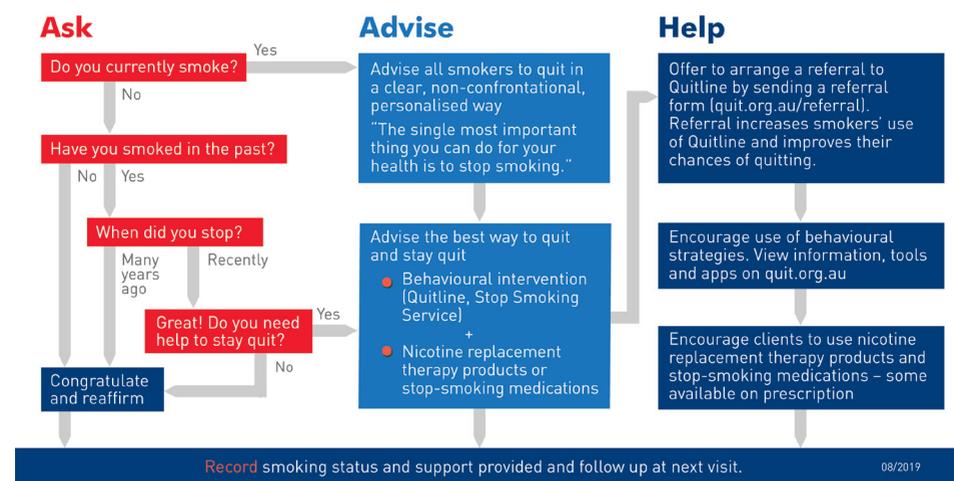

Figure 1. Ask, Advise, Help model. Used with permission from Quit Victoria.

Rationale: Simple smoking cessation advice from health professionals increases the likelihood that someone who smokes will quit.[5,6] Motivation for smoking cessation occurs at the time of diagnosis or (invasive) treatment of CVD. Evidence-based interventions for smoking cessation include prompting a person to try to quit, brief reiteration of cardiovascular and other health hazards, and agreeing on a specific plan with a follow-up arrangement.[1]

In CR services that lack access to specialist resources to provide behavioural support, clinicians should provide brief interventions and refer CR participants to specialist behavioural support services (e.g. Quitline) instead. Quitline is effective and very accessible (available to everyone via telephone irrespective of geographic location or mobility).[6] Quitline also has tailored services for Aboriginal and Torres Strait Islander people, people with mental illness and pregnant women, and translation services for non-English-speaking clients.

Tobacco cessation and alcohol reduction Best Practice Statement 2

Encourage participants who continue to smoke to use a combination of nicotine replacement products (patch plus gum or spray or lozenge or inhalator) and/or to visit their doctor to discuss other 'stop smoking medications' to assist quitting.

NHMRC level of evidence: Level I

Example content:

Pharmacological advice may include:

- Assisting with choice of drugs and ensuring CR participants have a realistic expectation of how medication can aid quit attempts (e.g., by reducing withdrawal symptoms).
- Arranging prescriptions where appropriate or referral to the CR participant's GP to discuss medication options.
- Considering medication cost (some products/medications are available on the PBS).
- Avoiding encouragement of the use of electronic cigarettes; instead referring participants to other evidence-based quit strategies as previously described.

Rationale: Pharmacological assistance can support smoking cessation in CVD patients. Pharmacological interventions such as nicotine replacement have not shown any adverse effects in patients with cardiac disease.[1] Combining behavioural support and medication increases the chances of successfully quitting by 70–100%.[6] E-cigarettes containing nicotine are not approved by the Therapeutic Goods Administration Australia, and it is generally unlawful to sell, use and possess them. Exemptions exist, but these are contingent on meeting strict requirements and the relevant drugs and poisons laws in each state and territory.

Tobacco cessation and alcohol reduction Best Practice Statement 3

Offer brief advice/counselling to encourage reduction of excessive alcohol intake in CR participants.

