

# FITNESS ASSESSMENT

## INFORMATION & REFERENCE CHARTS

Blood Pressure

Resting Heart Rate

Body Fat Percentage

Body Water Percentage

Grip Strength Test

Press Up Test

Abdominal Curl Test

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Multi Stage Fitness Test

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**THEO WOOD**  
fitness

# B L O O D P R E S S U R E

## ■ What is Blood Pressure?

When your heart beats, it pumps blood round your body to give it the energy and oxygen it needs. As the blood moves it pushes against the sides of the blood vessels. The strength of this pushing is your blood pressure (BP).

BP is measured in millimetres of mercury (mmHg). When your BP is measured it will be written as two numbers. For example, if your reading is 120/80mmHg, your BP is 120 over 80.

## ■ How do you measure my Blood Pressure?

We use a non-invasive electrical BP monitor that wraps around your wrist and gives a digital reading. The monitor also measures your Resting Heart Rate at the same time.

## ■ What do the numbers mean?

The first number is your **systolic** BP. This is the highest level your BP reaches when your heart beats.

The second number is your **diastolic** BP. This is the lowest level your BP reaches as your heart relaxes between beats.

## ■ What should my blood pressure be?

Your BP should be at or below 120 over 80. At this level, you have a much lower risk of heart disease or stroke.

If your BP is above 120 over 80, but below 140 over 90, this is normal. However, you should be taking steps to bring your BP down, or to stop it rising any further.

### BLOOD PRESSURE CLASSIFICATION CHARTS - ADULTS

	Systolic	Diastolic
Optimal	◀ 120	◀ 80
Normal	◀ 130	◀ 85
High normal	130 - 139	85 - 89
Mild hypertension	140 - 159	90 - 99
Moderate hypertension	160 - 179	100 - 109
Severe hypertension	▶ 179	▶ 109

# RESTING HEART RATE

## ■ What is Resting Heart Rate?

Resting heart rate (RHR) is simply the number of times your heart beats per minute when the body is at rest. It is often a good determination as to how fit you are, as well as indicating if you're either over training or unwell - which will show up as an unexplained RHR increase.

## ■ How do you measure my Resting Heart Rate?

We use the same monitoring device that measures your Blood Pressure.

## ■ What should my Resting Heart Rate be?

As you become fitter through aerobic exercise, your heart becomes more efficient at pumping blood around the body, especially if combined with a reduction of the plaque (fatty deposits) within your arteries. This will result in a lowered RHR so regular checks are needed, especially if working with a heart rate monitor as target zones will need to be recalculated.

RESTING HEART RATE	Female	Male
Excellent	◀ 59	◀ 55
Good	60 - 64	56 - 61
Above average	65 - 68	62 - 65
Average	69 - 71	66 - 71
Below average	72 - 77	72 - 76
Poor	78 - 83	77 - 83
Very poor	▶ 84	▶ 84

# BODY FAT PERCENTAGE

## ■ What is Body Fat Percentage?

Body fat percentage (BF%) is the ratio of fatty tissue that exists in your body.

## ■ How do you measure my Body Fat Percentage?

We use a non-invasive monitor that employs Bioelectrical Impedance Analysis (BIA) to help calculate your BF%. BIA works by sending a low, safe electrical signal through the body. This signal passes freely through fluids contained in lean tissue, such as muscle and blood, but meets resistance passing through fat tissue. The monitor accurately measures this resistance and uses it to calculate your BF%.

## ■ What should my Body Fat Percentage be?

We all need some body fat to be healthy. It's vital for basic body functions like regulating body temperature, storing vitamins and cushioning joints and organs. But too much fat can damage your health and could put you at greater risk of developing serious medical conditions. Excess body fat is known to contribute to heart disease, high blood pressure, Type 2 diabetes mellitus and some forms of cancer.

Body fat is not always visible to the naked eye. You may have an acceptable weight and figure, but could be carrying more than you think. Weight alone cannot distinguish between the pounds that come from body fat and those that come from lean body tissue, such as muscle and bone.

