

Measurement of Pulse Rate

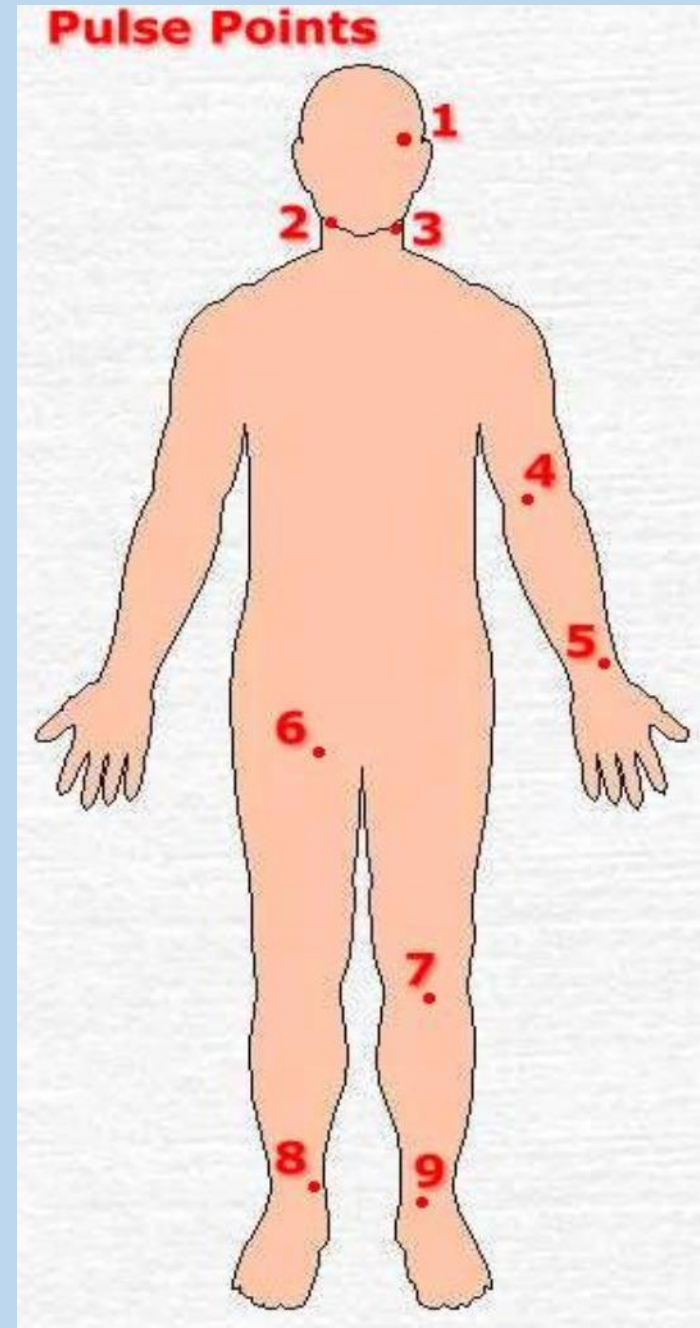


Definition: Checking presence, rate, rhythm and volume of throbbing of artery.

- Pulse is the expansion and contraction of an artery (blood vessel).
- Pulse rate indicates how fast the heart is beating.
- Pulse rate may be measured at several body sites.
- Radial (wrist) pulse is most common site.

Pulse points

- 1.Temporal
- 2.External maxillary (facial)
- 3.Carotid
- 4.Brachial
- 5.Radial
- 6.Femoral
- 7.Popliteal
- 8.Posterior tibial
- 9.Dorsal pedis



Rate of Pulse – number of beats per minute.

- a. Rate varies with individuals – depends on age, sex, body size and exercise.
- b. Usually pulse rate goes up as temperature increases.
- c. Normal adult resting rate is 60-80 beats per minute.
 - Pulse rates of the elderly are affected by disease conditions and some medications.

What else can affect the heart rate?

- **Caffeine & alcohol** – increases the strength and frequency of the heartbeat therefore increasing the rate
- **Exercise** increases the heart rate, but someone who exercises regularly may have a low resting rate.
- **Disease** affect the heart rate. Thyroid disease can either make the rate faster or slower depending type of disease.
- **Drugs** (medical & recreational) e.g. digoxin & beta blockers slow the HR. Recreational drugs tend to increase HR.
- **Girls** ages 12 and older and women, in general, tend to have faster heart rates than do boys and men.
- **Athletes**, such as runners, may have heart rates in the 40's and experience no problems.



