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Indicators for physical activity/ exercise

Physical inactivity is a major risk factor for developing coronary artery disease. It also contributes to other risk factors, including obesity, high blood pressure, cholesterol (low HDL levels) and diabetes.

Firstly, the risk factors of coronary artery disease described above: obesity – body mass index (BMI), blood pressure (BP), HDL cholesterol, and diabetes (blood glucose levels and glycated haemoglobin) can be used as indicators to monitor the effects of physical activity /exercise prescription (Rx). They also allow the patient to monitor progress against goals selected in their physical activity/exercise (PA/Ex) plan.

For example: a patient's goal might be to decrease their weight and BP after commencing a PA/Ex program. Both BMI and BP measurements are relatively easy to collect and calculate; and are valid, reliable and precise. In addition, when the patient is provided with timely feedback it can act as a motivator towards positive behaviour change. Secondly, as the treating general practitioner, practice nurse or allied health professional you can review your Rx of PA/Ex and modify/change to assist the patient to reach their goal and overall improvement in health.

Key indicators to achieve using physical activity/ exercise

Blood Glucose Levels (BGL)

Blood glucose levels are measured in millimoles per litre of blood (mmol/L). The 'normal' range for blood glucose is about 4 to 6 mmol/L (fasting). The ranges will vary depending on the individual and their circumstances.

Glycated haemoglobin (HbA1c) test

The HbA1c test shows an average of your blood glucose level over the previous 10-12 weeks. The goal for most people with diabetes will be ≤7% ; however this may need to be higher for some people (i.e. children and the elderly).

Total cholesterol

This test measures the total cholesterol level (LDL plus HDL and other fats called triglycerides). Normal is below: 5.5 mmol/L (fasting).

Triglycerides

Triglycerides <1.5 mmol/L (fasting).

HDL cholesterol
HDL-cholesterol > 1.0 mmol/L (fasting).

LDL cholesterol
LDL-cholesterol <2.0 mmol/L (fasting).

Body mass index (BMI)
BMI is calculated by dividing weight in kilograms by height in metres squared. BMI is often used, particularly in assessing overweight and obesity at the population level.

Caution must be taken when utilising BMI. This is because BMI has some limitations in that it can be influenced by age, gender and ethnicity. BMI also does not distinguish fat mass from lean mass, nor does it necessarily reflect body-fat distribution.

The BMI cut-off points are based on associations between chronic disease and mortality and have been adopted for use internationally by the World Health Organisation (WHO).

The classification table below can assist you to assess whether you weight is in the healthy range.

Classification of body mass index

Classification	BMI (kg/m2)	Risk of co-morbidities (health consequences)
Underweight	<18.50	Low (but possibly increased risk of other clinical problems)
Normal range		
(Healthy Weight)	18.50 - 24.99	Average
Overweight:	>25.00	
Pre-obese	25.00 - 29.99	Increased
Obese class 1	30.00 - 34.99	Moderate
Obese class 2	35.00 - 39.99	Severe

Reproduced from: Obesity: Preventing and Managing the Global Epidemic, 2000, WHO, Geneva. Note: These BMI cut off levels may vary somewhat in different publications as they are indicative only.

Central waist
A person's waist circumference may be a better predictor of health risk than BMI. Having fat around the abdominal organs and an enlarged waist circumference - regardless of your BMI - means you are more likely to develop certain obesity-related health conditions.

Central waist circumference for women
A waist circumference of 80cm or over indicates increased risk of obesity related health conditions. A waist circumference of 88cm or more indicates a substantially increased risk.

Central waist circumference for men
A waist circumference of 94cm or over indicates increased risk of obesity related health conditions. A waist circumference of 102cm or more indicates a substantially increased risk.

Blood pressure

There is no firm rule about what defines high blood pressure. Your risk of heart, stroke and blood vessel disease increases as your blood pressure increases, and for most people, the lower the blood pressure the better. However, the following figures are a useful guide.

Normal blood pressure - generally <120/80 mmHg (i.e. systolic blood pressure <120 and diastolic blood pressure <80 mmHg).

Normal to high blood pressure - between 120/80 and 140/90 mmHg.

High blood pressure - 140/90 mmHg or higher. If your blood pressure is 180/110 mmHg or higher, you have ***very high*** blood pressure.

Urinary albumin excretion

Albumin: One of a simple group of water soluble blood proteins. In the blood, albumin acts as a carrier and helps to maintain blood volume and blood pressure. A blood test for albumin helps to determine if a patient has kidney disease or if the body is not absorbing enough protein.

Microalbuminuria - can mean that your kidneys are damaged so albumin, a kind of protein, leaks into the urine in very small or 'micro' amounts. Microalbumin in the urine is often an early warning of kidney disease but can also be present for other reasons. The level can be measured by a special urine test either on a single urine sample or timed urine collection. Normal values on this test are less than 15 to 30 mg/L. A microalbumin test should be done at least yearly if you have diabetes.

Cigarette consumption

Scientific evidence confirms that smokers face significantly increased risks of death and or illness from numerous cancers, heart disease, stroke, atherosclerosis, abdominal aortic aneurysm, emphysema and other respiratory diseases. Smoking also causes blindness, dental problems, erectile dysfunction, reduced fertility in women, sudden infant death syndrome, contributes to osteoporosis and increases the risks of pregnancy complications including premature birth, low birth weight, still birth and infant mortality.

Exposure to second-hand smoke also causes premature death and disease in children and adults who do not smoke. There is no risk-free level of exposure to second-hand smoke.

Quitting at any age has benefits, with the largest reduction in risk in those who quit the earliest. Many Australians remain unaware of the extent of the impact smoking has on the body.

Alcohol intake

The guidelines on alcohol intake are based on the most current and best available scientific research and evidence.

How much you drink is your choice, but the guidelines can help you make informed choices and help keep your risk of alcohol-related accidents, injuries, diseases and death, low - both in the short and long term.

Physical inactivity or sedentary behaviour

Practical and policy approaches to addressing too much sitting as a population health issue will involve innovations on multiple levels. For example, public information campaigns may emphasise reducing sitting time as well as increasing physical activity.

Physical Activity and Public Health recommendations of ACSM/AHA will include a statement on the health benefits of reducing and breaking up prolonged sitting time (Exercise & Sport Science Review, Vol. 38, No. 3, pp.105-113, 2010).

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