

**Module 10: Vital Signs****Minimum Number of Theory Hours: 3****Recommended Clinical Hours: 6****Statement of Purpose:**

The purpose of this unit is to prepare students to know how, when and why vital signs are taken and how to report and chart these procedures. Students will learn the correct procedure for measuring temperature, pulse, respirations, and blood pressure. They will learn to recognize and report normal and abnormal findings.

**Terminology:**

<b><u>Temperature:</u></b>	<b><u>Blood Pressure</u></b>	<b><u>Pulse</u></b>	<b><u>Respiration</u></b>	<b><u>Pain (the 5<sup>th</sup> Vital Sign)</u></b>
1. Afebrile 2. Axilla 3. Celsius 4. Fahrenheit 5. Febrile 6. Metabolism 7. Mucosa 8. Pyrexia 9. Tympanic	10. Aneroid manometer 11. Bell 12. Diaphragm 13. Diastolic 14. Hypertension 15. Hypotension 16. Orthostatic hypotension 17. Pre-hypertension 18. Pulse pressure 19. Sphygmomanometer 20. Stethoscope 21. Systolic	22. Apical 23. Arrhythmia 24. Bounding 25. Brachial 26. Bradycardia 27. Carotid 28. Pulse deficit 29. Radial 30. Rhythm 31. Thready 32. Tachycardia	33. Abdominal respirations 34. Apnea 35. Bradypnea 36. Cheyne-Stokes 37. Cyanosis 38. Diaphragm 39. Dyspnea 40. Labored respiration 41. Orthopnea 42. Shallow respiration 43. Stertorous 44. Tachypnea 45. Temperature, Pulse, Respiration (TPR)	46. Acute pain 47. Chronic pain 48. Phantom pain 49. Pain scales

**Performance Standards (Objectives):**

Upon completion of three (3) hours of class plus homework assignments and six (6) hours of clinical experience, the student will be able to:

1. Define key terminology.
2. Describe what is meant by vital signs, their purpose, and observations made while performing the procedures.
3. Discuss the use of temperature as an indicator of body function.
4. Describe nursing measures to raise and lower the temperature of the body.
5. Describe the circulatory system as it relates to pulse, and identify the pulse sites.
6. Describe factors that increase and decrease pulse, and the qualities to observe in taking a pulse.
7. Define and describe respiration and factors that affect respiratory rate.
8. Describe observations to be made when measuring respirations.
9. Describe abnormal breathing patterns.
10. Describe the process for taking TPR as a combined procedure.
11. Describe what happens in the circulatory system to produce blood pressure.
12. Identify factors that increase or decrease blood pressure.
13. Identify parts of the blood pressure equipment.
14. Discuss the procedure for taking a blood pressure reading.
15. Discuss observation and reporting of resident's pain.
16. Record vital signs on chart, graph, and Nursing Assistant notes.

**References:**

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Content Outline	Recommended Teaching Strategies and Assignments	Clinical Demonstration/ Method of Evaluation
<p><b>Objective 1</b>  <b>Define key terminology</b></p> <p>A. Review the terms listed in the terminology section.  B. Spell the listed terms accurately.  C. Pronounce the terms correctly.  D. Use the terms in their proper context.</p>	<p>A. Lecture/Discussion  B. Games: word searches, crossword puzzles, Family Feud, Jeopardy, bingo, spelling bee, hangman, and concentration.  C. Encourage use of internet, medical dictionary, and textbooks.  D. Create flashcards for learning purposes.  E. Handout 10.1a- Vital Signs Crossword.  F. Handout 10.1b- Vital Signs Crossword KEY.</p>	<p>A. Have students select five words from the list of key terminology and write a sentence for each defining the term.  B. Administer vocabulary pre-test and post-test.  C. Uses appropriate terminology when charting and reporting to licensed personnel.</p>
<p><b>Objective 2</b>  <b>Describe what is meant by vital signs, their purpose, and observations made while performing the procedures.</b></p> <p>A. Vital signs refer to the temperature, pulse, respirations, and blood pressure.  B. Pain is considered the 5<sup>th</sup> vital sign.  C. Vital signs are indicators of body function  1. Assess body systems.  2. Signify changes that are occurring in the body.  D. Observations when taking vital signs include  1. Color and temperature of the skin.  2. Behavior of resident.</p>	<p>A. Lecture/Discussion  B. Demonstration and return demonstration.  C. Handout 10.2- Vital Signs Chart.</p>	<p>A. Observe student measuring vital signs.  B. Ask students what changes they would note in resident's skin color, temperature, and behavior.</p>