NHMRC level of evidence: Level I

Example content:

- Advise CR participants to consume a low-risk amount of alcohol. Specifically, recommend that CR participants consume no more than two standard drinks per day.
- Provide brief advice or counselling to encourage reduction or moderation of alcohol intake, either during CR or via the CR participant's GP.
- Brief intervention can include feedback on alcohol use and harms, identification of high-risk situations for drinking and coping strategies, increasing motivation to reduce drinking, and the development of a personal plan to reduce drinking.

Rationale: While controversy about the benefits of low levels of alcohol consumption persists, in general "less is better", and CR participants should be encouraged not to drink any more than two standard drinks per day and to have at least two alcohol-free days per week[3,8,9]. In a recent Cochrane review, brief interventions provided by health professionals were shown to lower alcohol consumption for men (evidence is less clear for women).[10]

Tobacco cessation and alcohol reduction Best Practice Statement 4

Consider referring alcohol-dependent CR participants to specialised services and notify their GPs.

NHMRC level of evidence: Expert opinion

Rationale: In CR participants who are alcohol dependent, withdrawal may be complicated and referral to clinics/agencies with expertise in addiction should be considered.[9]

Resources

- QUIT Victoria provides a range of tips and tricks including Quitline (which also offers translation services for non-English speaking clients), how to develop a quit plan, tips to stay on track, or having another go at quitting, https://www.quit.org.au/

- Build a QUIT plan https://www.quit.org.au/make-a-plan/

- Fact sheets for Bupropion; Nicotine chewing gum, inhalator, lozenges, patches, replacement therapy; Varenicline & withdrawals https://www.quit.org.au/resource-order-form/

- Healthy eating and quitting smoking fact brochure https://d1pz9rwztkrv8y.cloudfront.net/media/documents/healthy-eating-guide-for-quitters.pdf

- National Heart Foundation. Alcohol for Heart Health: https://www.heartfoundation.org.au/healthy-eating/food-and-nutrition/drinks/drinking-alcohol

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Psychosocial wellbeing

Aims of module

- To discuss the typical emotional responses after a heart event.
- To help CR participants identify the signs and symptoms of depression and understand referral and support options.
- To ensure CR participants are aware of the importance of social support to their recovery and potential strategies to enhance social support (if necessary).
- To identify the needs of carers/family members and invite them to attend CR information sessions and/or carer support groups (if available).

Logic

Negative emotional states such as anxiety and depression are very common after a heart event and are related to poor cardiac outcomes.[1] As such, it is important to have a strategy for accurately identifying participants with signs and symptoms of depression, and ensuring clear processes are in place for referrals to mental health care providers.

People who are socially isolated or report low levels of social support have an increased risk of CHD, and social isolation can worsen the prognosis of CHD.[2,3]

Psychosocial wellbeing Best Practice Statement 1

Screen CR participants for depression and anxiety at the beginning and end of the CR program using a validated tool.

NHMRC level of evidence: Expert opinion

Example content:

- Incorporate initial screening tools such as the Patient Health Questionnaire-2 (PHQ-2) (below) into clinical practice. Patients who screen positive on the PHQ-2 should be screened again with the longer assessment (PHQ-9).

> Patient Health Questionnaire: 2 Items
>
> Over the past 2 weeks, how often have you been bothered by any of the following problems?
> i) Little interest or pleasure in doing things
> ii) Feeling down, depressed, or hopeless
>
> *If the answer is "yes" to either question, then screen with the PHQ-9

- Other screening tools that could be used are the Cardiac Depression Scale, Beck Depression Inventory-II (BDI-II), or the Hospital Anxiety and Depression Scale (HADS). Alternatively, use the screening tools nominated in the local hospital protocol.
- Discuss the results of screening with the CR participants. For CR participants with mild symptoms, follow-up during a subsequent visit is advised. In patients with high depression scores, provide referral options for mental health management and alert their GPs.
- Repeat assessment (e.g., screening at the beginning and end of CR) is important for identifying patterns of change because symptoms of depression and anxiety can change over time (resolve or worsen).[4]

Establish a standard referral system for ongoing psychological management/GP if screening tools suggest at risk of depression/anxiety.

