VITAL SIGNS

World largest thermometer

Ms. Esther Jennifer
STAFF NURSE - ICU

What do you mean by VITAL SIGNS?

- Vital signs include
  1. **body temperature,**
  2. **pulse,**
  3. **respiration and**
  4. **blood pressure.**

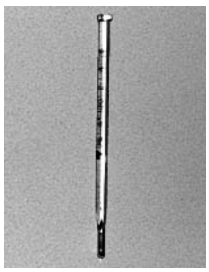
IMPORTANCE:

Measurement of vital signs is the important procedure used in the assessment of patient's problem. The presence of these signs is indicative of the existence of life. They are the signs of life. In order to assess the state of health of a person, each of these vital signs should be measured accurately.

Body temperature

Temperature:

Body temperature is the degree of heat maintained by the body. Heat is lost from the body through radiation, convection, respiration, perspiration, and evaporation.



Oral thermometer

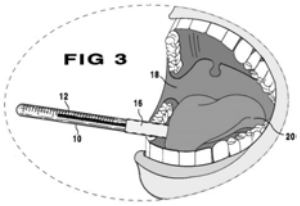
Digital thermometer

Method of measuring bodyTemperature

The routes of checking body temperature are:

- Oral – Thermometer can be placed in mouth for a minute
- Rectal - Thermometer can be placed in the anal canal

In the axillary and groin it can be placed for 2 minute.



Thermometer

- Measured in degrees of Fahrenheit.
- A clinical thermometer is a scaled tube.
- This instrument is used to measure the body temperature.
- It consists of glass bulb containing mercury.

Check the temperature by oral method

The thermometer tray should contain:

- Clinical thermometer in a antiseptic container
- Plain water container
- Cotton balls with stainless steel jar
- Kidney tray
- Soap with dish

Care of clinical thermometer

- consists of glass tube
- should be immersed in antiseptic solution to prevent infection
- Shake it before using it to bring the mercury down.
- Never hold the thermometer at the bulb, because the hand may cause inaccurate reading.
- Cleaning the thermometer with hot water should be avoided since, it will cause mercury to expand more and may break the thermometer.

Procedure:

1. It is a very simple method.
2. Explain the procedure to the patient.
3. Wash hands thoroughly
4. The bulb end of thermometer is placed directly beneath the patient's tongue.
5. The lip should be kept closed around the stem of the thermometer.
6. Thermometer should be placed for a minute & check the temperature,
7. Clean, wash and replace it in a proper way.

Contra indication

- Young children
- Un co-operative older patients
- Unconscious patients
- Patient with severe cough
- Surgical operations on the mouth or nose. Patient with acute infections of mouth

Rectal - method

Rectal method is the more accurate method of checking the temperature



Procedure - RECTAL

1.Explain the procedure to the patient

2. Wash hands thoroughly.

3. Rectal thermometer must be lubricated with Vaseline before it is inserted into the anal canal to prevent irritation.

Procedure - RECTAL

4. Insert the thermometer in to the anal cavity for one minute and check the temperature.

5. Rectal temperature will be higher than the oral temperature, because the rectum is left affected by the external temperature.

6.One degree should be subtracted from reading seen.

Contra indications:

- Surgical operation ⟶ involving the anal canal
- Rectal diseases and diarrhea

Axillary method

1. Axilla must be clean and free from perspiration.

2.Place the thermometer horizontally in the axilla. Leave it for 2 minutes.

Axillary method

3.Check the temperature.

4.Replace the thermometer after cleaning.

5.Add one degree to the reading seen.

Terminologies used……,

- Body temperature below the average normal is called hypothermia.
- Body temperature raised to 104 ° F is called hyperthermia
- Normal temperature is 98.6 ° F or 97 ° c

Pulse

Pulse

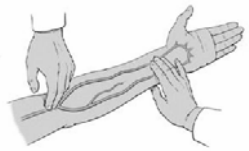
- Pulse is the rhythmic expansion of the artery, which occurs with each ventricular contraction.

