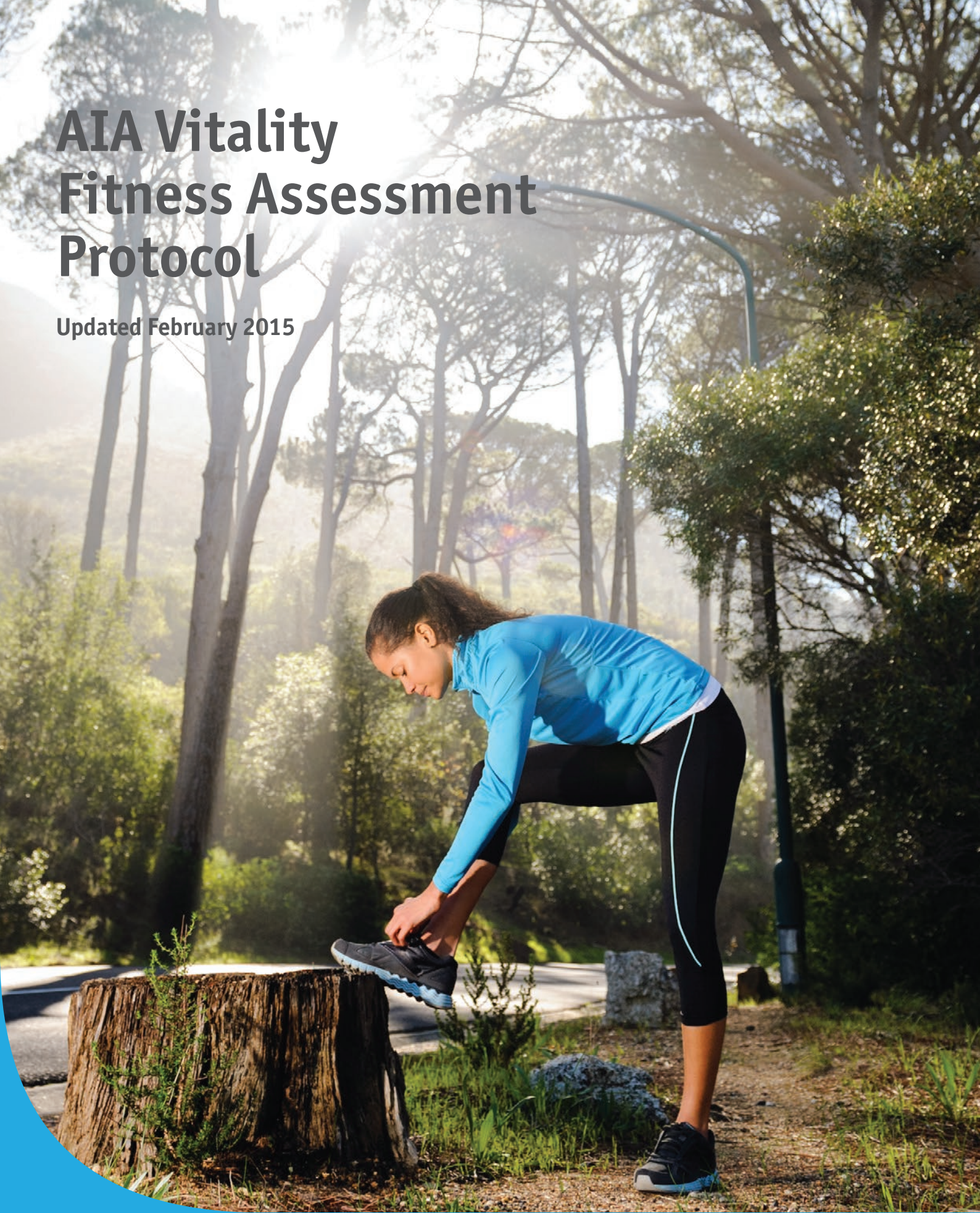


AIA Vitality Fitness Assessment Protocol

Updated February 2015



aiavitality.com.au

AIA Vitality

Who is eligible

All AIA Vitality Fitness Trainers must meet and comply with the Requirements (including without limitation, the Eligibility Requirements) set out in the AIA Vitality Terms and Conditions for Fitness Trainers (**AIA Vitality Fitness Trainers**).

