

# ADULT PRE-EXERCISE SCREENING TOOL - USER GUIDE

This user guide for the Adult Pre-Exercise Screening Tool does not provide advice on a particular matter, nor does it substitute for advice from an appropriately qualified medical professional. No warranty of safety should result from its use. The screening system in no way guarantees against injury or death. No responsibility or liability whatsoever can be accepted by Exercise and Sports Science Australia, Fitness Australia or Sports Medicine Australia for any loss, damage or injury that may arise from any person acting on any statement or information contained in the screening tool or this user guide.

## STAGE 1 (COMPULSORY)

AIM: to identify those individuals with a known disease, or signs or symptoms of disease, who may be at a higher risk of an adverse event during physical activity/exercise.

This stage is self administered and self evaluated.

The screening tool can be administered to both regular and casual users of exercise services. Once completed, the form should be filed with the clients records for future reference.

Further information regarding Stage 1 questions:

### 1. Has your doctor ever told you that you have a heart condition?

Heart conditions include but are not limited to – post myocardial infarction (heart attack), angina, coronary artery bypass, coronary angioplasty, heart failure, cardiomyopathy, heart transplant, pacemaker insertion, congenital heart disease, heart valve disease and peripheral arterial disease.

### 2. Do you ever experience unexplained pains in your chest at rest or during physical activity/exercise?

Any unexplained chest pains, characterised by – constriction, burning, knifelike pains, and/or dull ache.

### 3. Do you ever feel faint or have spells of dizziness during physical activity/exercise that causes you to lose balance?

Self explanatory

### 4. Have you had an asthma attack requiring immediate medical attention at any time over the last 12 months?

Medical attention refers to GP, or hospital visit following an asthma attack. It does not include the self administration of Ventolin, Becotide or any other inhalant.

### 5. If you have diabetes [type I or type II] have you had trouble controlling your blood glucose in the last 3 months?

Trouble controlling infers to sustaining a hypoglycaemia (hypo)

### 6. Do you have any diagnosed muscle, bone or joint problems that you have been told could be made worse by participating in physical activity/exercise?

Examples include, but are not limited to:

Muscle problems – MS, chronic muscle fatigue, muscular dystrophy, Parkinson's, cerebral palsy

Bone or joint – arthritis, osteoporosis, osteoarthritis, bone fracture, dislocations, scoliosis, spondylolisthesis and spondylolysis

### 7. Do you have any other medical conditions that may make it dangerous for you to participate in physical activity/exercise?

Examples include, but are not limited to: pregnancy, epilepsy, transplants, cancer

## STAGE 2 (OPTIONAL)

AIM: To identify those individuals with risk factors or other conditions to assist appropriate exercise prescription.

This stage is to be administered by a qualified exercise professional (Minimum Certificate III in fitness with completion of screening and assessment units SISFFIT301A and SISFFIT307A).

Further information regarding Stage 2 questions:

### 1. Age and Gender

To be used in combination to determine risk.

<45 Males and <55 Females does not accumulate a risk factor

≥45 Males and ≥55 Females accumulates 1 risk factor

### 2. Family history of heart disease

If the client has a 1st degree relative (parent, sibling, or child) that has a heart disease and is, male < 55yrs, or female < 65yrs, the client accumulates 1 risk factor

### 3. Do you smoke cigarettes on a daily or weekly basis or have you quit smoking in the last 6 months? This is a YES/NO questions.

Smoking is to include tobacco cigarettes and pipe.

If the client is reliant on having a weekly smoke or has given up within the past 6 months, the client accumulates 1 risk factor.

### 4. Describe your current physical activity/exercise levels:

From the information collected, calculate the total number of minutes exercised per weekly.

If physical activity level <150 min/week, the client accumulates 1 risk factor.

If physical activity level ≥150 min/week, the client subtracts 1 risk factor.

If the client participates in vigorous weighted physical activity, the client subtracts 2 risk factors.

The information should also be used to help in the design of the client's exercise prescription.