Rationale: Although there is no direct evidence that screening for depression leads to improved outcomes in CVD populations, depression has been linked with increased morbidity and mortality, poorer risk factor modification, lower rates of cardiac rehabilitation and reduced quality of life.[5] Therefore, it is important to assess depression in cardiac patients with the goal of targeting those most in need of treatment and support services. This recommendation is supported in multiple clinical guidelines (e.g., Canadian, British, Scottish and Australian Core Components). The PHQ has been shown to have reasonable sensitivity and specificity for patients with CVD and is recommended in guidelines.[5,6] Screening tools should not be used as a replacement for clinical assessment but rather to identify those at risk of depression/anxiety and provide appropriate and timely referral.[6]

Psychosocial wellbeing Best Practice Statement 2

CR programs should provide participants with an opportunity to discuss the typical emotional response to a heart event.

NHMRC level of evidence: Level IV

1 in 5 CHD patients **suffer major depression** putting them at **higher risk of death and subsequent cardiac events**[1].

Example content:

- Explain the common changes in emotions, thoughts and behaviours after a heart event.
  > *See the Cardiac Blues resource for more information*

Rationale: Patients with cardiac disease, particularly after an acute event, can experience a psychological reaction and difficulties in adjusting to their diagnosis and living with a new condition, and this can affect their social role and functioning.[6] In most patients this will resolve with time, however discussing this reaction in a safe space can be therapeutic. However, in a study of cardiac patients admitted to Victorian hospitals, 75% did not receive or could not recall receiving information about what to expect emotionally after a cardiac event.[7] The 'Cardiac Blues' resources can facilitate CR clinicians to deliver education on the range of emotions after a heart event.[8]

Psychosocial wellbeing Best Practice Statement 3

Assess the social support available to CR participants and determine their social support needs.

Level of Evidence: Expert opinion

Example content:

There are no universally accepted measures or established criteria for measuring social isolation or its severity.[9] However, consider the person's:

- *Living situation.* Are they living alone?
- *Relationship status.* Are they single, married, de facto, divorced, widowed?
- *Family and social connectedness.* Can someone give the participant emotional support (e.g., listening to them, discussing problems or helping with difficult decisions) and practical support (e.g., helping with daily tasks such as shopping and cleaning, and providing transport)?
- *Financial support:* Ask "is there someone who will lend you $2000 in an emergency?"
- *Community, cultural or religious affiliations.*
- *Desire for greater social connection.* Would they like more social contact?

Rationale: People who are socially isolated or have low levels of perceived social support have an increased risk of CHD, and social isolation can worsen the prognosis[2,3] (Therefore, the CR clinician should assess the level of support available to the participant.

Psychosocial wellbeing Best Practice Statement 4

Educate CR participants about the signs and symptoms of depression and other mood disorders.

NHMRC level of evidence: Expert opinion

Example content:

- Provide information about the signs and symptoms of depression and anxiety.
- Explain that persistent feelings need to be treated seriously, ideally by a trained health professional.
- Reinforce the link between common mood disorders and self-management. For example, low mood can lead to disengagement from healthy behaviours. Therefore, it is important to optimise management of mental health issues.

Rationale: The most recent Cochrane review on psychological interventions in people with CHD showed that psychological interventions reduced the risk of cardiac-specific deaths and reduced psychological symptoms (depression, anxiety, or stress).[1] However, it remains unclear which components of psychological interventions work, for whom interventions are most effective, and at what point in the patient journey they should be provided. Nevertheless, clinical practice guidelines support a continued role for mental health therapy in CR.

Psychosocial wellbeing Best Practice Statement 5

Assist CR participants to respond appropriately to ongoing psychological symptoms, including when to seek help.

NHMRC level of evidence: Expert opinion

Example content:

- Ensure all CR participants (and their families) are given information on how to seek help if they are concerned about their mental health.
- Establish processes to ensure that participants with high levels of anxiety and/or depression are systematically linked to mental health care providers and their GPs have been informed.

Rationale: One in five CVD patients meet clinical criteria for major depression, and depression is associated with higher risk of death and subsequent cardiac events.[1] Trained mental health practitioners (e.g., psychologists) can provide the most appropriate care for patients with depression.