Get ready

1. Prepare

- Ensure you have all of the equipment in the required column below
- Ensure there is a booking process in place
- Read this document, URL listed https://resources.aia.com.au/vitalityfitnessassessment_info.html

2. Register

- Register to be an AIA Vitality Fitness trainer by logging into <https://resources.aia.com.au/AIA-Vitality-Fitness-Assessment-Sign-up.html>
- Every trainer will need to register themselves separately
- You could be listed as a trainer on our website within 2 business days of registering.

3. Test the Portal

Log into the partner portal (<https://partner.aiavitality.com>) and test the data capture process with the test member.

Test member details

AIA Vitality Membership Number: 1000010967

Test member name: Mr M Marques

Estimated duration

The AIA Vitality fitness assessment including BMI, BP and the step test should take 20–30 minutes. You may choose to tailor the assessment by bolting on additional components however, there are parts of the assessment which are mandatory.

Bookings

When you register on the network, you will need to register for a specific location. We will update the AIA Vitality Member Portal with your details including location and phone number and encourage members to call you to make a booking. Please ensure you have a proper booking system in place.

- Upon booking, members should be advised the following:
 - Food consumption should be avoided at least 90 minutes before the fitness assessment appointment
 - Smoking should be avoided 30 minutes prior to blood pressure being measured
 - Caffeine should be avoided up to 3 hours before the assessment
 - Alcohol consumption should be avoided for 24 hours before participation in exercise
 - Avoid exercise or strenuous physical activity **on the day** of the test
 - Avoid performing abnormally strenuous activity on the **day prior** to testing
 - Clothes suitable for exercise should be worn

Equipment needed

Required	Optional
1. Calibrated scale	1. Heart Rate monitor
2. Tape measure	2. Bioelectrical impedance analyzer
3. Blood pressure meter	weighing scale
4. 30.5cm step	
5. Metronome/mobile app/CD (metronome apps are free)	
6. Stop watch/clock or app	
7. Computer and internet access	

Technical information

Each time you perform an AIA Vitality Fitness Assessment, you need to:

1. Access the partner portal
<https://partner.aiavitality.com>

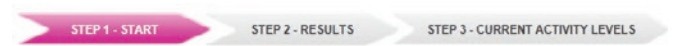
2. Validate the member

Input the member's AIA Vitality number from their AIA Vitality membership card

3. Click on 'start a new assessment' and follow the prompts
4. Once you have completed the 3 steps on the Portal, the member's results will automatically be emailed to them in the form of a feedback report and uploaded to AIA Vitality Member Portal for AIA Vitality point allocation and goal creation

Process and structure

The Partner portal has a 3 step process, it guides you through each step.



Step 1 – Start

You will ask the member the ParQ questions displayed on screen. The medical conditions section provides good insight for you in case there are any conditions for you to be aware of prior and during the step test.

If the member answers 'yes' to any of the questions in the Medical History section of the ParQ, do not complete the step test part of the assessment until they return with a doctor's certificate confirming they can participate in physical activity (including the step test).

	Yes	No
Are you currently pregnant?	<input type="radio"/>	<input checked="" type="radio"/>
Has your doctor ever stated that you have a heart condition and that you should only engage in physical activity recommended by a doctor?	<input type="radio"/>	<input checked="" type="radio"/>
Is your doctor currently prescribing drugs for your blood pressure or heart condition?	<input type="radio"/>	<input checked="" type="radio"/>
Do you feel pain in your chest during physical activity?	<input type="radio"/>	<input checked="" type="radio"/>
In the past month, have you had chest pains while not engaged in any physical activity?	<input type="radio"/>	<input checked="" type="radio"/>
Have you ever lost your balance or consciousness because of dizziness?	<input type="radio"/>	<input checked="" type="radio"/>
Do you have a bone or joint problem (e.g. back, knee or hip) that could be made worse by participating in physical activity?	<input type="radio"/>	<input checked="" type="radio"/>
Do you know of any other reason you should not engage in physical activity?	<input type="radio"/>	<input checked="" type="radio"/>

Step 2 – Results

Follow the Clinical Guidelines in the next section of the protocol and input the results into step 2 of the Portal.