3. Statements from the resident of how they feel, and their comfort level (pain).		
<p><b>Objective 3</b>  <b>Discuss the use of temperature as an indication of body function.</b></p> <p>A. Temperature</p> <ol style="list-style-type: none"> <li>1. Balance between heat gained and heat lost.</li> <li>2. The hypothalamus in the brain is the temperature regulation center.</li> </ol> <p>B. Heat production. Heat is produced in our bodies by cellular activity, food metabolism, muscle activity, and hormones.</p> <ol style="list-style-type: none"> <li>1. Infection elevates temperature.</li> <li>2. Brain injury can alter the temperature regulating center to either increase or decrease temperature.</li> <li>3. External factors can cause temperature elevation, such as, hot drinks, hot air, warm clothing and exercise.</li> <li>4. Internal factors such as dehydration.</li> </ol> <p>C. Heat loss. Heat is normally lost from the body through:</p> <ol style="list-style-type: none"> <li>1. Skin – sweating or perspiration and increased blood flow to skin surface.</li> <li>2. Lungs – increased respiratory rate.</li> <li>3. Elimination – urine and feces.</li> </ol> <p>D. Heat conservation. Heat is conserved by the body through</p> <ol style="list-style-type: none"> <li>1. Reducing perspiration.</li> <li>2. Decreasing the flow of blood to the skin.</li> <li>3. Shivering (which increases muscular activity to produce heat).</li> </ol> <p>E. Four main sites for temperature measurement (Note contraindications on Skills Procedures pages)</p> <ol style="list-style-type: none"> <li>1. Oral (most common)</li> <li>2. Rectal <ol style="list-style-type: none"> <li>a. Most accurate.</li> <li>b. Not used as often as in past.</li> <li>c. Caution: The vagus nerve may be stimulated when taking a</li> </ol> </li> </ol>	<p>A. Lecture/Discussion</p> <p>B. Display all types of thermometers.</p> <p>C. Ask students to identify types.</p> <p>D. Demonstration and return demonstration with all types of thermometers as well as contraindications.</p> <p>E. Manual Skills 10.3a- Oral Temperature.</p> <p>F. Manual Skills 10.3b- Axillary Temperature.</p> <p>G. Manual Skills 10.3c- Tympanic Temperature.</p> <p>H. Manual Skills 10.3d- Rectal Temperature.</p> <p>I. Use visual aid for temperature reading in the ear.</p> <p>J. Manual Skills 10.3e- Electronic temperature.</p>	<p>A. Written test</p> <p>B. Demonstrates accurate measurement of temperature by oral, axillary, temporal, and rectal routes.</p> <p>C. Demonstrates use of mercury-free glass thermometer, electronic, digital, tympanic, and temporal artery thermometers.</p> <p>D. Reports abnormal temperature to nurse.</p>

