

Vital signs (Body temperature)



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Introduction

- ❑ Vital signs are measures of various physiological status, in order to assess the most basic body functions.
- ❑ Assessing vital signs is a routine part of nursing care. Vital signs provide information about the health condition of the patient.
- ❑ Vital signs are useful in detecting or monitoring medical problems.
- ❑ Vital signs can be measured in a medical setting, at home, at the site of a medical emergency, or elsewhere.

Components of vital signs:

1. Temperature
2. Pulse
3. Respiration
4. Blood Pressure
5. Pain (considered the 5th vital sign)

Guidelines for assessing vital signs: (When to Assess Vital Signs)

1. Upon admission to any healthcare agency.
2. Based on agency institutional policy and procedures.
3. Any time there is a change in the patient's condition.
4. Before and after surgical or invasive diagnostic procedures.
5. Before and after activity that may increase risk.
6. Before and after administering medications that affect cardiovascular or respiratory functioning.

Purposes for assessing vital signs:

1. To monitor patient's condition
2. To obtain baseline data for comparing future measurement.
3. To detect abnormalities involve alteration in body temperature, pulse, respiration, blood pressure.
4. To evaluate effect of medication or nursing measures or to evaluate the response to medication or nursing measures.

Definition of body temperature:

- Body temperature is the balance between the heat production by the body and heat lost from the body.
- -The normal range of the body temperature is between (36.1 to 37.5 C°)

Purposes of measuring body temperature:

- 1) To establish baseline data for subsequent evaluation.
- 2) To identify whether the core body temperature is within normal range.
- 3) To determine changes in the core body temperature in response to specific therapies (antipyretic medication, immunosuppressive drugs, invasive procedure).
- 4) To monitor clients at risk for imbalanced body temperature (clients at risk for infection, or diagnosis of infection, or those who have been exposed to temperature extreme).

Types of body temperature:

- **1. Core temperature:**

Is the temperature of deep tissues of the body, e.g., cranium, thorax and abdominal cavity. It remains relatively constant (37°C or 98.6°F).

- **2. Surface temperature:**

Is the temperature of the skin, the subcutaneous tissue and fat. It, by contrast rises and falls in response to the environmental changes.

Factors Affecting Body temperature:

Factors increase Body temperature	Factor decrease Body temperature
Exercise, emotions and stress	Sleep
Ingestion of food and obesity	Fasting
Time of day: late afternoon or early evening.	Time of day: morning
Hormones and Infection	Prolonged illness
Age: children	Age: old age
environment: high room temperature or a hot water bath	environment: low room temperature or a cold water bath
Female: during Menstruation and pregnancy	Depression of the nervous system :unconsciousness and the use of narcotic drugs

Routes/sites for measuring body temperature

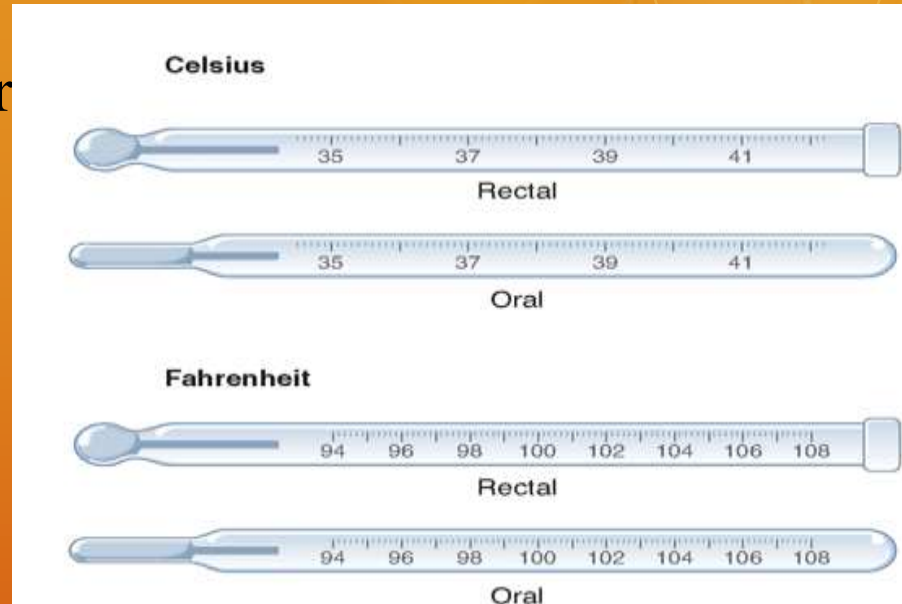
SITE sites	Normal reading	Timing	ADVANTAGE S	DISADVANTAGES
ORAL	37C(98.6F)	3minutes	More Common Accessible and convenient	<ul style="list-style-type: none"> • Thermometers can be broken • Inaccurate if client has just ingested hot or cold fluid, or smoked
RECTAL	36.4c(97.6F) 36.7C(98F)	1minutes	Reliable measurement More accurate	<ul style="list-style-type: none"> ▪ Inconvenient and more unpleasant; difficult for client who cannot turn to side ▪ Could injure the rectum following surgery ▪ Presence of stool may interfere with thermometer placement