STEP 1 - START STEP 2 - RESULTS STEP 3 - CURRENT ACTIVITY LEVELS

Blood Pressure

Systolic: 120 mmHg
Diastolic: 80 mmHg

Body Composition

Weight: kg
Height: 180 cm
Waist circumference: 32 cm / in
Body fat percentage (optional): %

Aerobic Test

Completed: Yes No
Step test: bpm

Back Cancel Next

Step 3 – Current activity levels

The questions in this section will provide input to the member's feedback report as well as help guide the Vitality goals set for the member.

STEP 1 - START STEP 2 - RESULTS STEP 3 - CURRENT ACTIVITY LEVELS

Weekly Exercise

How many days a week does the member exercise?
0 days 7 days

On the days the member exercises, on average:
How many minutes does the member exercise?
Minutes

How intense is the member's exercise sessions?
Low Vigorous

How often does the member participate in strength exercises like push-ups, sit-ups, lifting free weights or using weight machines?
 Rarely or never Once or twice a week Three to five times a week Six to seven times a week

How often does the member participate in flexibility exercises like stretching, yoga, Pilates or Tai Chi?
 Rarely or never Once or twice a week Three to five times a week Six to seven times a week

Daily Activity

On average per day, how many hours does the member spend doing the following activities?

Sitting in meetings:
hours minutes

Sitting in front of a computer:
hours minutes

Watching television:
hours minutes

Back Cancel Next

Clinical guidelines

The AIA Vitality Fitness Assessment should only be performed by AIA Vitality Fitness Trainers who meet the Requirements (including the Eligibility Requirements) set out in the AIA Vitality Terms and Conditions for Fitness Trainers and who have registered with AIA Vitality to provide the service.

1. Blood pressure

Ensure that prior to taking the member's blood pressure, they have rested for at least 5 minutes and not eaten or smoked for at least 30 minutes. They should be seated, with arm resting on a table a little above the height of the waist. The arm should be free of clothing. The lower border of the cuff should be about 2.5cm above elbow. Secure the cuff snugly and read both the systolic and diastolic levels. It is preferable to take three readings with every member, disregarding the first reading and taking the average of the second two.

If the resting systolic blood pressure is >200 and or resting diastolic blood pressure is >110, DO NOT PROCEED with the assessment without sighting a doctor's certificate.

Classification	Systolic	Diastolic
Normal	<=120	<=80

Counselling guidelines provide more detail on page 7.

2. Body mass index calculation

Body Mass Index (BMI) is determined as the weight (in kg) divided by the height (in metres) squared. For example, an individual weighing 80kg, with a height of 1.68m would have a BMI of 28.4.

$$\text{BMI} = [\text{Weight (kg)} / \text{Height (m)}]^2$$

$$[80\text{kg} / 1.68\text{m}]^2 = 28.4$$

The portal will calculate BMI for you when you enter the height and weight.

BMI Norms:

Classification	BMI (kg/m ²)
Underweight	<= 18.4
Normal range	18.5 – 24.9
Overweight	>=25.0 – 29.9
Obese	>=30.0

If a member has a high BMI, and obviously high muscle mass, please perform a body fat percentage test for the member.

On a case by case basis, AIA Vitality will award booster points for body mass based on a healthy body fat percentage.

Body fat percentage norm tables are located on pages 6–7. Counselling guidelines provide more detail on page 7.

Weight measurement

Weight should be measured on a calibrated scale. The scale should be placed on a firm, flat surface, and not on a carpet or rug. Individuals should be barefoot and remove any heavy outer clothing such as jackets. The individual must stand freely on the scale without holding on to a wall or any other support while the measurement is taken. After standing still on the scale, a reading should be taken to the nearest 0.5kg.