<p>rectal temperature, which may temporarily decrease the resident's heart rate and blood pressure.</p> <ol style="list-style-type: none"> <li>3. Tympanic.</li> <li>4. Axillary.</li> <li>5. Temporal.</li> </ol> <p>F. Types of Thermometers</p> <ol style="list-style-type: none"> <li>1. Glass <ol style="list-style-type: none"> <li>a. Clinical thermometer.</li> <li>b. Mercury free; mercury glass thermometers are no longer used by many facilities, as the mercury is toxic.</li> <li>c. Oral or Axillary thermometer has long narrow bulb and blue or green color coding.</li> <li>d. Rectal thermometer has short stubby bulb and is color coded red.</li> <li>e. All glass thermometers require the use of a disposable plastic sheath.</li> </ol> </li> <li>2. Digital <ol style="list-style-type: none"> <li>a. Used for oral, rectal or axillary measurement.</li> <li>b. Battery operated.</li> <li>c. Takes approximately 60 seconds to display the temperature.</li> <li>d. Will flash or beep when the temperature has been registered.</li> <li>e. Requires the use of a disposable plastic sheath.</li> </ol> </li> <li>3. Electronic <ol style="list-style-type: none"> <li>a. Used for oral, rectal or axillary measurement.</li> <li>b. Registers temperature in 2-60 seconds.</li> <li>c. Flashes or makes a sound when temperature is displayed.</li> <li>d. Probes are color coded (red-rectal, blue/green-oral or axillary).</li> <li>e. Requires the use of a disposable plastic probe cover.</li> <li>f. Stored in a re-charging unit when not in use.</li> </ol> </li> </ol>		
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<ul style="list-style-type: none"> <li>4. Disposable <ul style="list-style-type: none"> <li>a. Used for oral or axillary measurement.</li> <li>b. Single use, usually used for residents in isolation.</li> <li>c. Does not require the use of a disposable cover.</li> </ul> </li> <li>5. Tympanic <ul style="list-style-type: none"> <li>a. Used to measure temperature reading in the ear.</li> <li>b. Requires a disposable probe cover.</li> <li>c. Incorrect positioning or ear wax may cause inaccurate reading.</li> <li>d. Hearing Aids need to be removed.</li> <li>e. Stored in a re-charging base when not in use.</li> </ul> </li> <li>6. Temporal Artery <ul style="list-style-type: none"> <li>a. Infrared thermometer that measures the temperature of temporal artery.</li> <li>b. Device for forehead measurement.</li> </ul> </li> </ul> <p>G. Normal ranges for temperature</p> <ul style="list-style-type: none"> <li>1. Normal resting range in adult (97° F – 99° F) or (36° C – 37.5° C)</li> <li>2. Oral 98.6° F</li> <li>3. Rectal 99.6 °F – one degree higher than oral</li> <li>4. Axillary 97.6 °F – one degree lower than oral</li> <li>5. Tympanic or temporal 98.6° F</li> </ul>		
<p><b>Objective 4</b>  <b>Describe nursing measures to raise and lower temperature of the body.</b></p> <p>A. Measures to raise the temperature</p> <ul style="list-style-type: none"> <li>1. Increase the temperature in the room.</li> <li>2. Add coverings to the body.</li> <li>3. Provide hot liquids to drink.</li> <li>4. Give warm baths or soaks.</li> </ul> <p>B. Measures to lower the temperature</p>	<p>A. Lecture  B. Discussion</p>	<p>A. Written test  B. Observation in clinical setting.</p>