BODY FAT %	Female		
	20 - 39 yrs	40 - 59 yrs	60 - 79 yrs
Underfat	◀ 22%	◀ 24%	◀ 25%
Healthy	22 - 33%	24 - 34%	25 - 36%
Overfat	34 - 40%	35 - 41%	37 - 43%
Obese	▶ 40 %	▶ 41 %	▶ 43 %

	Male		
	20 - 39 yrs	40 - 59 yrs	60 - 79 yrs
Underfat	◀ 8%	◀ 11%	◀ 13%
Healthy	8 - 19%	11 - 22%	13 - 25%
Overfat	20 - 25%	23 - 28%	26 - 30%
Obese	▶ 25 %	▶ 28 %	▶ 30 %



## BODY WATER PERCENTAGE

### ■ What is Body Water Percentage?

Body water percentage (BW%) is the ratio of water that exists in your body.

### ■ How do you measure my Body Water Percentage?

We use the same monitoring device that measures your Body Fat Percentage.

### ■ What should my Body Water Percentage be?

Approximately 50 - 65% of the weight of a healthy person is water. It plays a vital role in helping you stay healthy by:-

- Regulating body temperature
- Removing waste from the body
- Carrying nutrients, oxygen, enzymes, hormones and glucose to the cells
- Carrying away toxins and metabolic waste from the cells for elimination
- Cushioning joints and strengthening muscles
- Providing natural moisture to skin and other tissues

#### BODY WATER %

Female
45 - 60%

Male
50 - 65%

#### PLEASE NOTE:-

For athletes, the figure is approximately 5% above these averages, as they will have greater muscle mass. Skeletal mass contains more water than fat (adipose tissue).



# GRIP STRENGTH TEST

## ■ Why do the Grip Strength Test?

The Grip Strength Test (GST) measures forearm strength. We use this test to evaluate your overall strength because, as a rule, people with strong hands tend to be strong elsewhere.

## ■ What is the procedure of the Grip Strength Test?

Standing upright, with your arms hanging straight down naturally, you hold a dynamometer in your right hand and squeeze the handles of the device with as much force as possible. No other body movement is permitted. This is repeated with your left hand, and then once more per side for a total of four measurements. The average value of the highest values of the forces of both hands is noted and recorded in kilograms.

## ■ What should I score on the Grip Strength Test?

Below is a chart of the average grip values by age (kg):-

AGE	MALE	FEMALE	AGE	MALE	FEMALE	AGE	MALE	FEMALE
10	18.5	16.8	31	50.1	30.4	52	44.3	27.7
11	21.1	20.0	32	50.1	30.6	53	43.9	27.4
12	24.9	22.4	33	50.0	30.7	54	43.5	27.0
13	30.5	24.6	34	50.0	30.3	55	43.0	26.9
14	36.0	26.0	35	49.8	30.3	56	42.4	26.6
15	40.5	26.5	36	49.4	30.7	57	41.9	26.4
16	43.8	27.5	37	49.0	30.5	58	41.5	26.3
17	46.0	27.9	38	48.9	30.5	59	41.0	25.8
18	47.4	27.7	39	48.5	30.4	60	40.5	25.4
19	48.4	28.1	40	48.3	30.5	61	39.9	25.0
20	49.3	28.7	41	48.0	30.2	62	39.3	24.6
21	49.7	28.7	42	47.7	30.2	63	38.7	24.2
22	50.0	28.5	43	47.4	30.0	64	38.2	23.8
23	50.1	28.6	44	47.1	29.5	65	37.5	23.4
24	50.1	29.3	45	46.8	29.6	66	37.0	23.1
25	50.2	29.1	46	46.5	29.6	67	36.5	22.7
26	50.2	29.4	47	46.1	29.4	68	35.9	22.3
27	50.2	29.7	48	45.8	28.9	69	35.4	21.9
28	50.2	30.0	49	45.4	28.6	70	34.8	21.5
29	50.2	30.2	50	45.0	28.5			
30	50.2	30.5	51	44.7	27.9			



# P R E S S U P T E S T

## ■ Why do the Press Up Test?

The Press Up Test (PUT) measures the muscular endurance of the upper body. We use this test to evaluate your overall strength endurance levels.