Psychosocial wellbeing Best Practice Statement 6

Discuss the importance of social support for heart health recovery, and encourage participants to reflect on how they can enhance or better utilise their social support networks.

NHMRC Level of Evidence: Expert Opinion

Rationale: Low social support (including emotional and practical support) may reduce a person's adherence to CR, maintenance of healthy behaviours and concordance with medication.[10] Expert consensus is that measures to reduce social isolation are likely to produce positive psychosocial effects, but it is unclear whether this will improve CVD outcomes.[11]

Psychosocial wellbeing Best Practice Statement 7

Consider how to enhance the social networks of participants who report low levels of social support.

NHMRC Level of Evidence: Expert opinion

Description:
CR groups can be important social contacts after a heart event. CR clinicians can:
- Encourage ongoing attendance, and explore how barriers to attendance (e.g., poor access to transport) can be reduced.
- Facilitate connections between the CR participants. Create an environment that encourages peer support and social interaction between the group members; consider developing an external peer support group to enable participants to connect beyond the CR program; consider developing a buddy system to partner individuals who lack social support with peer mentors/ volunteers with well-established social support networks.[12]
- Provide information on community groups outside of CR (e.g., walking groups, community gyms, Heart Foundation peer support groups).

Rationale: CR provides an opportunity to enhance peer mentoring and social support for participants who report low levels of support.[12]

Psychosocial wellbeing Best Practice Statement 8

Consider the contributions that family members and carers can make to a CR participant's recovery.

NHRMC Level of Evidence: Expert opinion

Description:
- With the participant's permission, involve partners/family in care and support following a cardiac event.
- The type of support will differ depending on factors such as the patient's wishes, the needs of carers/family, ethnicity and culture, access to information and the caring responsibilities within the household.[6]

Rationale: Family members and significant others are a vital aspect of a patients' recovery. They can influence rehabilitation participation, provide support for everyday tasks, and improve overall well-being.

Psychosocial wellbeing Best Practice Statement 9

Consider encouraging partners or carers to join specific carer support groups to help them to cope with their family member's cardiac condition.

NHMRC Level of Evidence: Expert opinion

Rationale: Carers/families are likely to have different needs to patients, so a separate support group focusing on their needs and issues they may encounter in coping with the CR participant's cardiac illness can be beneficial.[6]

Resources
- Cardiac Blues resources: https://www.australianhearthealth.org.au/cardiacblues
- The Australian Centre for Heart Health provides a range of resources including the Cardiac Wellbeing Program and training programs for clinicians to help support patient's emotional adjustment: https://www.australianhearthealth.org.au
- Beyond Blue is the national depression initiative https://www.beyondblue.org.au/ and has a 24/7 support line TEL: 1300 22 4636

- Lifeline provides a 24/7 confidential support line: TEL: 13 11 14 www.lifeline.org.au
- Heart Online: See the Psychosocial Issues section: https://www.heartonline.org.au/articles/psychosocial-issues/psychosocial-support

Support/social groups

- Heart Foundation peer support groups: Call 13 11 12 or email the Heart Foundation Helpline (health@heartfoundation.org.au) to find a peer support group near you.
- Heart Foundation walking groups: http://walking.heartfoundation.org.au/
- Heart Support Australia: www.heartsupport.org.au
- Hearts 4 Hearts: http://www.hearts4heart.org.au/
- BUPA Blue Room: https://theblueroom.bupa.com.au/
- Phase III cardiac rehabilitation (where available)
- Men's Sheds: https://mensshed.org/

Is there an App for that?

- **Smiling mind – meditation**
- **Headspace: Guided meditation**

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Activities of Daily Living

Aims of module

- To support CR participants to return to daily activities
- To discuss participants' concerns, potential barriers and safety considerations related to returning to daily activities
- To direct CR participants towards resources/information that may assist with returning to daily activities, reducing barriers or finding other ways to reach their goals.

Logic

Building self-management skills so that CR participants can resume activities of daily living is a vital aspect of CR.