  Checking the pulse helps to determine the state of the heart, the arterical system and the blood circulation.It also helps in diagnosis and treating the disease.

Normal pulse rule : 72 to 80 beats/minute

The following characteristics of the pulse should be checked:

- Rate
- Rhythm
- Tension
- Volume



Characteristics of the Pulse

Rate: Number of pulse beats per minute

Pulse rate more than 100 per minute is called Tachycardia

Common causes of Tachycardia

1. Excitement
2. Fever
3. Anemia
4. Thyrotoxicosis
5. Tachyarrthymias

Pulse rate <60beats/minute is called Bradycardia

Common causes of Bradycardia

- Sleep
- Old age
- Athletes
- Hypothyroidism
- Brain tumors
- Heart block

Sites for checking pulse

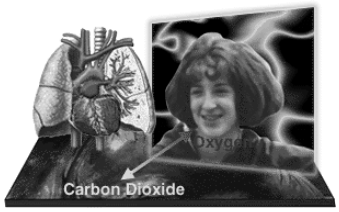
- Temporal artery
- Facial artery
- Carotid artery
- Femoral artery
- Radial artery
- Dorsalis pedis artery

Method of checking the Radial pulse

Patient should in a resting position with his arm supported

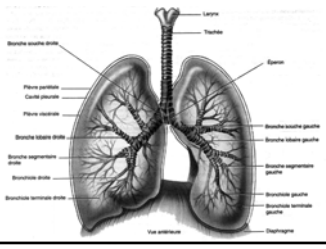
- Three fingers are used to feel the radial pulse
- First, second and third fingers are placed at the thumb side of wrist and palpated for 1 full minute

Respiration



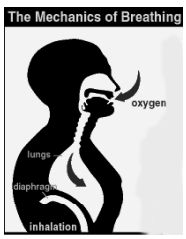
Definition

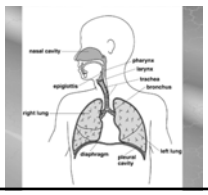
- It is the act of breathing where the exchange of gases takes place between lung and blood

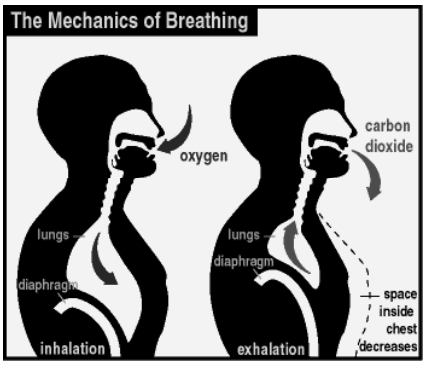


Inspiration

Whenever amount of carbon dioxide in the blood increases to a certain level the respiratory centre stimulates the diaphragm and inter costal muscle to contract. This allow the lungs to expand and breath in air. This activity is called inspiration.

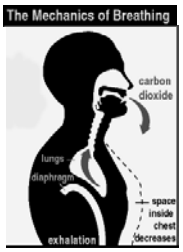






Expiration

- Oxygen from air sac passes into blood and carbon dioxide from blood passes into the air sacs. This carbon dioxide is removed by breathing out which is known as expiration



Abnormal respiration

Dyspnoea: Difficult or painful breathing

Orthopnoea: Inability to breathe in a horizontal position. It is relieved by sitting position.

Hyperpnoea: When the rate and depth of respiration both increase.

Apnoea: This happens when breathing stops for a temporary period.

Anoxia: When there is inadequate supply of oxygen to the tissue

Factors effecting respiration

- Age
- Sex
- Disease Condition

  &
- Drugs

Method checking respiration

Patient should be relaxed in a comfortable position. Since respiration can be controlled voluntarily to some extent, as far as possible, the patient's respiration may be counted without making him aware of it. So after taking the pulse, count the respiration rate keeping the fingers in the patient's abdomen. If the patient's arm is placed across his chest, the movement of his chest wall can be seen and felt. Count the rise and fall of chest wall for one minute by using a watch.

Also note the depth and regularity of respiration, expansion of the chest on both sides and patient's Colour.

THANK YOU