## ■ What is the procedure of the Press Up Test?

**MALE TEST:** Lying face down on a mat, your hands are shoulder width apart and your arms are fully extended. Lower your body until the elbows are 90° and then return to the starting position. The push up action is to be continuous with no rest, and you should aim to complete as many repetitions as possible. The total number of full body press ups are noted and recorded.

**FEMALE TEST:** Same as above except that your knees will be grounded in a bent leg position (modified press ups).

## ■ What should I score on the Press Up Test?

Below are two charts with nominative data for the PUT:-

### Male - Full body press up (lifting approximately 75% of your body weight)

AGE	EXCELLENT	GOOD	AVERAGE	BELOW AVERAGE	POOR
20 - 29	▶ 54	45 - 54	35 - 44	20 - 34	◀ 20
30 - 39	▶ 44	35 - 44	25 - 34	15 - 24	◀ 15
40 - 49	▶ 39	30 - 39	20 - 29	12 - 19	◀ 12
50 - 59	▶ 34	25 - 34	15 - 24	8 - 14	◀ 8
60 +	▶ 29	20 - 29	10 - 19	5 - 9	◀ 5

### Female - Modified body press up (lifting approximately 60% of your body weight)

AGE	EXCELLENT	GOOD	AVERAGE	BELOW AVERAGE	POOR
20 - 29	▶ 48	34 - 48	17 - 33	6 - 16	◀ 6
30 - 39	▶ 39	25 - 39	12 - 24	4 - 11	◀ 4
40 - 49	▶ 34	20 - 34	8 - 19	3 - 7	◀ 3
50 - 59	▶ 29	15 - 29	6 - 14	2 - 5	◀ 2
60 +	▶ 19	5 - 19	3 - 4	1 - 2	◀ 1



# ABDOMINAL CURL TEST

## ■ Why do the Abdominal Curl Test?

The Abdominal Curl Test (ACT) measures the condition and tone of the abdominal muscles. We use this test to evaluate your general core strength.

## ■ What is the procedure of the Abdominal Curl Test?

Lying on your back with crossed arms and bent knees, and the trainer applying gentle pressure on your feet, you complete as many abdominal curls as you can. These curls must keep in sync with a series of audio beeps that progressively becomes shorter. The length of time that you are able to perform these curls is then noted and recorded.

## ■ What should I score on the Abdominal Curl Test?

Below are two charts with nominative data for the ACT:-

### Male

STAGE	TIME min	RATING
1	0 - 1	Poor
2	1 - 2	Poor
3	3 - 4	Fair
4	4 - 5	Fair
5	5 - 6	Good
6	6 - 7	Good
7	7 - 8	Excellent
8	8 - complete test	Excellent

### Female

STAGE	TIME min	RATING
1	0 - 1	Poor
2	1 - 2	Fair
3	3 - 4	Good
4	4 - 5	Good
5	5 - 6	Good
6	6 - 7	Excellent
7	7 - 8	Excellent
8	8 - complete test	Excellent

# CHESTER STEP TEST

## ■ Why do the Chester Step Test?

The Chester Step Test (CST) is a sub maximal test which determines aerobic fitness and cardio-respiratory health.

## ■ What is the procedure of the Chester Step Test?

The CST is a multi-stage test, which requires you to step onto and off a low step at a rate set by a music beat. Every two minutes your heart rate and exertion level\* (RPE) are checked and recorded and the stepping rate is then increased slightly.

The test continues in this progressive manner until your heart rate reaches 80% maximum heart rate\*\* (HR) and/or you report a moderately vigorous level of exertion (RPE level 14). This is usually achieved over a period of six to eight minutes.

Your aerobic capacity and fitness rating can then be determined using a graphical database and interpreted by the fitness trainer administering your test.