<ol style="list-style-type: none"> <li>1. Decrease the temperature in the room.</li> <li>2. Remove coverings from the body.</li> <li>3. Offer cool liquids to drink.</li> <li>4. Provide cool bath or sponging.</li> </ol>		
<p><b>Objective 5</b>  <b>Describe the circulatory system as it relates to pulse and identify the pulse sites.</b></p> <p>A. Pulse</p> <ol style="list-style-type: none"> <li>1. Each time the heart contracts, blood is forced into the arterial system. The arterial walls expand to accept the increase in pressure; this expansion is called the pulse.</li> <li>2. By counting each palpated expansion of the arterial wall, the pulse rate can be determined.</li> <li>3. The average (adult heart beat) pulse is 60 to 100 beats/minute.</li> </ol> <p>B. Major pulse sites</p> <ol style="list-style-type: none"> <li>1. Carotid – neck.</li> <li>2. Apical – left chest (taken with stethoscope).</li> <li>3. Brachial – inner part of elbow.</li> <li>4. Radial – thumb side of wrist.</li> <li>5. Femoral – groin.</li> <li>6. Popliteal – behind the knee.</li> <li>7. Dorsalis pedis – (pedal) top of the foot.</li> </ol>	<p>A. Lecture/Discussion</p> <p>B. Use visual aid for demonstrating pulse sites.</p> <p>C. Role play.</p> <p>D. Advanced activity: Ask students to research procedure for pulse deficit measurement and report/demonstrate to the class.</p>	<p>A. Written test</p> <p>B. Locates major pulse sites.</p>
<p><b>Objective 6</b>  <b>Describe the factors that increase and decrease pulse, and the qualities to observe in taking a pulse.</b></p> <p>A. Factors that increase pulse</p> <ol style="list-style-type: none"> <li>1. Exercise.</li> <li>2. Fever.</li> <li>3. Hemorrhage.</li> <li>4. Pain.</li> <li>5. Shock.</li> <li>6. Strong emotions (anger, fear, laughter, excitement).</li> </ol>	<p>A. Lecture/Discussion</p> <p>B. Demonstration and return demonstration of radial and apical pulse measurement for full minute.</p> <p>C. Role play.</p> <p>D. Manual Skills 10.6a-</p>	<p>A. Written test</p> <p>B. Demonstrates accurate measurement for radial and brachial pulse for one full minute.</p> <p>C. Reports abnormal pulse to nurse.</p>



<p>7. Over 100 beats/min – tachycardia.</p> <p>B. Factors that decrease the pulse</p> <ol style="list-style-type: none"> <li>1. Sleep/rest.</li> <li>2. Depression.</li> <li>3. Drugs (digitalis, morphine).</li> <li>4. Athletes in good physical condition have a lower pulse, probably below 60 beats/min.</li> <li>5. Below 60 beats/min – bradycardia.</li> </ol> <p>C. Qualities of pulse</p> <ol style="list-style-type: none"> <li>1. Rate – number of beats per minute.</li> <li>2. Rhythm <ol style="list-style-type: none"> <li>a. Refers to regularity of pulse beats.</li> <li>b. Report irregular heart rhythm even if rate is normal.</li> </ol> </li> <li>3. Strength; force (volume) — weak (thready) or bounding.</li> </ol>	<p>Radial Pulse</p> <p>E. Manual Skills 10.6b- Apical Pulse</p>	
<p><b>Objective 7</b> <b>Define and describe respiration and factors affecting respiratory rate.</b></p> <p>A. Definition</p> <ol style="list-style-type: none"> <li>1. Respiration is defined as the exchange of oxygen and carbon dioxide in lungs.</li> <li>2. Breathing refers to inhalation and exhalation of air.</li> <li>3. Regulated in the brain by the medulla.</li> </ol> <p>B. Normal rate in adult is 12 to 20/minute.</p> <p>C. Normal breathing is quiet, effortless, and regular in rhythm.</p> <p>D. Factor that increase respiratory rate</p> <ol style="list-style-type: none"> <li>1. Exercise.</li> <li>2. Strong emotion.</li> <li>3. Infection.</li> <li>4. Increased body temperature.</li> <li>5. Increased metabolism.</li> </ol> <p>E. Factors that decrease respiratory rate</p> <ol style="list-style-type: none"> <li>1. Rest/sleep.</li> </ol>	<p>A. Lecture</p> <p>B. Discussion</p>	<p>A. Written test</p>