### 5. BMI - Height and weight

To calculate BMI (body mass index) – divide body weight in KG by the height in metres squared ( $\text{kg}/\text{m}^2$ )

If BMI is ≥ 30, the client accumulates 1 risk factor

### 6. Have you been told that you have high blood pressure?

This is a YES/NO question. You are not required to take the client's blood pressure.

If they do not know, then assume NO

If YES the client accumulates 1 risk factor

### 7. Have you been told that you have high cholesterol?

This is a YES/NO question. You are not required to take the client's blood cholesterol.

If they do not know, then assume NO

If YES the client accumulates 1 risk factor

### 8. Have you been told that you have high blood sugar?

This is a YES/NO question. You are not required to take the client's blood glucose.

If they do not know, then assume NO

If YES the client accumulates 1 risk factor

## STAGE 2 (OPTIONAL)

### Additional information:

Responses to the remaining questions in stage 2 will not accumulate risk factors, but rather provide additional useful information concerning the person's health status. The exercise professional should use professional judgement and if unsure of the implications of a response, refer on to an allied health or medical practitioner for further advice.

### 9. Have you spent time in hospital (including day admission) for any medical condition/ illness/ injury during the last 12 months?

The information should be used to help determine:

- 1) If further screening is needed
- 2) If the client needs to be referred onto an allied health professional for an exercise intervention program.
- 3) A basis for further questioning to help in the design of the client's exercise program.

### 10. Are you currently taking a prescribed medication for any medical conditions?

The information should be used to help determine:

- 1) If further screening is needed
- 2) If the client needs to be referred onto an allied health professional for an exercise intervention program
- 3) A basis for further questioning to help in the design of the client's exercise program.

### 11. Are you pregnant or have you given birth within the last 12 months?

The information should also be used to help determine:

- 1) If further screening is needed
- 2) A basis for further questioning to help in the design of the client's exercise program.

### 12. Do you have any muscle, bone or joint pain or soreness that is made worse by particular types of activity?

The information should also be used to help determine:

- 1) If further screening is needed
- 2) If the client needs to be referred onto an allied health professional for an exercise intervention program
- 3) A basis for further questioning to help in the design of the client's exercise program.

### Completion of stage 2

At the completion of Stage 2, total all the risk factors from question 1-8.

If the client has 2 or more risk factors, they are deemed to be moderate risk.

## STAGE 3 (OPTIONAL)

AIM: To obtain pre-exercise baseline measurements of other recognised cardiovascular and metabolic risk factors. This stage is to be administered by a qualified exercise professional (Measures 1,2 & 3 - minimum qualification, Certificate III in Fitness; Measures 4 & 5 - minimum level, Exercise Physiologist).

Further information regarding the Stage 3 measures:

### 1. BMI - Height and weight

Height is to be measured in metres.

Weight is to be measured in kilograms (kg)

To calculate BMI (body mass index) – divide body weight in kilograms (kg) by the height in metres squared(m<sup>2</sup>) (BMI= weight in kg/height in m<sup>2</sup>)

If BMI is  $\geq 30$ , the client accumulates 1 risk factor

### 2. Central waist circumference

A waist circumference is to be measured in centimetres.

Where possible please use a cloth tape measure to reduce skin compression and improve consistency of measurements.

Waist protocol – with the subject standing, arms at the sides, feet together, and abdomen relaxed, a horizontal measure is taken at the narrowest part of the torso. (ACSM, 2010, p46)

If central waist  $>94$ cm for men and  $>80$ cm for women, the client accumulates 1 risk factor

### 3. Resting blood pressure

Where possible please use a sphygmomanometer and stethoscope and not an electronic blood pressure machine.

Protocol - Patients should be seated quietly for at least 5 minutes in a chair, with back support with their feet on the floor and their arm supported at heart level. Patients should refrain from smoking cigarettes or ingesting caffeine during the 30 minutes preceding the measurement.

