**Video 1 - Exercise Pre-participation Health Screening and measurements**

*'All information contained in these videos is taken from the ACSM's Guidelines for Exercise Testing and Prescription, 10th Edition'*

There are numerous health benefits associated with being more physically active and improving health-related fitness, and conversely, a lack of physical activity and a sedentary lifestyle is strongly linked to a number of negative health consequences. However vigorous activity can increase the risk of cardiac events in some people.

It is important, prior to initiating or progressing an exercise program, that a pre-participation health screening is conducted, that certain basic measurements are taken, and that the risks of participation are fully explained to the participant. This video will describe the health screening tools available, the process of informed consent, and the initial basic measurements required.

<u>Health Screening</u>
The purpose of the health screen is to identify individuals who are at a higher risk of cardiac events, and who should be referred for medical clearance by a healthcare provider before commencing exercise.
Two methods of screening that are recommended for use with general, non-clinical populations are the PAR-Q+ and the ACSM preparticipation screening algorithm.

- The PAR-Q+ is a self-guided screening tool that requires the individual to complete a questionnaire regarding their general health. Depending on the answers given, the questionnaire makes recommendations regarding whether the individual should seek medical clearance before commencing and exercise program.
- The ACSM preparticipation screening algorithm is a tool that is designed to identify participants at risk of cardiovascular complications during or immediately after aerobic exercise. The algorithm allows an exercise professional to judge whether an individual should be referred for medical clearance based on:
    - Their current level of physical activity;
    - The presence of signs or symptoms and/or known cardiovascular, metabolic or renal disease;
    - The desired exercise intensity.

It is common for exercise professionals to use both tools – the PAR-Q+ can initially be used to gather the information required to be able to then use the ACSM algorithm.
Based on the results of the health screening, individuals are either advised to seek medical clearance or are recommended to participate in a particular intensity of exercise.

These screening tools are suggested for use with the general, non-clinical public, and can be found in the resources section. There are more in-depth risk stratification tools that should be used when working with patients in cardiac-rehabilitation and medical fitness settings.

## Informed Consent

Acquiring the informed consent of the participant is an important ethical and legal consideration.
It is important that enough information should be provided in the informed consent process to ensure that the participant knows and understands the purposes and risks associated with the test or exercise program.
The consent form should be verbally explained to the participant and include a statement that the participant has been given an opportunity to ask questions.
The form must indicate that the participant is free to withdraw from the procedure at any time.
In the case of minors, a parent or legal guardian must sign the consent form.
A sample consent form produced by the ACSM is available (p46).
All efforts must be made to protect the privacy of the health information and adhere to data protection law.

## Cardiovascular Disease Risk Factor Assessment

A Cardiovascular Disease (CVD) risk factor assessment involves determining how many of the CVD risk factor criteria the participant meets. The presence of a risk factor increases the risk of the participant developing CVD in the future. Completing this exercise with the client is not only useful for providing important information for the development of the client's exercise program but can also be a useful opportunity to educate the client in their need for lifestyle modification. A table of the risk factors and defining criteria, as defined by the ACSM, can be found in table 3.1 (p48)

## Pre-participation Measurements

Some basic measurements are also recommended to be conducted during an initial pre-participation process, and prior to any assessment of components of health-related fitness. Unless blood testing facilities are available for measures such as blood glucose, triglycerides and cholesterol, the following basic measurements are recommended:

1. Blood Pressure
2. Resting heart rate
3. Height
4. Weight
5. Waist and hip girth
6. Pulmonary function (recommended for smokers >45 years old and any individuals presenting with shortness of breath, chronic cough, wheezing or excessive mucus production)

Separate videos can be found explaining the protocols for these measures.