<ul style="list-style-type: none"> <li>2. Depression.</li> <li>3. Drugs/medications.</li> <li>4. Meditation.</li> </ul>		
<p><b>Objective 8</b>  <b>Describe observations to be made when measuring respirations.</b></p> <ul style="list-style-type: none"> <li>A. Rate               <ul style="list-style-type: none"> <li>1. Number of respirations per minute.</li> <li>2. Normal adult 12-20/minute.</li> </ul> </li> <li>B. Rhythm; regularity of respirations.</li> <li>C. Depth; shallow, normal, deep.</li> <li>D. Symmetry.</li> <li>E. Effort it involves.</li> <li>F. Discomfort it causes.</li> <li>G. Position resident adopts.</li> <li>H. Sounds that accompany it.</li> <li>I. Color of skin and mucous membranes, nail beds (cyanosis).</li> <li>J. Changes in resident's behavior.</li> </ul>	<ul style="list-style-type: none"> <li>A. Lecture/Discussion</li> <li>B. Manual Skills 10.8-Respirations</li> <li>C. Demonstration and return demonstration for measuring respiratory rate.</li> <li>D. Role play.</li> </ul>	<ul style="list-style-type: none"> <li>A. Written test</li> <li>B. Demonstrates accurate measurement of respirations.</li> <li>C. Reports immediately to nurse if resident's respiratory rate is above or below normal.</li> </ul>
<p><b>Objective 9</b>  <b>Describe abnormal breathing patterns.</b></p> <ul style="list-style-type: none"> <li>A. Labored; the resident struggles or works hard to breathe.</li> <li>B. Orthopnea; breathing possible only when person sits or stands.</li> <li>C. Stertorous; resident makes snoring sounds while breathing (indicates partial airway obstruction).</li> <li>D. Abdominal; breathing using mostly the abdominal muscles.</li> <li>E. Shallow; breathing with only the upper part of the lungs.</li> <li>F. Dyspnea; painful or difficult breathing.</li> <li>G. Tachypnea; respiratory rate above 24/minute.</li> <li>H. Bradypnea; respiratory rate less than 10/minute.</li> <li>I. Apnea; absence of breathing.</li> <li>J. Cheyne-stokes respirations gradually increase in rate and depth and then become shallow and slow, then a period of apnea.</li> </ul>	<ul style="list-style-type: none"> <li>A. Lecture</li> <li>B. Discussion</li> </ul>	<ul style="list-style-type: none"> <li>A. Written test</li> <li>B. Reports abnormal breathing pattern or change in resident's appearance or behavior to licensed nurse.</li> </ul>

<p><b>Objective 10</b>  <b>Describe the process for taking temperature, pulse and respiration (TPR) as a combined procedure.</b></p> <p>A. The temperature is taken first, then the pulse, followed by respirations.</p> <p>B. Be sure to remember the pulse rate while counting the respirations so they can be documented together.</p> <p>C. Try not to stop to record the pulse before counting the respirations.</p>	<p>A. Lecture/Discussion</p> <p>B. Demonstration/return demonstration of TPR measurement.</p> <p>C. Role play</p>	<p>A. Demonstrates accurate measurement of TPR in one process.</p> <p>B. Reports abnormal to licensed nurse.</p>
<p><b>Objective 11</b>  <b>Describe what happens in the circulatory system to produce blood pressure.</b></p> <p>A. Circulatory system and blood pressure</p> <ol style="list-style-type: none"> <li>1. Blood Pressure is the force (pressure) of the blood pushing against the walls of arteries.</li> <li>2. Systolic pressure (first number of reading) <ol style="list-style-type: none"> <li>a. Heart contracts forcing blood into the artery.</li> <li>b. Pressure at highest in arteries.</li> </ol> </li> <li>3. Diastolic pressure (second number of reading) <ol style="list-style-type: none"> <li>a. Heart at rest.</li> <li>b. Pressure at lowest in arteries; arteries completely open.</li> </ol> </li> <li>4. Thumping sounds <ol style="list-style-type: none"> <li>a. Produced as blood flows through the arteries.</li> <li>b. Heard in large arteries of limbs.</li> </ol> </li> <li>5. Sounds correspond to numbers <ol style="list-style-type: none"> <li>a. Represents millimeters of mercury (mm Hg), seen on sphygmomanometer.</li> <li>b. First sound heard when taking blood pressure is systolic pressure <ol style="list-style-type: none"> <li>1) Contraction of heart muscle.</li> <li>2) Closure of the mitral and tricuspid valves.</li> </ol> </li> <li>c. Last sound heard when taking the blood pressure is diastolic pressure.</li> </ol> </li> </ol>	<p>A. Lecture/Discussion</p> <p>B. Ask students to research pulse pressure reading and disorders where this would be indicated.</p>	<p>A. Written test</p>

