

PHYSIOLOGY MOT CERTIFICATE



OXSOCRATES

IMPORTANT NOTICE

This certificate has been issued to help you learn about your physiology and cannot be used for diagnosis or any other medical purpose. It is a snapshot of your physiology at a specific time in a specific place. Many of the measures noted below vary considerably over time and by environment and may not, therefore, be typical for you. Medical diagnosis requires measurement protocols that we could not use for your certificate.

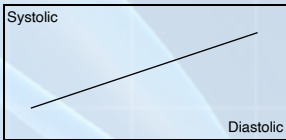
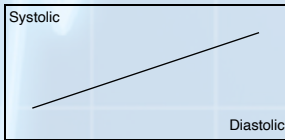
PARTICIPATION DETAILS

Test Venue	<input type="text"/>		
Test Date	<input type="text"/>	Age (years)	<input type="text"/>
First Name	<input type="text"/>	Last Name	<input type="text"/>

ANTHROPOMETRY

Weight (kg)	<input type="text"/>		
Height (cm)	<input type="text"/>	Height Centile (%)	<input type="text"/>
Body Mass Index (BMI)	<input type="text"/>	BMI Centile (%)	<input type="text"/>
Body Fat (%)	<input type="text"/>	Body Fat Upper Limit (%)	<input type="text"/>

CARDIOVASCULAR

Blood Pressure (mmHg)		Blood Pressure Centile (%)	
Heart Rate (beats / minute)	<input type="text"/>		

MUSCLE STRENGTH

R Hand Grip Strength (kg)	<input type="text"/>	L Hand Grip Strength (kg)	<input type="text"/>
Dominant Hand	<input type="text"/>		

Please see overleaf for a brief explanation of your measurements ...



A Brief Guide To Understanding Your Physiology MOT Measurements

What is a centile?

For some of your measurements, we have also calculated a “centile”. This is done so that you can see how you compare to other people who have the same characteristics as you, such as height, age or biological sex. For example, you might be female and have a height centile of 75%. This would mean that about 25% of females your age in the general population would be taller than you and the rest would be the same height or shorter than you.

Anthropometry

Body mass index (BMI) is a measure of your body weight, adjusted for your height. It is one way to assess whether somebody has a normal weight or not. It is not surprising that people get heavier when they grow bigger and people are not all the same height, so the BMI allows people of different heights to be compared with each other.

BMI is strongly influenced by biological sex and, when we are still growing, by age. For this reason, we calculate a BMI centile for young people, to make it easier to compare them to others with the same age and biological sex. Children with a BMI centile between 85% and 94% may have overweight and those with a BMI centile of 95% or above may have obesity. However, BMI is an imperfect measure of the amount of fat that the body stores and it can be inaccurate, so this indicator may not be sufficient on its own to determine a person’s weight status reliably.

Another way to determine whether you have normal body weight is to measure the percentage of fat stored in your body, using a technique called Bioimpedance. We did that using specialised scales and calculated your personal body fat percentage threshold, based on your age and biological sex, above which you would be considered to have more than normal amounts of fat stored in your body.

Cardiovascular

Your heart is a pump that sends blood around your body through elastic (stretchy) pipes called arteries. Your blood pressure is a measure of how forcefully the blood is pushing out on the walls of those arteries as it travels through them. It is typically written as two numbers. The larger number (systolic) is a measure of the maximum pressure in the circulation that occurs when the heart is ejecting blood into the arteries. The smaller number (diastolic) is a measure of what the pressure in the arteries settles down to in between heart beats. Blood pressure is typically measured in units of millimetres of mercury and expressed as “systolic” / “diastolic”. For example, a blood pressure might be 120/80 mmHg.

We have calculated blood pressure centiles for these two measures (systolic and diastolic), based on your age, height and biological sex. Typically, a child or adolescent should not have a resting blood pressure routinely exceeding 120/80 mmHg or a resting blood pressure centile routinely higher than 90%, but remember blood pressure can temporarily rise much higher than that in healthy people when they are stressed or have exercised recently. People who have high blood pressure for a long time are at risk of developing health problems, such as cardiovascular disease, in later life, so it is important to understand blood pressure and to have yours checked regularly by healthcare professionals.

Most adolescents aged 12-18 years will have a resting heart rate between 60 and 100 beats per minute (bpm). The fitter you are, the lower your resting heart rate is likely to be. For example, even junior athletes may have a resting heart rate of 40 to 60 bpm, or lower (Usain Bolt, the Jamaican sprinter widely considered to be the best of all time, had a resting heart rate of 33 bpm at his peak fitness!)

Muscle Strength

As we age, our muscle function (strength and power) declines. Grip strength is one way to assess this. People with higher grip strength tend to remain healthier for longer as they age. This is not just a matter of having fewer falls when they get older, but also having a lower risk of problems such as heart disease, perhaps reflecting the benefits of exercise and physical activity for long-term health. It tends to be higher in the dominant hand, particularly for right-handers.

Grip strength typically increases with age as children grow and develop. Here are some general guidelines for grip strength in children, but please keep in mind that these are rough estimates and there is significant individual variation.

Pre-schoolers (3-5 years old): Grip strength can vary greatly at this age. On average, grip strength might range from around 2.3 to 4.5 kilograms (kg) for both boys and girls.

School-Aged Children (6-12 years old): Grip strength continues to develop during these years. By the age of 6 to 7, average grip strength might be around 4.5 to 6.8 kg. By age 12, it could range from 9 to 13.6 kg or more.

Adolescents (13-18 years old): Grip strength continues to increase during adolescence. By the age of 18, grip strength might be similar to that of adults. On average, for boys, grip strength might be around 45 to 64 kg, while for girls, it could be around 32 to 45 kg.