

# Vital Signs

## What are vital signs?

Vital signs are measurements of body temperature, pulse, respiration rate (breathing rate), and blood pressure. Vital signs give information about your general health. They offer clues to medical conditions. When you are sick, they are used to help check your return to good health.

## Temperature

Body temperature is measured with a thermometer. Common places to measure temperature are the:

- Mouth (oral temperature)
- Armpit (axillary temperature)
- Anus (rectal temperature)
- Ear (tympanic temperature).

Normal oral temperatures range from 97°F (36°C) to 99°F (37°C) or slightly higher. Body temperature is normally lower in the morning than it is later in the day. Temperature can vary with other factors, such as stress, dehydration (not enough fluid in the body), activity, drinking hot or cold fluids, sitting in a cold room, thyroid problems, menstrual cycle, and infections. It can also vary with where it is measured and the accuracy and type of thermometer used.

Older adults cannot control their temperature as well as younger adults. For example, in warm environments, your body loses heat through perspiration. This keeps body temperature normal. A hot environment can cause a dangerous increase in body temperature in older adults. On the other hand, an older adult may be very ill without having a fever.

In cold environments, the body controls loss of heat by limiting blood flow to the arms and legs. This process does not work as well in older adults. Older adults need to be careful about spending a lot of time in cold places.

## Pulse

Your pulse rate is the number of times your heart beats in a minute. The pulse is usually easiest to feel at the wrist (radial pulse) or at the neck (carotid pulse). A pulse can also be felt in the temple area of the face, at the bend of the arms, in the groin, behind the knees, inside the ankles, and on top of the feet.

A resting adult pulse should be between 60 and 100 beats per minute. People who are very physically fit may have a normal pulse lower than 60.

Pulse rates can increase with infections, anxiety, stress, surprise, caffeine, exercise, pain, thyroid disorders, some heart conditions, anemia, shock, and other conditions. Some medicines (such as beta blockers and digoxin) can cause a slowed pulse. If you take these medicines, ask your healthcare provider if you

should check your pulse every day and what changes in your pulse rate you should let your provider know about.

Your heartbeat should be regular, without any missing beats or closely spaced beats. If you have lost a lot of blood or are going into shock, you will have a rapid and weak pulse that is hard to feel. Hearts that are working very hard may produce an unusually strong pulse beat.

## **Respiration**

To check your respiration rate, count the number of times you breathe in a minute. Your rate of breathing can vary widely during the day. Breathing is usually a bit slower during sleep. The best time to check your respiration rate is when you are resting.

The normal adult rate is 12 to 20 breaths per minute. Many conditions can quickly change your breathing rate, such as exercise, anxiety, laughter, spasms of coughing, and anger. Pneumonia, surgery, anesthesia, and narcotics can also change your rate of breathing.

Breathing that is unusually slow or fast can be a sign of a serious problem.

## **Blood Pressure**

Blood pressure is a measurement of the force of blood on the walls of your arteries. The arteries are the blood vessels that carry blood from the heart to the rest of the body. The pressure is measured in millimeters of mercury. Normal blood pressure can be as high as 120/80 ("120 over 80"). The upper number (120) is the pressure when the heart pushes blood out to the rest of the body (systolic pressure). The bottom number (80) is the pressure when the heart rests between beats (diastolic pressure).

- Healthy blood pressure is less than 120/80.
- Pre-high blood pressure is from 120/80 to 139/89.
- Stage I high blood pressure ranges from 140/90 to 159/99.
- Stage II high blood pressure is over 160/100.

Blood pressure can rise and fall with exercise, rest, or emotions.

High blood pressure is a very common problem. The longer you have high blood pressure and the higher it is, the more likely it is you will develop problems such as atherosclerosis (hardening of the arteries), heart failure, or a stroke. Low blood pressure is uncommon. Talk with your healthcare provider about what your blood pressure is and what it should be.

## **Should I check my own vital signs?**

Checking your vital signs can alert you to health problems. Here are some examples of things you can do:

- Buy a good quality, digital thermometer. That way, when you are sick, you can get accurate information about whether you have a fever.

- Check your pulse if you feel ill, have a fever, feel your heart racing, or take medicines that affect the speed of your heart. Use your index and middle fingers. If you don't know how to check your pulse, ask your healthcare provider to teach you.
- One high blood pressure reading is usually not as important as trends in the blood pressure readings. Keep track every time your blood pressure is taken. Note the date, time, BP reading, where it was taken (at home, the drugstore, the clinic), and how it was taken. Talk to your healthcare provider about how to lower your blood pressure if it keeps being too high.
- You usually do not need to check your breathing rate unless your healthcare provider recommends that you do so.

Developed by RelayHealth.

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