Activities of Daily Living Best Practice Statement 1

Discuss driving restrictions with CR participants and help them to find further information.

NHMRC Level of Evidence: Expert Opinion

Example content: Driving restrictions vary depending on the medical condition. For general guidance and the Australian guidelines on driving and related health status, see VicRoads and Ausroads. Encourage the CR participant to contact their local licensing agency for specific information; provide support or information on how to do this. A temporary disability parking permit may also be useful.

Rationale: Driving restrictions are common after a myocardial infarction, arrhythmia, cardiac device implantation or cardiac surgery. Enabling CR participants to find accurate information about their driving restrictions is an important aspect of helping them to return to daily activities.

Activities of Daily Living Best Practice Statement 2

If an individual is unable to drive, explore alternatives to assist with independence.

NHMRC Level of Evidence: Expert Opinion

Example content: Alternative supports to promote independence may include subsidised taxis and home grocery delivery. Many local councils offer various support resources (e.g., volunteer drivers). An occupational therapist may be able to assist with exploring alternatives to driving or testing requirements for restricted driving licences.

Rationale: If an individuals' cardiac condition restricts them from driving, other options are required to ensure participation within the community and activities of daily living can be achieved.

Activities of Daily Living Best Practice Statement 3

Give CR participants an opportunity to discuss any concerns related to resuming sex after their cardiac event.

NHMRC Level of Evidence: Level III-2

Example content:

- Bring up the topic of sexual activity within the context of activities of daily living such as driving and working.
- Normalise and generalise. Make a statement followed by an open-ended question. For example:

  "Many people have concerns about resuming sexual activity after a heart attack. What concerns do you have?"

  "It is normal after a transplant for men to notice a loss of interest in sex or a performance problem. What changes have you noticed?"

  See Heart Online for a full description: http://www.heartonline.org.au/articles/treatment-management/resuming-activities-of-daily-living#sexual-activity

Rationale: Decreased sexual activity and function are common for men and women with CVD and may relate to cardiac disease, medications, fatigue, depression or stress.[1,2] A change in sexual activity or function can reduce quality of life substantially for both CR participants and their partners, but is rarely discussed in a clinical setting.[3] It is therefore important to encourage patients to discuss any concerns they have about resuming sex, sexual function or libido.[2,3] Supportive interventions can enhance sexual function and quality of life, and integrating such interventions in CR is an important strategy.[3]

Activities of Daily Living Best Practice Statement 4

Include vocational guidance to facilitate graded return to work and discuss any barriers an individual may face returning to work.

NHMRC Level of Evidence: Expert Opinion

Example content:
- If available, an occupational therapist should individually assess the CR participant and provide recommendations regarding return to work, including providing their employer with guidelines on adjusted working hours and conditions.
- If an occupational therapist is not available, advice on the timing of return to work should consider factors such as the individuals' health, psychological status, illness perception, readiness, the nature of the work, and the working environment.
- A social worker may be able to provide additional resources and support (e.g., guidance on what organisations like Centrelink can provide during times of reduced or no financial income).

Rationale: Many CR participants are of working age, so return to work is an important issue and an indicator of the success of medical and rehabilitation services.[4,5] Returning to work within 12 months of a cardiac event depends on age, physical capacity, illness perception, clinical factors (e.g., history of heart failure), cardiovascular complications, depressed mood, anxiety, financial situation and work demands.[4,6] Limited evidence exists on return to work interventions within CR programs.

Activities of Daily Living Best Practice Statement 5

Give CR participants an opportunity to discuss and/or train in CPR.

NHMRC Level of Evidence: Level III-2

Example content:
- Discuss the importance of CPR training for the whole population and ensure that CR participants discuss and learn CPR during their rehabilitation.
- Provide CPR training to patients and family members who would like to learn.

- Group CPR training works best with resuscitation manikins, or training aids such as those obtained through Ambulance Services (e.g., Ambulance Victoria's "call push shock" kit) or self-instructional video training kits (e.g., the Laerdal CPR Now kit).
- Allow CR participants to practise CPR on a manikin or training aid, and answer their questions.