## ■ What should I score on the Chester Step Test?

Below are two charts with nominative data for the CST:-

### Male age groups

AGE	EXCELLENT	GOOD	AVERAGE	BELOW AVERAGE	POOR
15 - 19	▶ 60	48 - 59	39 - 47	30 - 38	◀ 30
20 - 29	▶ 55	44 - 54	35 - 43	28 - 34	◀ 28
30 - 39	▶ 50	40 - 49	34 - 39	26 - 33	◀ 26
40 - 49	▶ 46	37 - 45	32 - 36	25 - 31	◀ 25
50 - 59	▶ 44	35 - 43	29 - 34	23 - 28	◀ 23
60 +	▶ 40	33 - 39	25 - 32	20 - 24	◀ 20

### Female age groups

AGE	EXCELLENT	GOOD	AVERAGE	BELOW AVERAGE	POOR
15 - 19	▶ 55	44 - 54	36 - 43	29 - 35	◀ 29
20 - 29	▶ 50	40 - 49	32 - 39	27 - 31	◀ 27
30 - 39	▶ 46	36 - 45	30 - 35	25 - 29	◀ 25
40 - 49	▶ 43	34 - 42	28 - 33	22 - 27	◀ 22
50 - 59	▶ 41	33 - 40	26 - 32	21 - 25	◀ 21
60 +	▶ 39	31 - 38	24 - 30	19 - 23	◀ 19

\* PLEASE REFER TO APPENDIX 1  
 \*\*PLEASE REFER TO APPENDIX 2

# MULTI STAGE FITNESS TEST

## ■ Why do the Multi Stage Fitness Test?

The Multi Stage Fitness Test (MSFT) is a maximal test which monitors aerobic fitness and can be used to estimate your maximum oxygen uptake\*\*\* (VO<sub>2</sub> max).

## ■ What is the procedure of the Multi Stage Fitness Test?

The MSFT requires you to run a series of shuttle runs between two lines exactly 20 metres apart, keeping in time with a series of audio signals. The timing begins very slowly but becomes progressively faster each minute, so that it becomes increasingly difficult to maintain the set pace.

When the running speed increases at the start of each minute, the test enters a new level. The test is stopped when you can no longer maintain the required running speed and your score\*\*\*\* is recorded as the final level and number of shuttles completed.

## ■ What should I score on the Multi Stage Fitness Test?

Below are two charts with nominative data for VO<sub>2</sub> max:

### Male - ml/kg/min

AGE	VERY POOR	POOR	AVERAGE	GOOD	EXCELLENT	SUPERIOR
13 - 19	◀ 35.0	35.0 - 38.3	38.4 - 45.1	45.2 - 50.9	51.0 - 55.9	▶ 55.9
20 - 29	◀ 33.0	33.0 - 36.4	36.5 - 42.4	42.5 - 46.4	46.5 - 52.4	▶ 52.4
30 - 39	◀ 31.5	31.5 - 35.4	35.5 - 40.9	41.0 - 44.9	45.0 - 49.4	▶ 49.4
40 - 49	◀ 30.2	30.2 - 33.5	33.6 - 38.9	39.0 - 43.7	43.8 - 48.0	▶ 48.0
50 - 59	◀ 26.1	26.1 - 30.9	31.0 - 35.7	35.8 - 40.9	41.0 - 45.3	▶ 45.3
60 +	◀ 20.5	20.5 - 26.0	26.1 - 32.2	32.3 - 36.4	36.5 - 44.2	▶ 44.2

### Female - ml/kg/min

AGE	VERY POOR	POOR	AVERAGE	GOOD	EXCELLENT	SUPERIOR
13 - 19	◀ 25.0	25.0 - 30.9	31.0 - 34.9	35.0 - 38.9	39.0 - 41.9	▶ 41.9
20 - 29	◀ 23.6	23.6 - 28.9	29.0 - 32.9	33.0 - 36.9	37.0 - 41.0	▶ 41.0
30 - 39	◀ 22.8	22.8 - 26.9	27.0 - 31.4	31.5 - 35.6	35.7 - 40.0	▶ 40.0
40 - 49	◀ 21.0	21.0 - 24.4	24.5 - 28.9	29.0 - 32.8	32.9 - 36.9	▶ 36.9
50 - 59	◀ 20.2	20.2 - 22.7	22.8 - 26.9	27.0 - 31.4	31.5 - 35.7	▶ 35.7
60 +	◀ 17.5	17.5 - 20.1	20.2 - 24.4	24.5 - 30.2	30.3 - 31.4	▶ 31.4