Routes/sites for measuring body temperature

AXILLARY	37.5C(99.6F)	5minutes	More Safe and noninvasive	Thermometer must be left in place for a long time
TYMPANIC MEMBRANES	-		Readily accessible; reflects the core temperature, very fast	Can be uncomfortable and involves risk of injuring the membrane if inserted too far *Presence of cerumen can affect the reading

Types of thermometers:

1-Clinical glass mercury thermometer



2- Electronic thermometer
(Digital thermometer)



3-Tympanic membrane thermometer (Infrared thermometer)



4-temperature sensitive strips (Disposable thermometer strips)



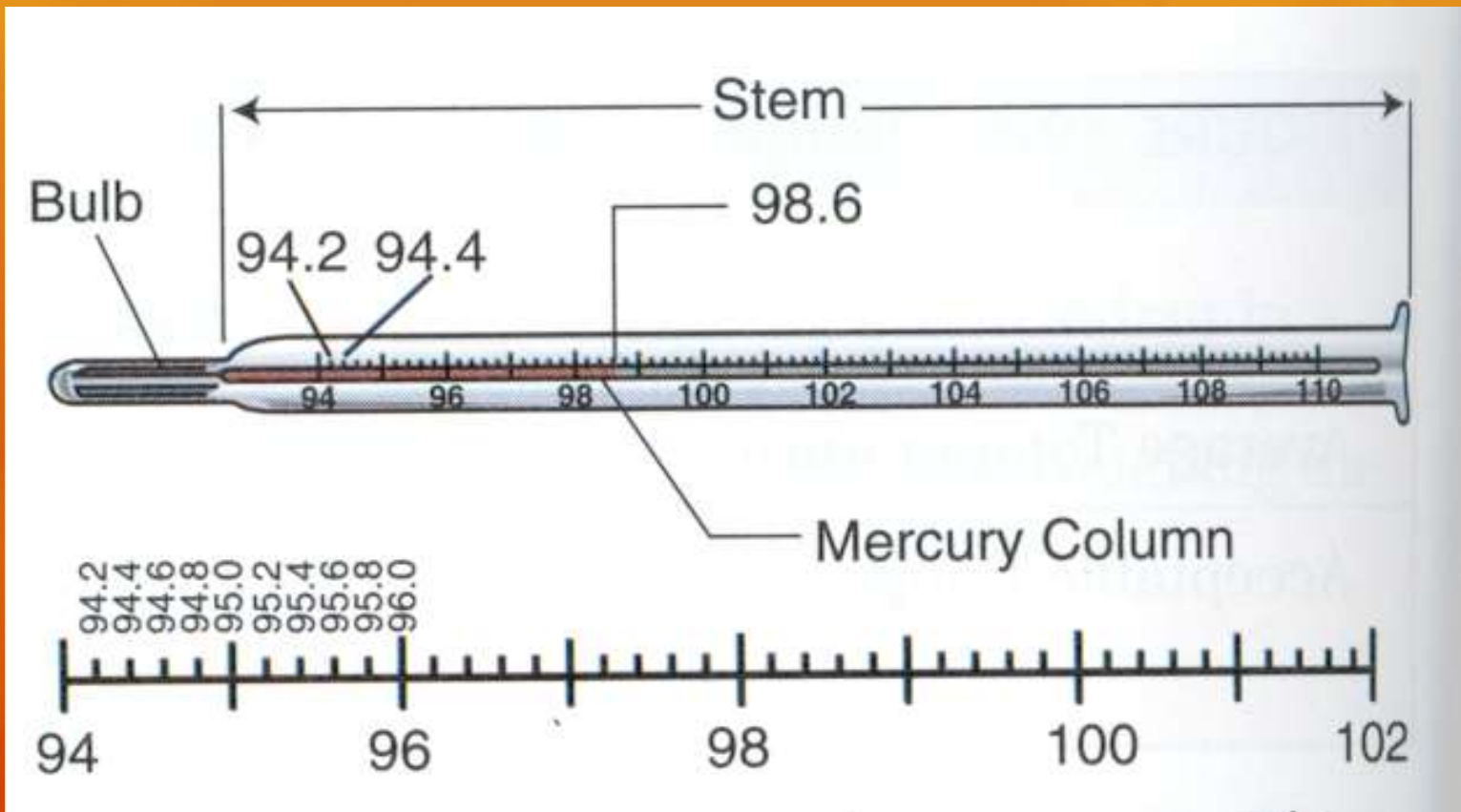
5-liquid crystal thermometer



Equipment for measuring body temperature:

1. Appropriate glass mercury thermometer or Electronic or Tympanic.
2. Steel clean tray: to set all materials
3. Watch with a second hand
4. Record form- point pen
5. Spirit swab (alcohol) or dry cotton
6. Kidney basin lined with tissue paper
7. Lubricant for rectal temperature only
8. Disposable gloves and disposable probe covers
9. Two iodine bowel
10. Paper tissue

Reading a thermometer



Procedure for measuring oral body temperature:

○ **Steps**

- 1-Review medical record for baseline data factors that influence vital signs.
2. Prepare all required equipment
3. Check the client's identification.
4. Explain the purpose and the procedure to the client. Encourage the client to remain still; refrain from drinking, eating, and smoking; and avoid mouth breathing
5. Close doors and/or use a screen.
- 6-Perform hand hygiene/wash hands, and apply gloves when appropriate.

7-Disinfect thermometer

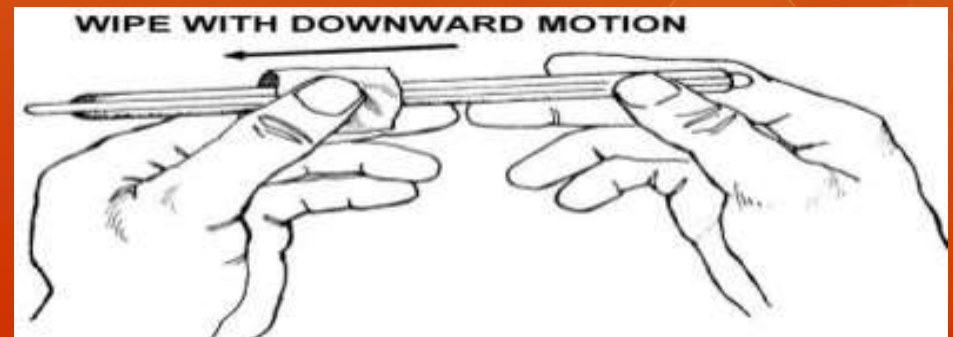
remove thermometer from cover probe. Hold end (tip will be blue) of glass thermometer by fingertips, wash and rinse under water, and wipe dry with a tissue from bulb's end toward the stem,

8-Read mercury level while gently rotating thermometer at eye level until the mercury line falls to at least 95 °F (35 °C).

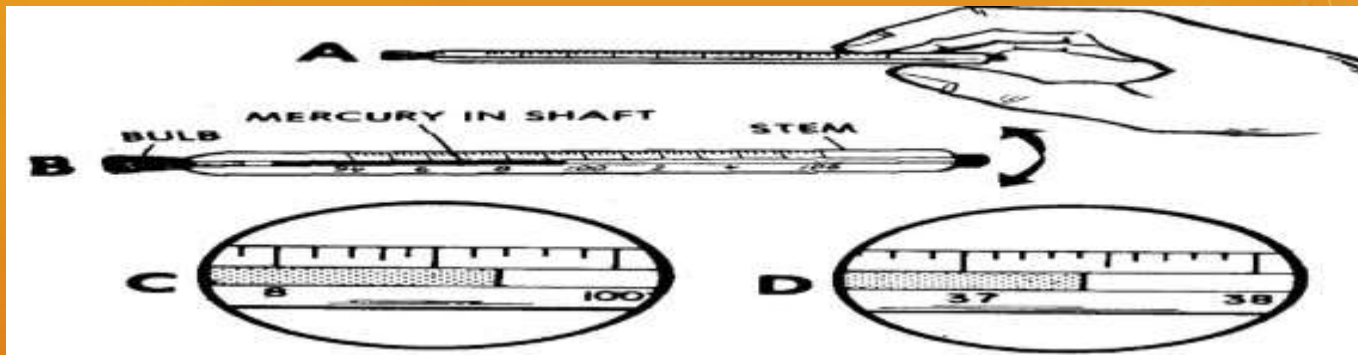
9-ask the patient to open the mouth Place thermometer into oral sublingual pocket, leave thermometer in place 3 minutes

10-ask the patient to close lips over the thermometer & not the teeth to prevent breakage

11-Remove thermometer, and wipe off secretions with a clean tissue, moving from stem toward the bulb.



