

A person's **heart rate**, also known as their **pulse**, refers to how many times their heart beats per minute. Our heart rates vary tremendously, depending on the demands we make on our bodies - a person who is sleeping will have a much lower heart rate compared to when he/she is doing exercise.

There is a technical difference between heart rate and pulse, although they both should come up with the same number:

- **Heart rate** - how many times the heart beats in a unit of time, nearly always per minute. The number of contractions of the lower chambers of the heart (the ventricles).

- **Pulse (pulse rate)** - as the blood gushes through the artery from a heart beat, it creates a bulge in the artery. The rate at which the artery bulges can be measured by touching it with your fingers, as on the wrist or neck.

According to Medilexicon's [medical dictionary](#) :

Heart beat is "A complete cardiac cycle, including spread of the electrical impulse and the consequent mechanical contraction."

Pulse is "Rhythmic dilation of an artery, produced by the increased volume of blood thrown into the vessel by the contraction of the heart. A pulse may also at times occur in a vein or a vascular organ, such as the liver."

Doctors and other healthcare professionals measure patients' heart rates when monitoring their health, gauging the effectiveness of certain treatments, or making a diagnosis.

Athletes and sports people usually measure their heart beats so that they can gain maximum efficiency from their training regimes.

What is a normal resting heart rate (pulse rate)?

For a human aged 18 or more years, a normal resting heart rate can be anything between 60 and 100 beats per minute. Usually the healthier or fitter you are, the lower your rate. A competitive athlete may have a resting heart rate as low as 40 beats per minute.

Champion cyclist, Lance Armstrong has had a resting heart rate of about 32 beats per minute (bpm). Fellow cyclist Miguel Indurain once had a resting heart rate of 29 bpm.

TimesMedical: What Is Heart Rate? What Is A Healthy Heart Rate?

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According to the National Health Service, UK, the following are ideal normal pulse rates at rest, in bpm (beats per minute):

- Newborn baby - 120 to 160
- Baby aged from 1 to 12 months - 80 to 140
- Baby/toddler aged from 1 to 2 years - 80 to 130
- Toddler/young child aged 2 to 6 years - 75 to 120
- Child aged 7 to 12 years - 75 to 110
- Adult aged 18+ years - 60 to 100
- Adult athlete - 40 to 60

(There is a considerable amount of overlap from 14 to 17 years of age, with younger and older ages, depending on which health authorities you use for data)

Checking your own heart rate:

- The wrist (the radial artery) - place the palm of your hand facing upward. Place two fingers on the thumb side of your wrist gently, you will sense your pulse beating there. Either count them for up to one minute, or thirty seconds and then multiply by two. Counting for 15 seconds and then multiplying by four is less accurate. It is also possible to test the pulse by touching the other side of the wrist, where the ulnar artery is.
- The neck (the carotid artery) - place the index and third fingers on the neck, next to your windpipe. When you feel your pulse, either count for the whole sixty seconds, or do it in a 30 or 15 second spell and multiply by two or four.
- The brachial artery - under the biceps or inside the elbow
- Abdominal aorta - over the abdomen
- Apex of the heart - by placing your hand or fingers on the chest
- Basilar artery - at the side of the head, close to the ear
- Dorsalis pedis - the middle of dorsum of the foot
- Superficial temporal artery - the temple
- The facial artery - the lateral edge of the mandible
- The femoral artery - in the groin
- The posterior tibial artery - behind the medial malleolus of the feet

Testing the pulse rate at the radial artery

An **electrocardiograph**, also known as an **ECG** or **EKG** is a more accurate way of checking a patient's heartbeat. ECGs are commonly used in critical care medicine, and many other fields of medicine.

Sports shops sell heart-rate watches that communicate with a device you strap around your chest. The readings on your watch tell you what your heart rate is - some can even work out heart-rate averages over set periods, such as the whole of an exercise session.

Bear in mind that your heart rate can be influenced by several factors, such as:

- Your level of physical activity at the time
 - How fit you are
 - The ambient temperature
 - The position of your body - standing, sitting, lying down, etc.
 - Your mental and/or emotional state - excitement, anger, fear, [anxiety](#) , and other factors can raise your heart beat
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- The size of your body
 - Some medications

Bradycardia - a medical term that refers to a heart beat that is too slow, such as below 60 beats per minute (for a non-athlete)

Tachycardia - a medical term that refers to a resting heart beat of more than 100 beats per minute, an excessively fast heart beat for an adult

If you think you have bradycardia or [tachycardia](#) , see your doctor, especially if you are also short of breath, feel dizzy, and/or have fainting episodes.

What is your maximum heart rate?

This is the maximum number of times your heart can beat per minute. It is a useful measure for sports people, so they can gauge their training intensities.

There are two ways you can find out what your maximum heart rate is:

- **Have it clinically tested** - usually by a cardiologist or an exercise physiologist. People over 35 years of age who are overweight or have not done exercise for a long time are advised to have their maximum heart rates clinically tested by a trained health care professional. The health care professional may use a treadmill and a electrocardiograph.
- **Predicted maximum heart rate** - this involves using a mathematical formula, called the *a*

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ge-adjusted formula

For adult males: 220 minus your age. For a 25 year-old man it would be 195 bpm (220 minus 25)

For adult females: 226 minus your age. For a 25 year-old woman it would be 201 bpm (226 minus 25)

It is important to remember that this formula gives a rough figure, a ballpark figure. Ideally, you should have your maximum heart beat measured clinically.

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Max Heart Rate *posted by **Greg S.** on 8 Oct 2011 at 6:48 pm* In my experience, as an athlete, it's best to have your max heart rate tested by a medical professional or perform a max effort while wearing a heart rate monitor. Also, there are many formula's for predicting max heart rate. They can be found by searching with your favorite search engine. |

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