



## **Kokoda Trekking – Client Fitness Testing**

Fitness can be used in a broad sense because there are numerous different types, cardio fitness (e.g running), endurance, strength, speed, power, flexibility and so on. These terms/categories can be summarised for a beginner in the following dot points, these are the ones that this document shall include;

- Physical Health
- Cardiovascular Endurance / Aerobic Fitness
- Strength / Strength Endurance

The three points listed above are the ones that are directly linked to training for such an event as walking the Kokoda Trail.

# **Physical Health**

Before undertaking such training programs it is always a first rate idea to find out what your current health condition is like; relating to two different sections, the first being the ones that you can calculate or administer yourself and the second being the ones that are suggested to be conducted by a qualified professional (Doctor, GP, personal trainer etc.)

## **Self-administered Tests**

- **BMI (Body Mass Index)**

BMI can easily be found online by simply typing into Google 'BMI Calculator'. This testing will take into account your height, weight, sex and age. The website that is chosen for this purpose will more than likely have a chart to show where each result would sit, if not again Google will have plenty of accurate ones.

- **Girth Measurements**

Girth Measurements are once again easily conducted at home using a fabric measuring tape. It is suggested that once again the different locations of measurements are researched and followed.

- **Body Weight**

Body Weight is the simplest form of measurement which anyone can do just by standing on a set of scales; suggested to be new digital scales.

## **Assistance Required Tests**

- **Body Fat %**

Body Fat % is one of the best ways to track any personal progress when regularly exercising, especially compared to just standing on some scales. This is because when exercising, especially if weights are involved you will feel yourself getting stronger and losing some body fat at the same time which means you will slowly be dropping weight, but what scales can't show is how much fat you are dropping taking into account the increase in muscle mass.

Your Body Fat % can be calculated online in a similar way to your BMI however this will not be 100% accurate. Using 'Body Fat Callipers'(image 1) is the most accurate way to determine your current body fat percentage; any given personal trainer with the required



correct training will be able to determine this for you.

**Image 1 – Body Fat Callipers**

Your Body fat % will determine which category you fall into; Athlete, Fitness, Average or Obese. The Below Table (table 1) shows a general outline of Body Fat % Categories for men and women.

<b>Description</b>	<b>Women</b>	<b>Men</b>
<b>Essential Fat</b>	< 13%	< 5%
<b>Athlete</b>	14 – 20%	6 – 13%
<b>Fitness</b>	21 – 24%	14 - 17%
<b>Average</b>	25 – 31%	18 – 24%
<b>Obese</b>	> 32%	> 25%

**Table 1 – Body Fat Category Break Up**

As mentioned *Table 1* shows very general category break downs of where someone will sit dependant on their body fat reading, more accurate ones can again be found easily on Google.

– **Blood Pressure**

Your blood pressure is to simply get a reading on how your current lifestyle is affecting the amount of strain stress being placed on your heart; basically, how hard it is working. Any doctor or GP can take a reading of your blood pressure along with some personal trainers in gyms, just depending on whether or not they have the required piece of equipment.

## Cardiovascular Endurance / Aerobic Fitness

The Level of cardio endurance or aerobic fitness is going to play a massive part in the challenging trek because as you will now know it is going to be very testing on your body, and more specifically your fitness. There are numerous different ways for someone to test their level of fitness, shown below are these different methods.

### – Timed Run/walk

The running part of this test can be easily administered either in a gym on a treadmill or outside; by simply setting yourself a distance, for example 5km on the treadmill or outside in your local area and running it as fast as you can, pacing yourself relative to your body's ability and condition. *Table 1* and *Table 2* show this.

<b>Level</b>	<b>Women</b>	<b>Men</b>
Beginner	> 53 mins	> 50 mins
Intermediate	46 – 52 mins	40 – 49 mins
Average	37 – 45 mins	31 – 39 mins
Advanced	<36 mins	< 30 mins

**Table 2 – 5km Outdoor Run Timing**

<b>Level</b>	<b>Women</b>	<b>Men</b>
Beginner	> 48 mins	> 45 mins
Intermediate	40 – 47 mins	35 – 44 mins
Average	33 – 39 mins	26 – 34 mins
Advanced	<32 mins	< 25 mins

**Table 3 – 5km Treadmill Run Timing (0% gradient)**

For anyone who is unable to run due to injury, illness or other preventative reasons, the below *Table 4* provides the timing allocations for a 5km walk.