\*\* \*PLEASE REFER TO APPENDIX 3  
 \*\*\*\* \*PLEASE REFER TO APPENDIX 4



# A P P E N D I C E S

## ■ Appendix 1: BORG'S RATING OF PERCEIVED EXERTION (REP)

<b>EXERTION</b>	<b>RATING</b>
<b>EXHAUSTION</b>	<b>20</b>
<b>VERY, VERY HARD</b>	<b>19</b>
	<b>18</b>
<b>VERY HARD</b>	<b>17</b>
	<b>16</b>
<b>HARD</b>	<b>15</b>
	<b>14</b>
<b>MODERATELY HARD</b>	<b>13</b>
	<b>12</b>
<b>FAIRLY LIGHT</b>	<b>11</b>
	<b>10</b>
<b>VERY LIGHT</b>	<b>9</b>
	<b>8</b>
<b>VERY, VERY LIGHT</b>	<b>7</b>
	<b>6</b>

# A P P E N D I C E S

## ■ Appendix 2: MAXIMUM HEART RATE (MHR)

As exercise intensity increases, so does your heart rate. Your heart rate, which is conventionally measured in beats per minute (BPM), can therefore be used as an indicator of exercise intensity.

### How do I measure my maximum heart rate?

Your maximum heart rate does not vary much with your fitness (unlike your resting heart rate) and it reduces as you get older.

The best way to test your maximum heart rate is to do a running test which you can do on a track, in a park or on a treadmill. You should not do this without medical advice if you are over 50, if you are obese, or if you have any history of heart problems.

After warming up, run at an even pace for three minutes, as fast as you can. Jog for two minutes; then run again for three minutes as fast as you can. Your maximum heart rate is the maximum level reached during the second 3 minute run.

### How do I estimate my maximum heart rate from my age and gender?

The most common method to estimate your heart rate is to use the traditional calculation of 220 minus your age. However, this tends to overestimate the maximum heart rate in young adults and underestimates HR in seniors. It is quite accurate for people who are around forty years old.

A much more accurate formula is to multiply your age by 0.7 and then subtract this figure from 208. Below is the predicted maximum heart rates using this method:-

AGE	MHR	AGE	MHR	AGE	MHR	AGE	MHR
10	201	24	191	38	181	52	172
11	200	25	191	39	181	53	171
12	200	26	190	40	180	54	170
13	199	27	189	41	179	55	170
14	198	28	188	42	179	56	169
15	198	29	188	43	178	57	168
16	197	30	187	44	177	58	167
17	196	31	186	45	177	59	167
18	195	32	186	46	176	60	166
19	195	33	185	47	175	61	165
20	194	34	184	48	174	62	165
21	193	35	184	49	174	63	164
22	193	36	183	50	173	64	163
23	192	37	182	51	172	65	163



# A P P E N D I C E S

## ■ Appendix 3: MAXIMUM OXYGEN UPTAKE ( $VO_2$ max)

Your fitness can be measured by the volume of oxygen you consume while exercising at your maximum capacity.

$VO_2$  max is the maximum amount of oxygen in millilitres, you can use in one minute per kilogram of body weight. Those who are fit have higher  $VO_2$  max values and can exercise more intensely than those who are not as well conditioned.

Numerous studies show that you can increase your  $VO_2$  max by working out at an intensity that raises your heart rate to between 65 and 85% of its maximum for at least 20 minutes three to five times a week.

A mean value of  $VO_2$  max for male athletes is about 3.5 litres/minute and for female athletes it is about 2.7 litres/minute.

### **Improving your $VO_2$ max**

The following are sample workouts for improving oxygen uptake:

**1** Run at maximum speed for 5 minutes. Note the distance covered in that time. Let us assume that the distance achieved is 1900 metres. Rest for five minutes, and then run the distance (1900 metres) 20% slower, in other words in six minutes, with 30 seconds rest, repeated many times. This is equal to your 10 Km pace.