<ul style="list-style-type: none"> <li>1) Relaxation of heart muscle.</li> <li>2) Closure of aortic and pulmonic valves.</li> <li>d. Recorded as an improper fraction—systolic over diastolic.</li> </ul> <p>B. Blood pressure – normal and abnormal ranges</p> <ul style="list-style-type: none"> <li>1. Normal adult <ul style="list-style-type: none"> <li>a. 120/80 mm Hg.</li> <li>b. 90 - 140 range for systolic.</li> <li>c. Systolic reading of 139 is classified as pre-hypertensive.</li> <li>d. 60-90 range for diastolic.</li> <li>e. Diastolic reading of 89 is classified as pre-hypertensive.</li> </ul> </li> <li>2. Abnormal blood pressures <ul style="list-style-type: none"> <li>a. Hypertension; persistent measurements above normal range <ul style="list-style-type: none"> <li>1) 140 and above – systolic.</li> <li>2) 90 and above – diastolic.</li> </ul> </li> <li>b. Hypotension; persistent measurements below normal range. <ul style="list-style-type: none"> <li>1) 90 and below – systolic.</li> <li>2) 60 and below – diastolic.</li> </ul> </li> </ul> </li> <li>3. Pulse pressure <ul style="list-style-type: none"> <li>a. The difference between systolic and diastolic pressures.</li> <li>b. May provide information concerning health of blood vessels (arteries).</li> <li>c. Average range is 30-50 mmHg.</li> </ul> </li> </ul>		
<p><b>Objective 12</b>  <b>Identify factors that increase or decrease blood pressure.</b></p> <p>A. Factors that raise blood pressure</p> <ul style="list-style-type: none"> <li>1. Strong emotion.</li> <li>2. Exercise.</li> <li>3. Standing or sitting.</li> <li>4. Excitement.</li> <li>5. Pain.</li> </ul>	<p>A. Lecture  B. Discussion</p>	<p>A. Written test</p>

6. Decrease of blood vessel size. 7. Digestion. 8. Improperly placed cuff. B. Factors that lower blood pressure 1. Rest/sleep. 2. Lying down. 3. Depression. 4. Shock. 5. Hemorrhage.		
<b>Objective 13</b> <b>Identify parts of the blood pressure equipment.</b> A. Manual sphygmomanometer a. Cuff. b. Bulb. c. Manometer (aneroid or mercury column). 2. Stethoscope. B. Electronic (automated) sphygmomanometer 1. Cuff is attached to patient. 2. Cuff automatically inflates and deflates. 3. Blood pressure displayed digitally. 4. Stethoscope not required. C. Some facilities may use a monitoring device that measures other vital signs such as pulse rate, temperature and blood oxygen levels as well as blood pressure.	A. Lecture/Discussion B. Show equipment.	A. Written test
<b>Objective 14</b> <b>Discuss the procedure for taking a blood pressure reading.</b> A. Guidelines 1. Blood pressure commonly is measured at the brachial artery. 2. The popliteal artery (behind the knee) may also be used. 3. Blood pressure measurements at a site other than the brachial artery must be ordered by a doctor. 4. Resident should be at rest; check position order (LSS-lying,	A. Lecture/Discussion B. Manual Skills 10.14a- Blood Pressure-One step. C. Manual Skills 10.14b- Blood Pressure-Two	A. Written test B. Demonstrates accurate measurement of blood pressure. C. Reports abnormal blood pressure to licensed nurse.