Wrap cuff firmly around upper arm at heart level; align cuff with brachial artery. The bladder within the cuff should encircle at least 80% of the upper arm. Many adults require a large adult cuff. Place stethoscope bell below the pace over the brachial artery. Quickly inflate cuff pressure to 20 mm Hg above first Korotkoff sound. Slowly release pressure at rate equal to 2 to 5 mm Hg per second. Systolic BP is the point at which the first of two or more Korotkoff sounds is heard and diastolic BP is the point before the disappearance of Korotkoff sounds. Repeat, allowing 1 minute in between measures. (ACSM, 2010, p46)

If SBP  $\geq 140$  mmHg or DPB  $\geq 90$  mmHg, the client accumulates 1 risk factor.

### 4. Fasting lipid profile

These assessments are to be undertaken by an exercise physiologist or suitably qualified allied health or medical practitioner.

If total cholesterol  $\geq 5.2$  the client accumulates 1 risk factor

If HDL cholesterol  $>1.55$ mmol/L you subtract 1 risk factor

If HDL cholesterol  $< 1.00$ mmol/L the client accumulates 1 risk factor

If triglycerides  $\geq 1.7$ mmol/L the client accumulates 1 risk factor

If LDL cholesterol  $\geq 3.4$ mmol/L the client accumulates 1 risk factor

### 5. Fasting blood glucose

If fasting blood glucose  $>5.5$ mmol the client accumulates 1 risk factor

# RISK STRATIFICATION

## Stage 1

The aim of stage one is to identify individuals who may be at a higher risk of an adverse event during physical activity.

- If the individual answers YES to any of the 7 questions, they are advised to seek guidance from their GP or appropriate allied health professional prior to undertaking physical activity/exercise.
- If the individual answered NO to all of the 7 questions, and they have no other concerns about their health, they are advised that they may proceed to undertake light-moderate intensity physical activity/exercise. (Please refer to Appendix A - Exercise Intensity Guidelines on page 6)

## Stage 2 & 3

The information obtained through stages 2 and 3 will indicate whether the individual is at moderate or low risk.

To stratify risk, record and use either:

- the total of risk factors from Stage 2

or

- the total of risk factors from Stage 3 and questions 1 to 4 in Stage 2

The total of risk factors can be recorded in the space provided.

If the individual has 2 or more risk factors, they are deemed to be moderate risk.

If the individual has less than 2 risk factors they are deemed to be low risk.

If there are extreme or multiple risk factors, the exercise professional should use professional judgement to decide whether further medical advice is required.

Individuals at moderate risk may participate in aerobic physical activity/exercise at a light or moderate intensity.

Individuals at low risk may participate in aerobic physical activity/exercise up to a vigorous or high intensity.

(Please refer to Appendix A - Exercise Intensity Guidelines on page 6)

# APPENDIX A - EXERCISE INTENSITY GUIDELINES

INTENSITY CATEGORY	HEART RATE MEASURES	PERCEIVED EXERTION MEASURES	DESCRIPTIVE MEASURES
SEDENTARY	< 40% HRmax	Very, very light RPE# < 1	<ul style="list-style-type: none"> <li>Activities that usually involve sitting or lying and that have little additional movement and a low energy requirement</li> </ul>
LIGHT	40 to <55% HRmax	Very light to light RPE# 1-2	<ul style="list-style-type: none"> <li>An aerobic activity that does not cause a noticeable change in breathing rate</li> <li>An intensity that can be sustained for at least 60 minutes</li> </ul>
MODERATE	55 to <70% HRmax	Moderate to somewhat hard RPE# 3-4	<ul style="list-style-type: none"> <li>An aerobic activity that is able to be conducted whilst maintaining a conversation uninterrupted</li> <li>An intensity that may last between 30 and 60 minutes</li> </ul>
VIGOROUS	70 to <90% HRmax	Hard RPE# 5-6	<ul style="list-style-type: none"> <li>An aerobic activity in which a conversation generally cannot be maintained uninterrupted</li> <li>An intensity that may last up to about 30 minutes</li> </ul>
HIGH	≥ 90% HRmax	Very hard RPE# ≥ 7	<ul style="list-style-type: none"> <li>An intensity that generally cannot be sustained for longer than about 10 minutes</li> </ul>