Height measurement

In order to measure height accurately, a straight wall and even surface are required. The person must stand barefoot, with his/her back against the wall. Their feet must be together with the heels placed firmly on the ground and touching the wall. The legs and back should be straight and the back of the head must rest against the wall. The head should be straightened, so that a line drawn from the corner of the eye to the top of the ear is at right angles to the upright wall. All hats, hair combs, hair bands, clips or pins should be removed prior to the measurement. Place a ruler or some other straight edge against the top of the head, and at right angles to the wall. A mark can be made where the ruler or straight edge meets the wall. A tape measure may be used to measure the height by anchoring the tape measure from the floor and extending it upwards. Alternatively, commercially available height charts may be secured to a wall, or a portable stadiometer may also be used.

3. Waist circumference

In order to measure waist circumference accurately, a clearly marked tape measure is required. The person must be standing and should remove any heavy outer clothing such as jackets. The person should breathe out normally; place tape measure snugly **around the waist** midway between the lower rib cage and hipbone, roughly in line with the belly button.

Classification	Women	Male
Healthy	< 80cm	<94cm
Unhealthy	> =80cm	>=94cm

4. YMCA Step Test

The purpose of the Step Test is to measure the heart rate in the recovery period following 3 minutes of stepping. The results of the test provide an indication of the cardiorespiratory

fitness level of the member. This test is invalid for and should not be administered to individuals taking a beta-blocker medication (or any other medication affecting heart rate).

Do not complete the step test if the member has answered 'yes' to any of the questions in the Medical History section of the ParQ and you have not sighted a doctor's certificate which confirms that in the doctor's opinion, it is safe for the AIA Vitality member to proceed with the fitness assessment.

Equipment required

30.5cm step, metronome/app/cd, stop watch/clock/app, HR monitor (optional), Norms tables (page 6).

Procedure

- The Member steps up and down at a rate of 24 steps per minute (metronome setting of 96) for 3 minutes. Metronome apps are free to install and use
- At the end of the 3 minutes, obtain the member's 60-second recovery heart rate
- This recovery heart rate is their score. Consult the tables in section 4 to obtain a rating

Heart rate monitor method

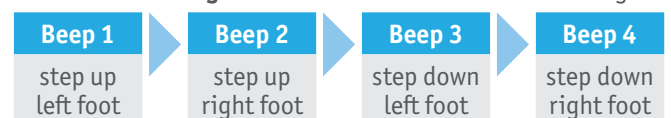
- Before commencing, ensure the heart rate monitor strap is securely fastened around the member's chest and that a reading is evident on the watch
- After the 3 minutes of stepping, the member sits down. To ensure consistency with the manual method, **take an average** of the 30-second and 60-second recovery heart rate monitor readings to obtain the 60-second recovery heart rate.

Manual method (no HR monitor)

- Before commencing, ensure the member can find their pulse
- After the 3 minutes of stepping, the member sits down on the bench and finds their pulse again. Their 60-second heart rate is taken within five seconds after the completion of stepping.

Examples

Metronome timing



Test timing

1:00 – 3:00 minutes: Stepping

3:05 – 4:05 minutes: Member sits down. Measure recovery heart rate (e.g. 149 BPM)

Indications for stopping the Step Test:

During the exercise the member must be watched at all times for signs of tiredness. Distractions by others must be prevented. At the cessation of exercise, the test situation requires a sudden end to a bout of exercise. This can cause faintness, dizziness or collapse. If the member faints or feels dizzy or disorientated they must be placed in the recovery position.

Stop the step test immediately if:

- The member can't sustain pace for 30 seconds
- The member asks to stop
- A sustained heart rate of > 80% of Maximum Heart Rate* (MHR)
- Any pain in the chest, feet or legs
- Signs of impending collapse – pallor, cold moist skin, cyanosis, staggering, and confusion.

