

Vital Signs



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Objectives

Upon completion of this orientation class assistive staff will be able to:

- ❑ Identify various methods to obtain a temperature
- ❑ Identify proper technique to obtain a pulse
- ❑ Explain proper technique to obtain respirations
- ❑ Discuss how to properly obtain a B/P
- ❑ Discuss how to obtain a pulse oximetry



Objectives cont.

Upon completion of this orientation class assistive staff will be able to:

- ❑ Identify normal ranges for vital signs
- ❑ Explain possible causes of inaccurate vital signs
- ❑ Discuss the effect pain has on vital signs
- ❑ Identify when to report abnormal vital signs to Physician (MD)/
Advanced Licensed Practitioner (ALP)



Vital Signs

Vital signs are taken on every patient during every visit. This is routinely temperature, pulse, respirations and blood pressure.



Temperature



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Temperature

Normal Ranges

- ❑ Oral 97.6-99.6
- ❑ Axillary 96.6-98.6
- ❑ Rectal 98.6-100.6

Oral

- Wait 15 minutes if patient has been smoking, eating or drinking fluids
- Do not use if patient is uncooperative, restless, seizing, coughing, unable to breathe through nose, recovering from oral surgery, an infant or child

Axillary

- Option if unable to take an oral temp
- Probe should be placed vertical in axillary area

Rectal

- Hold thermometer in place to avoid rectal injury
- Do not use if patient is restless, has diarrhea, rectal bleeding, hemorrhoids, or had surgery in that area



Temperature

Hypothermia

Temperature below 95°

Causes

- Exposure to cold
 - elderly are more sensitive
- Induced during surgery

Hyperthermia

Temperature above 100°F

Causes

- Burns
- Infections
- Surgery and anesthesia

Children's temperatures can rise much higher & are at greater risk for febrile seizures

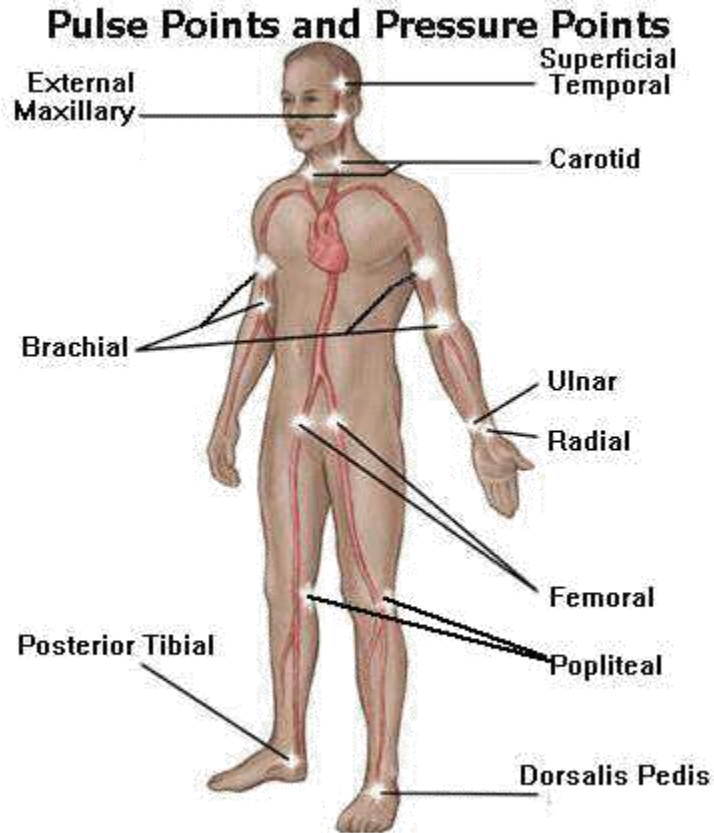


Pulse



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Pulse Sites



Pulse

Characteristics of Pulse

- ❑ **Rate** – number of beats per minute
- ❑ **Rhythm** – regular or irregular
- ❑ **Strength/force**- weak or bounding
- ❑ **Bradycardia** – slow pulse – 60 BPM or less
- ❑ **Tachycardia** – fast pulse – 100 BPM or more



Pulse continued

Pulse Normal Ranges

18 – 60+ years	60-100 bpm
12 – 17 years	50-100 bpm
6 – 11 years	60-120 bpm
4 – 5 years	60-150 bpm
0 – 3 years	100-180 bpm