**2** Run at maximum speed for four minutes. Note the distance covered in that time. Rest for four minutes. In this case, we will assume you run a distance of 1500 metres. Now run the same distance 15% slower, in other words in 4 minutes 36 seconds, with 45 seconds rest, repeated several times. This approximates to a time between the athlete's 5 Km and 10 Km time.

**3** Run at maximum effort for three minute. Note the distance covered in that time. The distance covered is, say 1000 metres. Successive runs at that distance are taken 10% slower or at 3 minutes 18 seconds, with 60 seconds rest, repeated several times. This approximates to your 5 Km time.

**4** Run at maximum effort for five minutes. Note the distance covered in that time. The distance covered is 1900 metres. Rest five minutes. The distance is now covered 5% slower with one and a half minutes rest. This is approximately 3K pace for you, i.e., five minutes 15 seconds/1900 metres.

**5** Run at maximum effort for three minutes. The distance covered is 1100 metres. When recovered, the athlete then runs the same distance 5% slower, i.e., three minutes nine seconds/1100 metres, with one minute rest, repeated several times. This is at 3 Km pace.



# A P P E N D I C E S

## ■ Appendix 4: MULTI STAGE FITNESS TEST SCORE CHARTS

Level	Shuttle	VO2 Max	Level	Shuttle	VO2 Max
4	2	26.8	5	2	30.2
4	4	27.6	5	4	31.0
4	6	28.3	5	6	31.8
4	9	29.5	5	9	32.9

Level	Shuttle	VO2 Max	Level	Shuttle	VO2 Max
6	2	33.6	7	2	37.1
6	4	34.3	7	4	37.8
6	6	35.0	7	6	38.5
6	8	35.7	7	8	39.2
6	10	36.4	7	10	39.9

Level	Shuttle	VO2 Max	Level	Shuttle	VO2 Max
8	2	40.5	9	2	43.9
8	4	41.1	9	4	44.5
8	6	41.8	9	6	45.2
8	8	42.4	9	8	45.8
8	11	43.3	9	11	46.8

Level	Shuttle	VO2 Max	Level	Shuttle	VO2 Max
10	2	47.4	11	2	50.8
10	4	48.0	11	4	51.4
10	6	48.7	11	6	51.9
10	8	49.3	11	8	52.5
10	11	50.2	11	10	53.1
			11	12	53.7



# A P P E N D I C E S

## Appendix 4 continued

Level	Shuttle	VO2 Max	Level	Shuttle	VO2 Max
12	2	54.3	13	2	57.6
12	4	54.8	13	4	58.2
12	6	55.4	13	6	58.7
12	8	56.0	13	8	59.3
12	10	56.5	13	10	59.8
12	12	57.1	13	13	60.6

Level	Shuttle	VO2 Max	Level	Shuttle	VO2 Max
14	2	61.1	15	2	64.6
14	4	61.7	15	4	65.1
14	6	62.2	15	6	65.6
14	8	62.7	15	8	66.2
14	10	63.2	15	10	66.7
14	13	64.0	15	13	67.5

Level	Shuttle	VO2 Max	Level	Shuttle	VO2 Max
16	2	68.0	17	2	71.4
16	4	68.5	17	4	71.9
16	6	69.0	17	6	72.4
16	8	69.5	17	8	72.9
16	10	69.9	17	10	73.4
16	12	70.5	17	12	73.9
16	14	70.9	17	14	74.4



# A P P E N D I C E S

## Appendix 4 continued

Level	Shuttle	VO2 Max	Level	Shuttle	VO2 Max
18	2	74.8	19	2	78.3
18	4	75.3	19	4	78.8
18	6	75.8	19	6	79.2
18	8	76.2	19	8	79.7
18	10	76.7	19	10	80.2
18	12	77.2	19	12	80.6
18	15	77.9	19	15	81.3

Level	Shuttle	VO2 Max	Level	Shuttle	VO2 Max
20	2	81.8	21	2	85.2
20	4	82.2	21	4	85.6
20	6	82.6	21	6	86.1
20	8	83.0	21	8	86.5
20	10	83.5	21	10	86.9
20	12	83.9	21	12	87.4
20	14	84.3	21	14	87.8
20	16	84.8	21	16	88.2

# OTHER TESTS AVAILABLE

## ■ Waist to hip ratio

Measuring your waist-to-hip ratio is a good way to see if you're obese and at risk of having a heart attack. Research shows that people with "apple-shaped" bodies (i.e. with more fat around the waist) face more health risks than those with "pear-shaped" bodies who carry more weight around the hips.