*Estimated maximum heart rate = 220 – age (This figure is only an estimate, and is usually within 10 beats of their true maximum heart rate).

AIA Vitality Fitness Assessment Report and Feedback

Once you have finished inputting the member's results, you will be asked to enter an email address for the member. The member will be emailed a copy of the AIA Vitality Fitness Assessment report directly from AIA Vitality.

The member will receive their AIA Vitality Points within two weeks.



AIA Vitality

AIA Vitality Fitness Assessment Report

Dear John,

Well done on completing the AIA Vitality Fitness Assessment. You can earn up to 3,000 AIA Vitality Points every membership year by having two AIA Vitality Fitness Assessments.

Your current cardiovascular fitness is Good for your age and gender.

There are many health benefits to being physically fit. It improves heart and lung function, helps with weight loss or maintaining a healthy weight, strengthens bones, lowers stress and improves sleep patterns. You also have a reduced risk of developing chronic diseases of lifestyle.

Well done! Improving your physical fitness even further will continue to have a positive impact on your quality of life and overall health. Enjoy the benefits of a healthier lifestyle!

Your body composition result

There are many health benefits to being physically fit. It improves heart and lung function, helps with weight loss or maintaining a healthy weight, strengthens bones, lowers stress and improves sleep patterns. You also have a reduced risk of developing chronic diseases of lifestyle.

Measurement	Your Result	Your Aim	Feedback
Body Mass Index (BMI)	28.1	18.5 - 24.0	Your BMI is a measure of your height in relation to your weight. You should try to get your BMI down to between 18.0 and less than 25. You'll not only feel better, but will also decrease your risk.

Norms tables

Step Test norms

Healthy range is defined as Above Average or better.

Male	Age (heart rate in BPM)						Rating
	18–25	26–35	36–45	46–55	56–65	65+	
Beats per minute (BPM)	< 79	< 77	< 77	< 83	< 78	< 82	Excellent
	79–84	77–85	77–88	83–93	78–94	82–92	Good
	85–93	86–94	89–98	94–101	95–100	93–102	Above Average
	94–100	95–102	99–105	102–111	101–109	103–110	Average
	101–107	103–110	106–113	112–119	110–117	111–118	Below Average
	108–119	111–121	114–124	120–126	118–128	119–126	Poor
	>119	>121	>124	>126	>128	>126	Very poor

Female	Age (heart rate in BPM)						Rating
	18–25	26–35	36–45	46–55	56–65	65+	
Beats per minute (BPM)	=< 82	=< 81	=< 85	=< 92	=< 93	=< 93	Excellent
	83–93	82–92	86–96	93–101	93–103	94–101	Good
	94–102	93–101	97–104	102–110	104–111	102–111	Above Average
	103–110	102–110	105–112	111–118	112–118	112–121	Average
	111–120	111–119	113–120	119–124	119–127	122–126	Below Average
	121–131	120–129	121–132	125–132	128–135	127–133	Poor
	>131	>129	>132	>132	>135	>133	Very poor

Body fat percentage (optional)

Healthy range is defined as the 50% percentile or better.

Male – Body fat % norms		Age				
Percentile	Fitness Category	20–29	30–39	40–49	50–59	60+
90	Well above average	7.1–11.7	11.3–15.8	13.6–18	15.3–19.7	15.3–20.7
70	Above average	11.8–15.8	15.9–18.9	18.1–21	19.8–22.6	20.8–23.4
50	Average	15.9–19.4	19–22.2	21.1–24	22.7–25.6	23.5–26.6
30	Below average	19.5–25.8	22.3–27.2	24.1–28.8	25.7–30.2	26.7–31.1
10	Well below average	25.9	27.3	28.9	30.3	31.2

Female – Body fat % norms		Age				
Percentile	Fitness Category	20–29	30–39	40–49	50–59	60+
90	Well above average	14.5–18.9	15.5–19.9	18.5–23.4	21.6–26.5	21.1–27.4
70	Above average	19–22	20–23	23.5–26.3	26.6–30	27.5–30.8
50	Average	22.1–25.3	23.1–26.9	26.4–30	30.1–33.4	30.9–34.2
30	Below average	25.4–32	27–32.7	30.1–34.9	33.5–37.8	34.3–39.2
10	Well below average	32.1	32.8	35	37.9	39.3

Counselling guidelines

Blood Pressure

If the member still has high blood pressure (systolic >140 OR diastolic >90) after the 3 readings, recommend the member checks their blood pressure with their GP.