Checking a Pulse

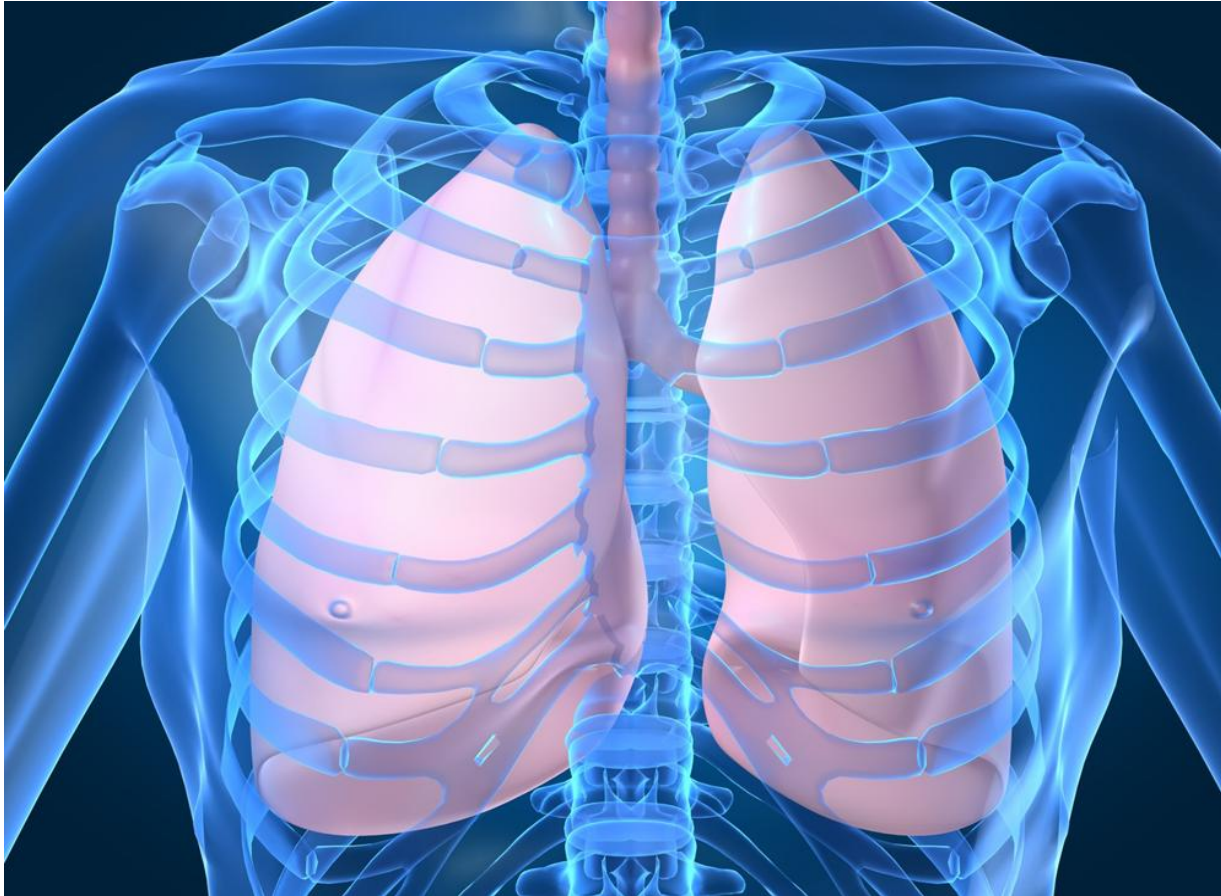
Radial pulse – place the tips of 2-3 fingers firmly but not tight over the radial artery and count for sixty seconds. Do not use your thumb as it has a pulse, which may become confused with the patient's or make counting difficult.

Apical Pulse – located at the left side of the chest between the 5th & 6th rib below the nipple. Measures the pulse of the heart so it is the most accurate and should always be used in children and infants. Listen with the stethoscope over the bottom area of the heart (apex) and count for 60 seconds.

Take an Apical pulse when radial pulse is weak or irregular



Respirations



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Respirations

Characteristics

- **Rate** – number of respirations per minute
- **Rhythm** – regular/irregular
- **Volume** – depth of respiration
- **Symmetry** – equal expansion of lungs
- **Work of breathing** – labored/unlabored



Respirations continued

Normal Respiration Ranges

60+yrs	10-26
18-59yrs	10-20
12-17yrs	12-20
6-11yrs	15-25
1-5yrs	20-30
0-12months	30-60



Respirations

- Take respiratory rate by counting the rise and fall of the chest for 15 seconds then multiply by 4.
- You may place a hand or a stethoscope on the chest if you're having trouble seeing the chest rise and fall.