<b>Level</b>	<b>Women</b>	<b>Men</b>
Beginner	> 68 mins	> 60 mins
Intermediate	60 – 67 mins	54 – 59 mins
Average	53 – 59 mins	46 – 53 mins
Advanced	< 52 mins	< 45 mins

**Table 4 – 5km Outdoor Walk Timing**

– **Beep Test**

To put it simply the beep test is a multi-stage shuttle run set over a 20m distance. The aim is to get to the highest stage of the test (e.g. 3.2, 4.6, 8.4 etc) as possible by reaching the opposite end of the lap before the ‘BEEP’ sounds through the speakers. A beep test can be performed by anyone with access to 20m of flat ground, a CD player or smart phone on which to play the test and then obviously a set of speakers or headphones. *Diagram 1* shows the very basic set up to a beep test.



*Table 5* is an example of guide lines related to levels of accomplishment within the 20m Beep Test.

<b>Description</b>	<b>Women</b>	<b>Men</b>
<b>Very Poor</b>	< 4	< 5
<b>Poor</b>	4 – 6	5 – 7
<b>Average</b>	6 – 8	7 – 9
<b>Good</b>	8 – 10	9 – 11
<b>Very Good</b>	10 – 12	11 – 13
<b>Excellent</b>	> 12	> 13

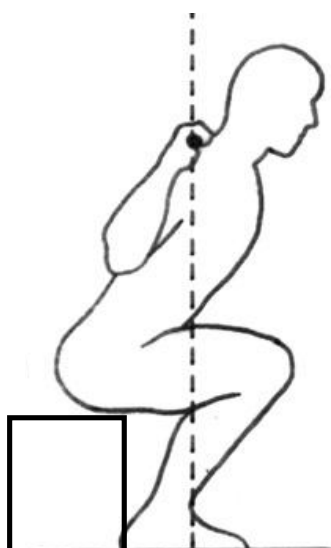
**Table 5 – Beep Test Result Categorising**

## Strength / Strength Endurance

The strength endurance will have a large influence on the success of any participant in such an event, carrying packs of equipment up and down the mountains; the following forms of fitness testing are designed to assess improvement in muscular endurance, all of which are based around the time parameter of 1 minute.

### – 1 Minute Squats

The squats are to assess the level of muscular endurance within your legs (Quads, Hamstrings and Gluts). The proper technique for a squat is shown below in *Image 2*.



As you can see in this image, the technique to a squat is aiming to achieve a straight line down from your shoulders to your ankles whilst keep your knees in line with the tips of your toes (to prevent unnecessary strain on knees). The depth is always important; you should aim to have your thighs parallel to the ground, so your hips and knees in line with one another.

**Image 2 – Squat Technique**

#### Tips:

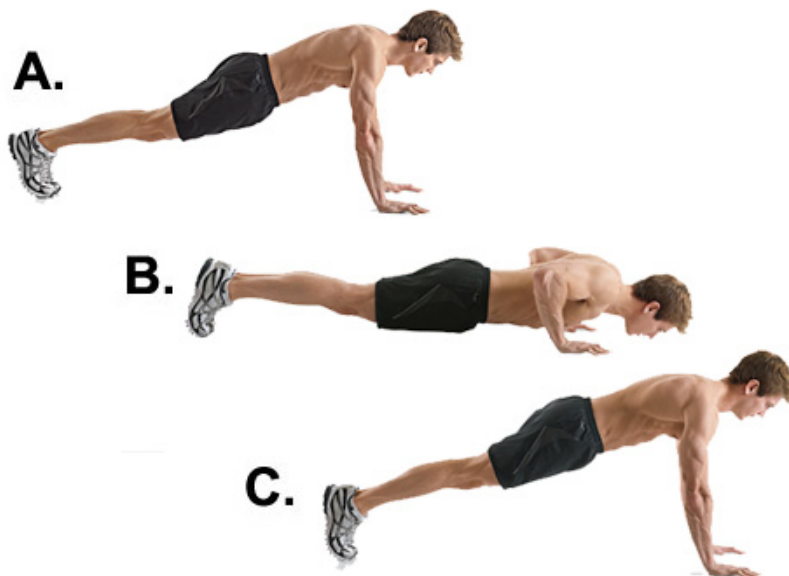
- Keep looking forward; pick a spot on the wall in front of you.
- Push your chest up and out whilst pulling your shoulders back.
- Space your weight evenly across your entire sole.
- Place an object at just below knee level below your bum to use as a guide when squatting (e.g. a bench – touch bum onto it, then stand up.)