12-With the thermometer at eye level, read finding. Shake thermometer down, cleanse with soapy water, rinse with water using rotating movement and wipe with cotton sponge soaked with alcohol



13-store thermometer in storage container.

14- Explain the result and instruct him/her if he/she has fever or hypothermia.

15-Dispose of the equipment properly. Wash your hands

16-Replace all equipment in proper place.

17-Record in the client's chart. **oral** reading :remain as read and Report an abnormal reading to the senior Documentation provides ongoing data collection

1-abnormalities

2-contraindication

3-improvement or dis improvement of patient conditionstaff

Alteration in body temperature:(Abnormalities)

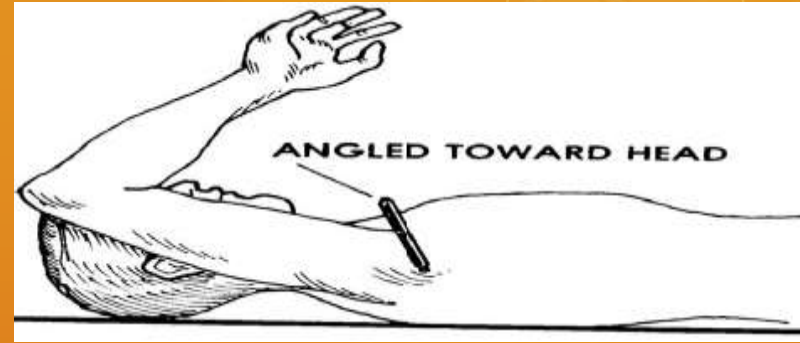
- ❖ **1- Pyrexia:** A body temperature above the usual range is called pyrexia, hyperthermia, or (in lay terms) fever
- ❖ & low-grade fever: is temperature, slightly elevated to approximately 37.3 °C to 38.2°C.
& High-grade fever: temperatures above 38.3 °C to 40.5 °C.
- ❖ **2-Hyperpyrexia:** A very high temperature, e.g. 41C^o(105 °F).
- ❖ **3-Hypothermia:** It is a core body temperature below the lower limit of normal.
- ❖ **5-A febrile:** no fever

Contraindication of oral temperature

- ❖ The child under 6 years
- ❖ Unconscious patients
- ❖ Psychiatric patients
- ❖ Patient who cannot breathe from his nose.
- ❖ Mouth surgery or infection
- ❖ Patient on oxygen mask.
- ❖ Persistent frequent coughing.
- ❖ Mouth breathing patients.
- ❖ Very weak who cannot close his mouth well.
- ❖ Very old and weak patient.
- ❖ Patient with seizure disorder
- ❖ After drinking hot fluids or cold fluids



Procedure for measuring Axillary temperature



1. **The same steps in oral temperature from 1:8**
2. &Assist the client to a supine or sitting position.
3. &Move clothing away from shoulder and arm
4. &Be sure the client's axilla is dry. If it is moist, pat it dry gently before inserting the thermometer.
5. &Place the bulb of thermometer in hollow of axilla at anterior inferior with 45 degree or horizontally
6. &Keep the arm flexed across the chest, close to the side of the body
7. & Hold the glass thermometer in place for 5minutes.
8. **The same steps in oral temperature from 11:17**

Contraindication of axillary temperature

- 1- Skin disease.
- 2- Axillary operation
- 3- Burn and wound



Procedure for measuring Rectal temperature



1. **The same steps in oral temperature from 1:8**
2. Place client in the Sims' position with upper knee flexed. Adjust sheet to expose only anal area
3. Place tissues in easy reach. Apply gloves
4. Lubricate tip of rectal probe
5. With dominant hand, grasp top of the probe's stem. With other hand, separate buttocks to expose anus.
6. Instruct the client to take a deep breath. Insert the probe gently into anus: infant, 1.2 cm (0.5 inches); adult, 3.5 cm (1.5 inches). If resistance is felt, do not force insertion. Relaxes anal sphincter.
7. Hold the glass thermometer in place for 1 minute. Thermometer will signal (beep) if using digital thermometer.
8. **The same steps in oral temperature from 11:17**

Contraindication of rectal temperature:

- Patients with surgical operation in the rectum or region.
- Disease or inflammation of the rectum.
- Diarrhea and patient with heart disease

The image features a central white, ornate frame with a scalloped border and decorative scrollwork at the top and bottom. Inside the frame, the text "Thank You So Much" is written in a purple, serif font, and "Everyone" is written in a red, serif font below it. The frame is flanked by two clusters of colorful flowers, including red, pink, and purple roses and smaller purple blossoms, with green leaves. In the bottom left corner, there is a small logo for "ThankImages.com" with a butterfly icon.

Thank You So Much
Everyone