Blood Pressure



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Blood Pressure

Depends On

- ❑ volume – amount of blood in the circulatory system
- ❑ force of the heartbeat
- ❑ condition of the arteries – pressure is greater in arteries with less elasticity
- ❑ distance from the heart – pressure in the legs is lower than in the arms
- ❑ position of the patient – lying, sitting, standing



Blood Pressure

Causes of High Blood Pressure

- ❑ Heart disease
- ❑ Kidney disease
- ❑ Alcohol
- ❑ Stress
- ❑ Pain

Causes of Low Blood Pressure

- ❑ Dehydration
- ❑ Blood loss
- ❑ Severe infection
- ❑ Medications



Blood Pressure Ranges

- Below 130/80 is normal
- Between 130-80 and 140/90 is pre hypertensive (pre high blood pressure)
- Consistently over 140/90 is High blood pressure

(Repeat blood pressure must be done on all patients with a blood pressure equal to or greater than 130/80 and documented)



Some Causes of an Inaccurate Blood Pressure

- ❑ Improper cuff size
- ❑ Improper positioning of patient
- ❑ Cuff deflation rate (should be 2mm Hg/second)



Blood pressures

When should a blood pressure Not be taken on a patient?

- When a patient has had a mastectomy which prevents a blood pressures and venipunctures from being completed on the affected side of the patient.

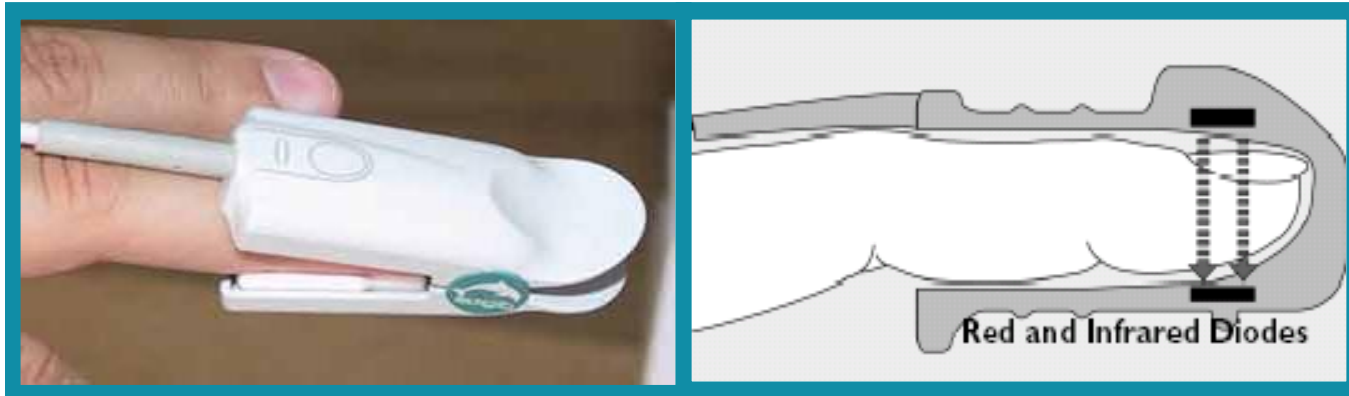


Abnormal Blood Pressures

Like any machine, automatic blood pressure machines may experience some technical difficulties. Whenever you have an abnormal blood pressure, always double check the Blood Pressure with a Manual Blood Pressure cuff



Pulse oximetry



Absorption due to:



Pulse Oximetry

Hemoglobin molecules absorb light differently when they are carrying oxygen than when they are deoxygenated (without oxygen). By comparing the amount of **RED** light and **INFRARED** light absorbed into the blood, the instrument can calculate the percentage of oxygen in the blood (SpO₂).



Pulse Oximetry

- ❑ Stable pulse oximetry 98-100%
- ❑ Notify RN if pulse oximetry below parameters
- ❑ If unable to obtain a reading
 - try turning probe 90 degrees to side of finger
 - remove nail polish
 - Warm finger
 - Some offices may be equipped with an ear probe



Pain Check with Vitals

Ask the patient if they are experiencing pain when checking vital signs using the 1-10 pain scale.

Pain Scale

1-3 Mild Pain

4-6 Moderate Pain

7-10 Severe Pain

WHY: If the patient is in pain, this could affect their vital signs.



Red Flags to Report to RN or Provider

- Blood Pressure
 - Systolic BP – equal to or greater than 140 or below 90
 - Diastolic BP – equal to or greater than 80 or below 60
 - If abnormal, check other arm (be sure to do the recheck manually)
 - Pulse – above 100 or below 60
- Respiration – above 20 or below 12
- Temperature – above 100 or below 96
- Pulse Oximetry – below 93%
- Pain – rating of 3 or greater.

Please report abnormal values to the MD/ALP



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Agency Medical
Assistant Vital Signs
E-Learning Module