

Vital signs

العلامات الحيوية

❖ **Vital signs:** are objective guideposts that provide data to determine health status of person.

1. **Body temperature:** is the balance of heat produced and heat lost.

✓ The normal range of the body temperature is between 36.1 - 37.5 C° (96.9 - 99.5 F°).

❖ Types of thermometer

- Mercury thermometer
- Digital thermometer
- Disposable thermometer
- Electronic thermometer

❖ Sites for Assessing Body temperature

1. Oral method (3-5 min.)
2. Axillary method (5-10 min.)
3. Rectal method (2-3 min.)

❖ Factors affecting body temperature:

- ✓ Age.
- ✓ Hormones.
- ✓ Stress.
- ✓ Environmental temperature.
- ✓ Exercise.

❖ Alterations in body temperature

- A. Hyperthermia
- B. Hypothermia

A. **Hyperthermia (pyrexia):** A body temperature above the normal range.

❖ The signs and symptoms of increase body temperature (fever):

- ✓ Loss of appetite
- ✓ Headache
- ✓ Hot
- ✓ Flushed face
- ✓ Decrease in urine out put
- ✓ Thirst

❖ Nursing Interventions for Client's with fever:

1. Monitor vital signs.
2. Assess skin color and temperature.
3. Remove excess blanket.
4. Measure fluid intake and output.
5. Provide adequate nutrition and fluid
6. Reduce physical activity to limit heat production.
7. Administer antipyretic as doctor order

❖ Temperature scales

- ✓ $C^{\circ} = (F - 32) \times 5/9$
- ✓ $F^{\circ} = (C \times 9/5) + 32$

2. **Pulse:** is a wave of blood created by contraction of the left ventricle of the heart.

❖ **Pulse Rate:** The normal pulse rate for healthy adults ranges from 60 to 100 beats per minute.

❖ Factors affecting pulse:

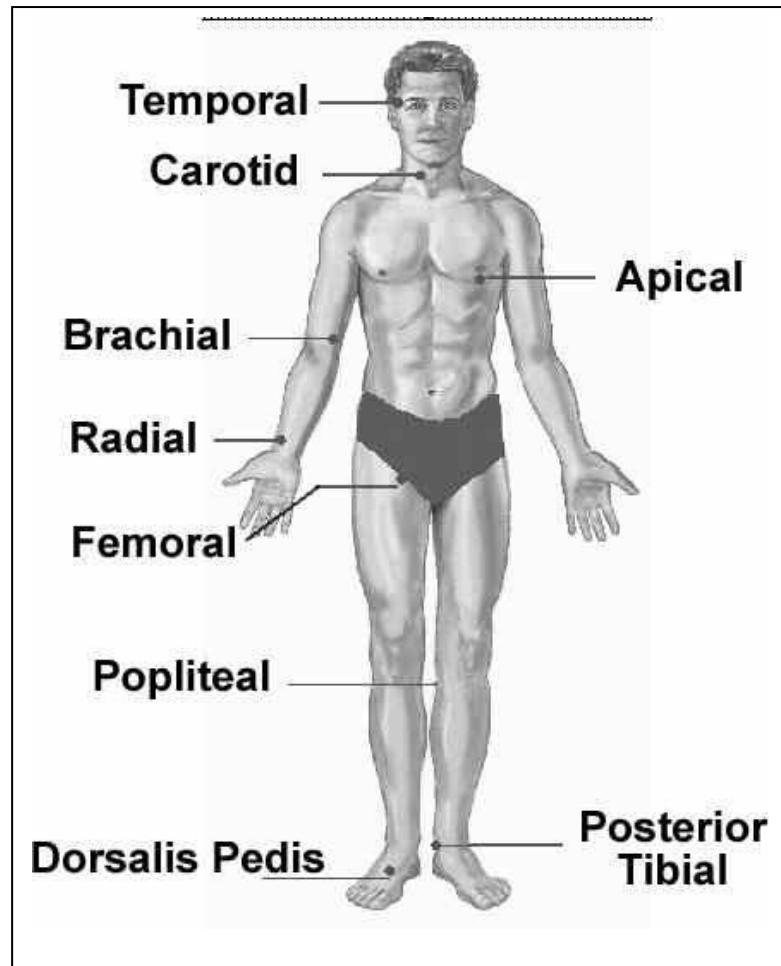
- ✓ Age.
- ✓ Gender,
- ✓ Exercise
- ✓ Medications
- ✓ Position change.
- ✓ Bleeding.
- ✓ Fever

❖ Characteristics of the pulse:

1. **Rate** 60-100, average 80 bpm (**Tachycardia** \uparrow 100 bpm, **Bradycardia** \downarrow 60 bpm)
2. **Rhythm** – the pattern of the beats (regular or irregular)
3. **Strength**, the volume of blood pushed against the wall of an artery during the ventricular contraction

❖ Pulse Sites

- A. Temporal
- B. Carotid
- C. Apical
- D. Brachial
- E. Radial
- F. Femoral
- G. Popliteal
- H. Posterior tibial
- I. Dorsalis pedis



3. Respirations rate: is the number of breaths a person takes per minute, Normal rate 12-20 breaths/min. (inhale/exhale-1cycle).

↳ Inspiration – inhalation (breathing in)

↳ Expiration – exhalation (breathing out)

❖ **Inhalation:** the diaphragm contracts the ribs move upward and outward, and the sternum moves outward.

❖ **Exhalation:** The diaphragm relaxes, the ribs move downward and inward, and the sternum moves inward.

🔧 Terminology

✓ **Eupnea** (normal breathing)

✓ **Tachypnea** (increase respiration rate)

✓ **Bradypnea** (decrease respiration rate)

- ✓ **Apnea** (Absence of breathing)
- ✓ **Dyspnea** (difficult breathing).
- ✓ **Orthopnea** (ability to breath only in standing position).

4. **Blood Pressure**: is the force of the blood against arterial walls

❖ **Two pressure measurements**

A. **Systolic pressure**: measure of the pressure when left ventricle contracts,
normal range 100-140 mm / Hg

B. **Diastolic pressure**: Measure of pressure when heart relaxes, normal range
100-140 mm / Hg

❖ **Alterations in body temperature**

- ✓ **Hypertension**: it means high blood pressure above the normal values.
- ✓ **Hypotension**: it means low blood pressure below the normal values.

❖ **Factors affecting on blood pressure:**

- ✓ Age
- ✓ Fatty food
- ✓ Exercise
- ✓ Emotions
- ✓ Position
- ✓ Smoking/drinking
- ✓ Obesity