Pulse characteristic

- The normal pulse for healthy adults ranges from 60 to 100 beats per minute.
- Under 60 bpm is bradycardia, over 100 bpm is tachycardia

Normal pulse rates at rest, in beats per minute:

newborn (0–3 months old)	infants (3 – 6 months)	infants (6 – 12 months)	children (1 – 10 years)	children over 10 years & adults, including seniors	well-trained adult athletes
100-150	90–120	80-120	70–130	60–100	40–60

Pulse characteristic

Pulse rhythm – regularity

- normal pulse – smooth, equal time between beats, equal pressure
- irregular – time between beats is not equal
- intermittent – period of some normal beats followed by irregular or skipped beats.

Measuring a Radial Pulse

Purpose:

- To determine number of heart beats occurring per minute(rate)
- To gather information about heart rhythm and pattern of beats
- To evaluate strength of pulse
- To assess heart's ability to deliver blood to distant areas of the blood viz. fingers and lower extremities
- To assess response of heart to cardiac medications, activity, blood volume and gas exchange
- To assess vascular status of limbs

Measuring a Radial Pulse Procedure:

- Wash your hands.
- Prepare all equipment required on tray - glows (if necessary), stopwatch
- Patient should be at rest.

Measuring a Radial Pulse

Procedure:

- Explain the purpose of the procedure to the patient, ask about his agreement :
- *Now I would like to check your pulse. The pulse is an important vital sign, in dependence of it I will prescribe you investigations and treatment, do you agree?*
- *Acum eu Vă voi examina pulsul Dvoastră. Puls este un parametru important al stării de sanatate, în dependența de caracteristicile pulsului eu voi prescri investigațiile necesare și tratament. Sunteți de acord?*

Measuring a Radial Pulse Procedure:

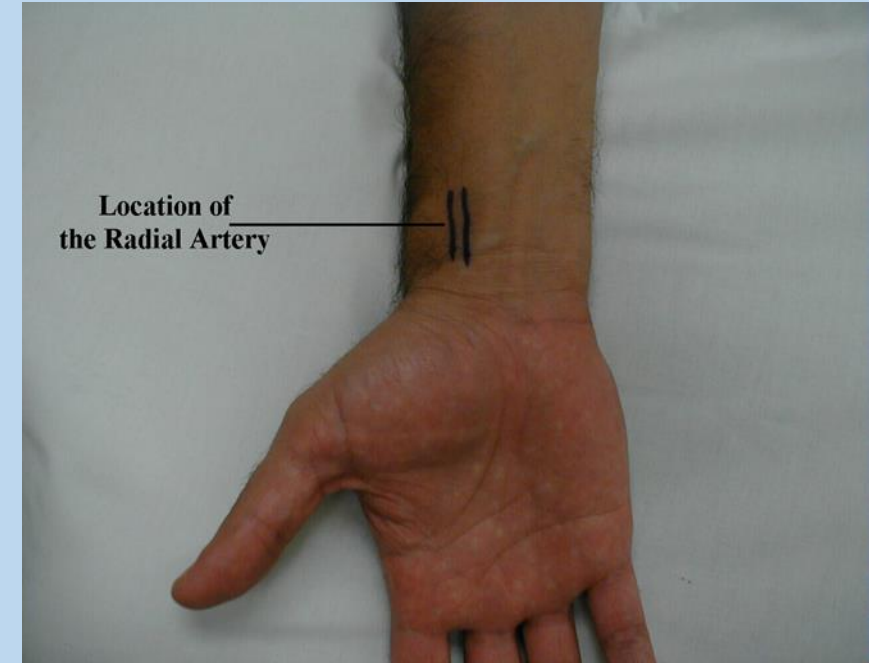
- ▶ After that, you should explain what do you want to do: *Please, relax, don't worry, this procedure is safe and not complicated, I will check your pulse on radial artery, don't move and speak during the procedure, it will take at about 1 minute. Please, place your arm on a table.*

- ▶ *Vă rog, nu rețrațiți, relaxați-vă, procedura dată este inofensivă, eu Vă voi examina pulsul pe artera radială, nu Va mișcați și nu vorbiți în timpul procedurii. Durata este de 1 minută. Plasați, Va rog, mîna pe masă.*



Main steps:

- Use tips of 2nd, 3rd and 4th fingers; never use thumb because you may feel your own pulse in thumb.
- Place the tips of your fingers just proximal to the patients wrist on the thumb side, orienting them over the length of the vessel (the radial pulse is typically on the radial side of the palmar aspect of the wrist, about two centimeters proximal to the thenar eminence).



Main steps:

- Press gently, compressing blood vessel between your fingers and patient's radial (wrist) bone.
- Note pulse rate and rhythm.
- Use a watch or clock with a second hand or digital second display.



Main steps:

- Count the pulse beats for a full minute.
- Counting a full minute permits a more accurate reading and allows assessment of pulse strength and rhythm.
- If pulse is regular, count for 30 seconds, double and record number



Main steps:

- Explain the result to the patient :

Your pulse rate is...and it is regular, thank You

Frecvența pulsului Dvoastră este ...și este regular, Va mulțumesc

- Dispose of the equipment properly.
- Wash your hands.