<p>sitting, standing.)</p> <ol style="list-style-type: none"> <li>5. Make sure manometer is properly calibrated (reads "0" when no air is in cuff).</li> <li>6. Use appropriate sized cuff for the limb being used to measure blood pressure. <ol style="list-style-type: none"> <li>a. Cuff that is too narrow or too loose gives a false high reading.</li> <li>b. Cuff below the level of the heart will give a false high reading.</li> <li>c. Improperly placed cuff or improperly sized cuff gives a false low reading.</li> </ol> </li> <li>7. Do not take the blood pressure on an arm or side with injury or medical equipment present such as <ol style="list-style-type: none"> <li>a. IV line.</li> <li>b. Burns or injuries.</li> <li>c. Paralysis due to stroke.</li> <li>d. Amputation.</li> <li>e. Cast.</li> <li>f. Recent trauma.</li> <li>g. Site used for dialysis.</li> <li>h. Mastectomy or surgery on the breast.</li> </ol> </li> <li>8. Position the resident's arm level with the heart.</li> <li>9. Apply blood pressure cuff to bare arm (not over clothing).</li> <li>10. Position the sphygmomanometer at the Nursing Assistant's eye level.</li> </ol> <p>B. Measurement techniques</p> <ol style="list-style-type: none"> <li>1. One step; no estimation of systolic pressure before measurement.</li> <li>2. Two step; estimation of systolic pressure before measurement.</li> </ol>	<p>step.</p> <ol style="list-style-type: none"> <li>D. Display equipment and have students identify parts.</li> <li>E. Demonstration and return demonstration of blood pressure measurement.</li> <li>F. Role play.</li> </ol>	
<p><b>Objective 15</b>  <b>Discuss observation and reporting of resident's pain.</b>  A. Pain is now known as the 5th vital sign.</p>	<p>A. Lecture/Discussion</p>	<p>A. Written test</p>

