Vital Signs - Adult

Vital signs are an important part of a nurse's physical assessment. It should be done on a routine basis to watch for trends that could indicate the patient's condition might change. Vital signs should also be done whenever the nurse suspects or observes a change in the patient. Using the right equipment that is functioning properly is necessary for proper assessment. It is important to remember that every person is unique, and has his or her own baseline.



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Temperature (96.8-100.4 Degrees F) (36-38 Degrees C)
Thermometer
The body tissues and cells function best within a relatively narrow temperature range, from 36° to 38° C (96.8° F to 100.4° F), but no single temperature is normal for all people. For healthy young adults, the average oral temperature is 37° C (98.6° F). The normal temperature range for adults depends on age, gender, range of physical activity, hydration status, and state of health. A variety of factors can influence one's temperature. Stress, environment, infection, sepsis, trauma, medicine, substance use disorders and hormonal imbalances all play a factor. Fever is an important defense mechanism. Temperature elevations up to 38°C enhance the body's immune system. Always alert the provider when the temperature is out of range. Accurate measurements are vital so that hyperthermia and hypothermia can be identified and appropriate interventions determined.

Rectal
Rectum-rectangle
Rectal temperature is purported to be more reliable than oral temperature and is typically about one degree higher than the oral temperature. Use this route only when the oral and axillary route cannot be used or a more accurate reading is necessary. It should never be used in patients with diarrhea, recent rectal surgery, or a bleeding diathesis. Be aware that patients may feel discomfort. Measurement at this site carries risk of exposure to body fluids. Lubrication and PPE may be required.

Tympanic
Tin-pan
A healthcare provider can quickly measure the temperature of the eardrum, which reflects the body's core temperature (the temperature of the internal organs). An ear (tympanic) temperature is 0.3°C (0.5°F) to 0.6°C (1°F) higher than an oral temperature. The tympanic membrane shares the same vascular artery that perfuses the hypothalamus. And because the hypothalamus acts as the body’s thermostat and is responsible for regulating its temperature, these readings are highly accurate.

Oral
Mouth
The average normal oral temperature is 98.6°F (37°C). Temperature can be taken by mouth using a digital thermometer that uses an electronic probe to measure body temperature. Oral temperature measurement is common and reliable because it is close to the sublingual artery and is usually used as a baseline, to which the other methods of taking a temperature vary.

Axillary
Axe-armpit
Axillary temperature typically is about one degree lower than the oral temperature and is a safe and noninvasive option. It is appropriate for use in newborns and in uncooperative or unconscious patients. Note that readings are affected by exposure to the environment during device placement. Ensure that the thermometer is as high up in the axilla as possible with full skin contact and that the client’s arm is then lowered down. An armpit (axillary) temperature is usually 0.3°C (0.5°F) to 0.6°C (1°F) lower than an oral temperature.

Temporal
Temple
A forehead (temporal) thermometer is usually 0.3°C (0.5°F) to 0.6°C (1°F) lower than an oral temperature. A thermometer can quickly measure the temperature of the skin on the forehead. Some thermometers don't require contact with the skin to get a temperature reading.

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Respiration (12-20)

Respiration

Human survival depends on the ability of oxygen (O2) to reach our cells and carbon dioxide (CO2) to be removed. Ventilation is the movement of air in and out of the lungs. The frequency of this occurrence is called respiratory rate. Respiration is the mechanism that the body uses to exchange gasses between the atmosphere and the blood and between the blood and the cells. Ventilation is assessed by determining respiratory rate, respiratory depth, and respiratory rhythm.

Oxygen Saturation (95%-100%)

Percent O2-tank

Diffusion and perfusion refer to how O2 and CO2 are exchanged in the alveoli of our lungs and then transported to the rest of the body via our RBCs. This oxygen saturation is assessed via a pulse oximeter. This device detects the amount of oxygen bound to hemoglobin in the blood and calculates saturation (SpO2). Common areas for measurement include the fingers, toes, or earlobes. Nail polish, hypothermia, vasoconstriction, peripheral edema, or abnormal hemoglobin levels may cause inaccurate readings.

Pulse (60-100)

Heart-timer

The total number of beats per minute that are felt or auscultated is the pulse rate. Common areas to assess pulse are the radial, carotid, and femoral arteries. These sites offer valuable data for determining the integrity of the cardiovascular system. An abnormally slow, rapid, or irregular pulse indicates the inability of the heart to deliver adequate blood to the body. The strength or amplitude of a pulse reflects the volume of blood ejected against the arterial wall with each heart contraction. If the volume decreases, the pulse often becomes weak and difficult to palpate. A full bounding pulse is an indication of increased volume

Blood Pressure (&lt120/80)

BP-cuff

Blood pressure (BP) is the force exerted by blood against the vessel walls when the heart contracts. Two measures are assessed- systolic pressure, (90-120mm Hg) and diastolic (60-80 mm Hg). For healthy adults, a BP less than 120/80 is normal. The difference between systolic and diastolic pressure is the pulse pressure. For a BP of 120/80, the pulse pressure is 40. This parameter has been recently considered a potential indicator of cardiovascular disease, given its relationship to the compliance of the arteries. It is important to use the correct BP cuff, as using an incorrect size can alter BP readings. The standard unit for measuring BP is millimeters of mercury (mmHg).

Pain

Pain-bolt

Pain is a common reason why people seek health care. Despite being a commonly occurring symptom, pain is not well understood and is inconsistently and inadequately addressed. Pain is often referred to as the fifth vital sign and should always be included while assessing a patient. Pain can have a variety of effects on a patient- both physical and psychological. If a patient is in pain, this needs to be addressed promptly. Pain is complex and involves physiological, social, spiritual, psychological, and cultural influences. Each individual's pain experience is different and healthcare providers need to consider all factors that influence it.

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