Description	Women	Men
Poor	< 10	< 10
Below Average	11 - 19	10 – 19
Average	20 - 27	20 – 29
Good	28 – 34	30 – 39
Excellent	> 35	> 40

**Table 6 – 1 Minute Squat Result Categorising**

– **1 Minute Push Ups**

Push ups are obviously a good way to assess the muscular endurance of your upper body (Chest, Front deltoids and triceps). When performing a push up it is important to maintain a straight line through your shoulders, Hips, knees and Ankles so you are not using the rest of your body to aid in the push up by swaying or swinging (shown in Image 3 below). In this test It is suggested that women perform the push ups on their knees if toe push ups are not possible.



**Image 3 – Push Up Technique**

**Tips:**

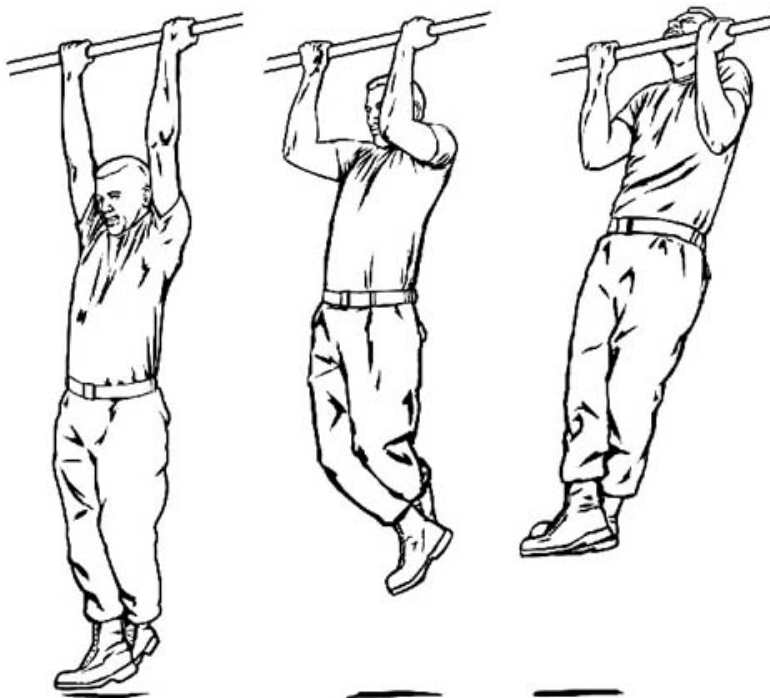
- Pick A spot on the floor below you and focus on that spot.
- Keep your body rigid whilst performing a push up.
- Have someone place their fist below your chest as a marker (like the seat in the squat).
- Exhale whilst pushing up from the ground, inhale on the way back down.

<b>Description</b>	<b>Women</b>	<b>Men</b>
<b>Poor</b>	< 5	< 14
<b>Below Average</b>	6 – 11	15 – 23
<b>Average</b>	12 – 17	24 – 35
<b>Good</b>	18 – 24	36 – 49
<b>Excellent</b>	> 25	> 50

**Table 7 – 1 Minute Push up Result Categorising**

**– 1 Minute Chin Ups**

The Chin up is one of the hardest of the ‘simple’ body weight exercises to do because it has a 100% influence of the performer’s body weight and is used to determine the muscular endurance of the back and biceps. The Chin up technique consists of the placement of the hands, palms facing towards your body and placed just inside the width of your shoulders. Within the action a completed chin up is counted when the chin reaches or crosses the bar or hand level. Pinch the shoulder blades together in order to activate the assistance of the back not just arms.



**Image 3 – Chin up Technique**

**Tips:**

- Cross your legs over to stop contradicting movement.
- Exhale when pulling, inhale when releasing.
- Pinch shoulder blades together and push chest up leading with chin.

<b>Description</b>	<b>Women</b>	<b>Men</b>
<b>Poor</b>	< 2	< 7
<b>Below Average</b>	2 – 4	7 – 13
<b>Average</b>	5 – 7	14 – 18
<b>Good</b>	8 – 11	19 – 24
<b>Excellent</b>	> 12	> 25

**Table 8 – 1 Minute Chin Up Result Categorising**



On the completion of all above fitness testing, the rankings given will provide the participant with a recorded idea of the level of overall combined fitness level they are currently sitting at and give them relative targets to aim for when exercising on regular occasions during the week.