Rationale: Cardiac patients are at high risk of repeat cardiac events, including out-of-hospital cardiac arrest. Given that CHD is the underlying cause in approximately 80% of out-of-hospital cardiac arrests, and 75% of out-of-hospital cardiac arrests occur in the home, it is important to offer CPR training to family members of cardiac patients.[7,8,9,10,11] A systematic review demonstrated that after training, family members of cardiac patients could competently perform CPR and were willing to use their CPR skills.[11] Most studies indicate that CPR training reduces patient and carer anxiety.

Recent Australian research has demonstrated that cardiac patients and family members are interested in learning CPR but do not seek out training.[11,12] This population believes that CR is the ideal time and place to undertake CPR training.[12]

Resources

- Heart Online provides in-depth information on: resuming sexual activities after a cardiac event, returning to work and driving. http://www.heartonline.org.au/articles/treatment-management/resuming-activities-of-daily-living#activities-of-daily-living-(adl)
- Australian guidelines on driving and related health status see Ausroads and VicRoads
- My Heart My Life provides additional information (e.g., on contacting insurance agencies) and returning to other activities. It also provides additional service and support contact information.
- Ambulance Victoria's "Call, Push, Shock".
- Laerdal CPR Now training kit.
- Heart Foundation – cardiac arrest.

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Reassessment

Aims of module

To undertake an end CR program assessment (in addition to a reassessment during the program if time and capacity allow) of the participant's needs to assist in the development of a discharge plan.

Logic

*   All major CR guidelines recommend individualised assessments in the initial stages of CR and re-assessment during the program and prior to completion.

*   Collaborative goal-setting and shared decision-making is essential to fostering self-care in a chronic disease population.[1] This process should commence at the initial assessment and be reviewed throughout the CR program.

Program Reassessment Assessment Priorities

Give all CR participants a standardised discharge assessment on completion of CR.[2]

The post assessment should include at a minimum:

*   exercise capacity
*   lifestyle risk factors (physical activity, diet, smoking, alcohol)
*   psychosocial health (depression, anxiety)
*   medications
*   review own personalised goals set at beginning of program

If program has capacity also reassess, if applicable:

*   adiposity (waist circumference)
*   medical risk factors (blood pressure, lipids, blood glucose)
*   quality of life
*   return to activities of daily living

See the example data collection tool for further guidance (Initial Assessment module)

NHMRC Level of Evidence: Expert Opinion

Rationale: All major clinical CR guidelines (e.g., British, Scottish, Canadian, American, Australian Core Components) support individualised assessment of CR participants.

Reassessment Best Practice Statement 2

Review CR participants' goals at the completion of the CR program.

NHMRC Level of Evidence: Expert opinion

Example content:

- The goal-setting process should be informed from needs determined by the initial assessment.
- If possible, provide CR participants with self-management strategies to help the transition from the CR program and ways to continue to work towards reducing their cardiovascular risk.
- Encourage engagement with available community services and Phase III CR.

Rationale: Goal setting has been identified as a critical component to CR by many international guidelines (e.g. British, Scottish). The British and Scottish guidelines recommend assessment after completion of the CR program to determine achievement of goals and to plan for transition to long-term management.[3,4]

Reassessment Best Practice Statement 3

Give the CR participant and their GP and cardiologist a discharge or summary letter.

NHMRC Level of Evidence: Expert Opinion

Example Content:

- Each CR participant should have a copy of their CR management plan.
- Forward the care plan to the participant's cardiologist and GP.
- Discharge or summary letters can include a pre/post-CR comparison of the patient's risk factor profile, current medications, exercise guidelines, and a plan for ongoing management.

Rationale: The Australian Core Components recommend that the CR participant's GP and/or cardiologist should, within two weeks of CR completion, receive a discharge or summary letter that includes clinical outcomes and a plan for ongoing management.[2]

Resources for clinicians

- Sample data collection tool (see Table 2 in the Initial Assessment module)
- Goal setting – see action plans in My Heart My Life, https://www.heartfoundation.org.au/after-my-heart-attack/heart-attack-recovery/action-plans

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