

Title	Demonstrate knowledge of exercise prescription for individuals with cardiovascular disease		
Level	5	Credits	6

Purpose	<p>This unit standard is designed for exercise professionals who wish to specialise in working with people with cardiovascular disease.</p> <p>People credited with this unit standard are able to: explain the information necessary for managing exercise for an individual with CVD; explain how CVD affects acute physiological responses to exercise variables and types; relate chronic physiological adaptations to regular exercise to people with CVD; describe the process followed when working with people with CVD; and identify the environmental and social factors and the changes in behaviour that can enhance adherence to exercise prescription.</p>
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Classification	Fitness > Exercise Prescription
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Available grade	Achieved
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Guidance Information

- 1 Definition
Cardiovascular disease (CVD) is a term used to describe many diseases and conditions diagnosed by a medical professional and involve the heart and blood vessels. For this unit standard CVD is limited to the following diseases and conditions: arrhythmias, myocardial infarction, congestive heart failure, stroke, hypertension, peripheral vascular disease, ischemic heart disease, valvular heart disease, and cardiomyopathy.
- 2 Exercise prescription for people with CVD may only be undertaken with prior written medical clearance.
- 3 Exercise prescription guidelines for individuals with CVD include:
 American College of Sports Medicine. *ACSM's resource manual for guidelines for exercise testing and prescription*, Philadelphia, PA: Lippincott Williams & Wilkins. Latest edition;
 National Heart Foundation/New Zealand Guidelines Group. 2002. *Cardiac Rehabilitation Guidelines*, available at <http://www.nhf.org.nz>.

Outcomes and performance criteria

Outcome 1

Explain the information necessary for managing exercise for an individual with CVD.

Performance criteria

- 1.1 The risk factors for CVD are explained in terms of risk to individuals.
- Range risk factors – age, family history, smoking, cholesterol level, activity level, obesity, hypertension, diabetes.
- 1.2 The characteristics of different types of CVD are related to the signs, symptoms and events that may affect exercise.
- Range symptoms and events include – angina, arrhythmia, breathlessness, dizziness, myocardial infarction, cardiac arrest, stroke.
- 1.3 The role of key medical professionals monitoring CVD patients and the diagnostic information they routinely collect are explained.
- Range medical professional – general practitioner, cardiologist, cardiac care nurse;
diagnostic information – blood tests, blood pressure, electrocardiogram, cardiac catheterisation, exercise tolerance test (ETT).

Outcome 2

Explain how CVD affects acute physiological responses to exercise variables and types.

Range exercise variables must include –intensity, duration;
exercise types must include – arm exercise, resistance training, aquatic exercise.

Performance criteria

- 2.1 Positive and negative impacts of exercise variables and types on people with CVD are explained in terms of acute physiological responses.
- Range cardiorespiratory responses, cardiovascular dynamics.

Outcome 3

Explain chronic physiological adaptations of people with CVD to regular exercise.

Performance criteria

- 3.1 Chronic physiological adaptations of people with CVD to regular exercise are explained in terms of CVD risk factors and cardiovascular function.

3.2 Exercise prescription for people with CVD is explained in terms of benefits of exercise.

Range benefits – psychological, social and physical factors.

Outcome 4

Describe the process followed when working with people with CVD.

Performance criteria

4.1 The information required to make judgements and prescribe exercise for people with CVD is described.

Range personal details, medical history, status of disease (stability and latest monitoring results and prognosis), functional status (if known eg ETT results), health status (including injuries and medications), lifestyle details, exercise history, exercise intentions, exercise preferences, medical clearance, contraindications.

4.2 Exercise prescription for people with CVD is described in terms of the risks of exercise and the specific safety considerations.

Range risks – immediate risks and risks of ongoing complications or damage;
safety considerations – absolute and relative contraindications, modes of exercise that are unsuitable, intensities and durations that are unsuitable, frequencies that are unsuitable, exercise monitoring.

4.3 Signs, symptoms, and adverse reactions to exercise are described with respect to terminating an exercise session.

Range breathlessness, chest pain/tightness, syncope, dizziness and fainting, hypertensive response, hypotensive response, arrhythmias, tachycardia, volitional fatigue, nausea, generalised weakness and fatigue.

4.4 Guidelines for exercise prescription are explained in terms of the recommended frequency, intensity, time and type for people with CVD.

Range guidelines – American College of Sports Medicine, National Heart Foundation.

Outcome 5

Identify the environmental and social factors and the changes in behaviour that can enhance adherence to exercise prescription.

Performance criteria

5.1 Environmental and social factors that may increase or decrease the ease with which a person with CVD can engage in and adhere to exercise are identified.

Range environmental and social factors – positive, negative.

5.2 Behaviour changes that may occur and ways of reinforcing or overcoming those changes in people with CVD are identified.

Range behaviour changes – positive, negative.

Replacement information	This unit standard replaced unit standard 7033.
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This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	12 February 2010	31 December 2024
Review	2	26 January 2023	31 December 2024

Consent and Moderation Requirements (CMR) reference	0099
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.