

Slow Heartbeat

Bradycardia is a slow heartbeat, less than 60 beats per minute, which can be normal.



Each day, a normal heart beats about 100,000 times, at a rate anywhere from 60 to 100 times a minute. Changes in heart rate caused by activity, diet, medicines, and age are normal and common.

Abnormally slow heart rates are usually those below 60 beats a minute and can be either harmless or life threatening. At certain times, though, such as during sleep, heart rate will be slow and still be normal. What counts as an abnor-

mally slow heartbeat for one person may not be the same for another. For example, a young, strong, healthy athlete may have a resting heart rate of 30-40 beats per minute, but may easily increase his heart rate to 180 beats per minute with exercise. This is normal. Another person may have a heart rate of 30-40 beats per minute while climbing the steps, but he feels weak and tired. This is abnormal.

The heartbeat is controlled by an electrical system that signals the heart muscle to contract, or “squeeze,” pumping blood to the rest of the body. Bradycardia happens when the system slows or blocks these signals due to problems such as:

■ **Sinus Node Dysfunction:** An abnormally slow natural “pacemaker” in the heart. The heart has a group of cells in the upper chamber (right atrium) called the sinus node that triggers an electrical signal, or impulse, to travel through the atrium to the lower chambers (left and right ventricles) causing them to contract, making a heartbeat about once every second at rest. The sinus node can increase its rate of “firing,” depending on the body’s needs. This natural pacemaker can wear out with age and fire too slowly or sometimes fail to fire entirely, resulting in slow heart rates (sinus bradycardia).

■ **Heart Block:** “Fraying” or breaking of the “wires” that carry the electrical signals from the atria to

the ventricles. The ventricles will only contract to cause a heartbeat when they receive these electrical impulses. In this case, the natural pacemaker is firing normally, but the signal to squeeze does not reach the ventricles. There are three kinds of heart block: first-degree, second-degree, and third-degree. (See Dictionary below)

Bradycardia can cause:

- Weakness
- Difficulty walking, climbing stairs, or exercising
- Tiredness
- Shortness of breath
- Lightheadedness
- Passing out (syncope)

Dictionary of Slow Heart Rhythms:

Sinus node dysfunction happens when the heart's natural "pacemaker" is too slow or sometimes fails to fire, causing an abnormally slow heartbeat or pauses in the heart rate.

Heart Block occurs when the body's natural "pacemaker," or sinus node, is firing as it should, but because of problems with the heart's "wires," the electrical impulses are not carried normally to the lower chambers of the heart to signal it to contract.

First Degree Heart Block – Each impulse from the upper chambers of the heart reaches the lower chambers, but more slowly than normal. The heart rate is normal and this does not usually cause symptoms.

Second Degree Heart Block – (Sometimes called Mobitz Type I [Wenckebach] or Mobitz Type II Heart Block). Some impulses, but not all, are carried from the upper chambers of the heart to the lower chambers. This may cause some symptoms.

Third Degree Heart Block – (Also called Complete Heart Block) The impulses from the upper chambers are "blocked," and none get through to the lower chambers. A slower, less reliable natural pacemaker in the lower chambers temporarily takes over to keep the heart beating, but this can cause a very slow heart rate, fainting, and other symptoms.

Tachy-brady syndrome - It is possible for the same person to have a slow heartbeat when the heart is in normal rhythm and periods of fast, irregular heartbeats (supraventricular tachycardias) at other times. Sometimes medicines needed to control the fast heart

rate can worsen the already slow heart rate. People with this syndrome often complain of palpitations, lightheadedness, and fainting (syncope). This heart rhythm problem may also cause shortness of breath or chest pain. Treating tachy-brady syndrome usually requires having a pacemaker put in to prevent the heart from beating too slowly and taking medicines to stop the heart from beating too fast.

Both heart medicines and medicines used to treat other illnesses can cause bradycardia. In these cases, the risks and benefits of continuing those medicines must be thought about carefully by the doctor and the patient.

Usually, unless the causes are temporary or there are medicines that can be changed; a pacemaker is the treatment for bradycardia that causes symptoms.