To determine if you have a healthy waist-to-hip ratio, we use a measuring tape and record the circumference of your hips at the widest part of your buttocks. We then measure your waist at the smallest circumference of your natural waist, which is usually just above the belly button. To calculate the ratio, your waist measurement is divided by your hip measurement.

WAIST TO HIP RATIO	Female				
	Age groups				
	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69
Low health risk	◀ 0.71	◀ 0.73	◀ 0.74	◀ 0.75	◀ 0.77
Moderate health risk	0.71 - 0.78	0.73 - 0.79	0.74 - 0.80	0.75 - 0.81	0.77 - 0.83
High health risk	0.78 - 0.81	0.79 - 0.84	0.80 - 0.86	0.81 - 0.88	0.83 - 0.90
Very high health risk	▶ 0.81	▶ 0.84	▶ 0.86	▶ 0.88	▶ 0.90

WAIST TO HIP RATIO	Male				
	Age groups				
	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69
Low health risk	◀ 0.82	◀ 0.83	◀ 0.86	◀ 0.87	◀ 0.88
Moderate health risk	0.82 - 0.87	0.83 - 0.91	0.86 - 0.92	0.87 - 0.94	0.88 - 0.95
High health risk	0.87 - 0.94	0.91 - 0.95	0.92 - 1.00	0.94 - 1.01	0.95 - 1.02
Very high health risk	▶ 0.94	▶ 0.95	▶ 1.00	▶ 1.01	▶ 1.02



## OTHER TESTS AVAILABLE

### ■ Body Mass Index

The Body Mass Index (BMI) is a tool that we can use to indicate how healthy your weight is.

To calculate your BMI we simply need to take your weight in kilograms (kg) and divide it by your height in metres (m). This result is then divided again by your height in metres. **For example**, if you weigh 70kg and you're 1.75m tall, your BMI would be 22.9 ( $70/1.75 = 40$  and  $40/1.75 = 22.9$ )

The BMI weight ranges, as set out by the World Health Organisation (WHO), are as follows:-

- ▶ If your BMI is less than **18.4**, you're underweight for your height
- ▶ If your BMI is between **18.5 and 24.9**, you're an ideal weight for your height
- ▶ If your BMI is between **25 and 29.9**, you're over the ideal weight for your height
- ▶ If your BMI is between **30 and 39.9**, you're obese
- ▶ If your BMI is over **40**, you're very obese

If you have a BMI of over 25, you need to think about losing weight because you have an increased risk of developing serious health problems, such as heart disease, diabetes, and several forms of cancer.

If your BMI is over 30, you need to make some immediate changes to your lifestyle in order to lose weight.

#### Notes:

- This is general advice for adults only - it does not apply to children.
- When we work out your BMI, remember to take into account your body frame and your build - your BMI may not be accurate. For example, your BMI may not be accurate if you're a weight-trainer, an athlete, or if you're pregnant, or breastfeeding.
- Your BMI may not be accurate if you're over the age of 60. This is because your bones may begin to weigh less as you get older.

## OTHER TESTS AVAILABLE

### ■ Skinfold measurements

Skinfold measurement is another method of determining the amount of fat being stored by your body.

We use skinfold calipers to pinch test four sites—bicep, tricep, subscapular (upper back) and suprailiac (waist). The thicknesses of the skin at these points are then recorded in millimeters (mm).

#### **Please note**

This method of testing body composition is invasive and requires access to your upper back and waist.

### ■ Bespoke fitness tests

In addition to the assessments outlined in this guide, we can also devise bespoke fitness tests should you want to measure and monitor any specific goals that you may have.