Blood pressure is the force of the blood pushing against the artery walls. It is greatest when the heart contracts (systolic pressure) and lowest when the heart is resting briefly between beats (diastolic pressure).

Blood pressure is affected by how hard the heart pumps, the amount of blood in the body and the diameter of the blood vessels.

Blood in the arteries carries essential materials such as oxygen and other nutrients to every cell in the body and blood in the veins carries waste products away from the cells to be disposed of. This exchange of nutrients is critical to the survival of our cells and both blood pressure and concentration must be within certain levels for this to occur.

The World Health Organisation recently defined high blood pressure as being greater than 140/90. High blood pressure

usually doesn't give early warning signs and for this reason is known as the 'silent killer', because it increases the risk for coronary heart disease and other forms of heart disease, stroke, and kidney failure.

Factors that contribute to high blood pressure include:

- Being overweight
- Stress
- Family history of high blood pressure
- Smoking
- Physical inactivity
- Excessive salt intake
- Excessive alcohol intake
- Anxiety, or
- Racing to the appointment may increase a person's systolic blood pressure

Body Composition

There are numerous methods of estimating body composition, which is a measure of how much of your weight is fat and how much is lean body mass.

For the general population, Body Mass Index (BMI) is a good indicator of body composition. However, for people who

carry a lot of muscle mass, their BMI will be an inaccurate indication of their body composition. For those members, they can receive a healthy body composition score with Vitality if their body fat % is considered healthy according to the body fat percentage tables.

Cardiovascular Fitness

Cardiovascular fitness is considered an important indicator of health because:

- Low levels of fitness have been associated with a markedly increased risk of premature death from various conditions, particularly cardiovascular disease.
- There is a well-documented correlation between cardiovascular fitness and longevity (generally speaking, the fitter you are, the longer you live)
- Increased fitness results in higher energy levels, a better ability to cope with stress and higher overall levels of health and well-being
- VO₂max is the standard measure of cardiovascular fitness. It is the maximum amount of oxygen that the body can use during exercise. The equipment required to measure this accurately is highly expensive and specialised, so a number of tests have been designed that estimate this value by measuring your heart-rate response to exercise.

We use the YMCA step test.

The Step Test

The step test is an indirect measure of a person's aerobic capacity (cardiorespiratory fitness). The theory behind the test is that a person with a higher cardiorespiratory fitness will have a lower heart rate for any given work rate than an unfit person. A trained heart is able to expel more blood per beat (stroke volume) and so does not have to beat as often to meet the body's required cardiac output. In addition the heart rate of a fit person will recover quicker than that of an unfit person.

Cardiorespiratory fitness is the capacity of the heart, lungs, and blood vessels to supply oxygen and nutrients to the muscles for a sustained period. The Step Test is a sub-maximal test which has the capacity to estimate fitness. VO₂peak is expressed as ml/kg/min. This is the maximum amount of oxygen in millimetres that can be consumed per kilogram of body weight per minute of exercise. To attain a true VO₂peak score, it takes an exhaustive effort on the client's part which also can expose the client to unnecessary risk of a cardiac event. The Step Test has been shown to be a valid and reliable predictor of fitness and can give an accurate determination of changes in cardiorespiratory fitness.

[http://www.health.gov.au/Workshop Paper - Prevention and Wellness](http://www.health.gov.au/WorkshopPaper-PreventionandWellness)

Author: Dr John Lang B.Ed., M.H.K., Ph.D

Any queries, please contact AIA Vitality on 1800 848 254 or email us at support@aiavitality.com.au