<ol style="list-style-type: none"> <li>1. Pain is not a normal part of aging.</li> <li>2. Pain is a warning or distress signal by the body that something is wrong.</li> <li>3. Nursing Assistants may be the first to notice that resident is in pain.</li> <li>4. Nursing Assistant must use skills of observation, as some residents may not verbally indicate they have pain.</li> <li>5. Each person's response to pain may be different.</li> <li>6. Culture may play an important part on a resident's reaction to having pain.</li> <li>7. Pain may cause or increase anxiety and or stress.</li> <li>8. Take complaints of pain seriously, avoid judging.</li> </ol> <p>B. Signs of Pain</p> <ol style="list-style-type: none"> <li>1. Increased pulse, respirations, blood pressure.</li> <li>2. Sighing, moaning, groaning, or crying.</li> <li>3. Nausea, vomiting.</li> <li>4. Sweating.</li> <li>5. Squeezing eyes shut, tightening jaw, grinding teeth, holding a body part tightly.</li> <li>6. Increased restlessness, agitation or tension.</li> <li>7. Difficulty moving, positioning or walking.</li> </ol> <p>C. Guidelines for observation and reporting of pain</p> <ol style="list-style-type: none"> <li>1. Ask resident if they are in any pain. Use pain scale.</li> <li>2. Ask resident to describe the pain <ol style="list-style-type: none"> <li>a. Location.</li> <li>b. Frequency (continuous, off and on).</li> <li>c. Duration (how long pain lasts).</li> <li>d. Pain quality (nature and type of pain).</li> </ol> </li> <li>3. Observe facial expression, movement, respiration.</li> <li>4. Ask resident level of pain using facility method.</li> <li>5. Report complaints of pain to licensed nurse.</li> </ol> <p>D. Nurse Assistant comfort measures</p>	<p>B. Handout 10.15- Pain Scale.</p> <p>C. Role play use of pain scale.</p> <p>D. Ask students to share possible barriers related to pain management.</p>	<p>B. Observation in clinical</p>
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<ol style="list-style-type: none"> <li>1. Check on resident often and ask if the pain has been relieved.</li> <li>2. Tell patient what you plan to do and how you will do it.</li> <li>3. Avoid sudden, jerking movement when repositioning.</li> <li>4. Offer backrubs (if indicated).</li> <li>5. Listen to resident concerns, provide emotional support.</li> <li>6. Maintain a clean, comfortable, quiet environment.</li> <li>7. Eliminate unpleasant sounds, sights, odors from the environment.</li> </ol>		
<p><b>Objective 16</b>  <b>Record vital signs on chart, graph and Nursing Assistant notes.</b></p> <p>A. Charting temperature, pulse, respiration (TPR)</p> <ol style="list-style-type: none"> <li>1. Report normal and abnormal TPR to licensed nurse.</li> <li>2. Record on hospital flow sheets, graphic records, and Nursing Assistant notes according to facility policies. Record in the order of TPR.</li> <li>3. Record temperature             <ol style="list-style-type: none"> <li>a. Chart rectal temperature with an "R" (example 101°F (R)).</li> <li>b. Chart an axillary temperature with an "AX" (example 101°F (AX)).</li> </ol> </li> <li>4. Pulse readings other than radial must be noted (example; Apical pulse 86 (a)).</li> <li>5. Record respiratory rate.</li> </ol> <p>B. Charting blood pressure</p> <ol style="list-style-type: none"> <li>1. Record and report abnormal high or low reading to licensed nurse.</li> <li>2. Write on chart as a fraction: systolic/diastolic (example 120/80).</li> <li>3. If taken in a place other than arm, note location (example 150/90-thigh).</li> </ol>	<p>A. Lecture/Discussion</p> <p>B. Provide facility flow chart and/or graphic sheets for students to practice recording.</p> <p>C. Role play and record vital signs.</p>	<p>A. Written test</p> <p>B. Accurately records vital signs on facility flow charts and graphic sheets according to facility policy.</p>



**Sample Test: Module 10- Vital Signs**

1. The amount of force exerted against the walls of the artery by the blood is commonly referred to as:
  - A. Blood pressure.
  - B. Pulse.
  - C. Metabolism.
  - D. Hypertension.
2. The normal oral temperature of an adult resident is:
  - A. 96.2 °F
  - B. 98.6°F
  - C. 101.0° F
  - D. 99.6° F
3. The Nurse Assistant enters Mr. S's room to take his oral temperature and observes that he is drinking a glass of ice water. The Nurse Assistant should:
  - A. Proceed with the oral temperature as planned.
  - B. Take a rectal temperature instead because the ice water will affect an oral reading.
  - C. Place a plastic sheath over the oral thermometer so the reading won't be affected.
  - D. Request that the patient not eat or drink anything else for 15 minutes and then return to take his temperature.
4. Which of the steps mentioned below should the Nurse Assistant not do as part of taking a rectal temperature for an adult?
  - A. Shake down the thermometer until it registers below 96°F.
  - B. Position the patient in the prone position.
  - C. Lubricate the bulb end of the thermometer.
  - D. Insert the thermometer one inch into the rectum.
5. Which of the following can increase the pulse rate?
  - A. Depression.
  - B. Cold.
  - C. Pain.
  - D. Sleep.

6. Before using a stethoscope from the nursing unit, the Nurse Assistant should:
  - A. Wash the diaphragm with soap and water.
  - B. Clean the earpieces and the diaphragm with an alcohol wipe.
  - C. Disinfect the entire stethoscope with a strong disinfectant.
  - D. Replace the earpieces as they are disposable.
7. A resident's diastolic pressure is 104 mm Hg. A high diastolic reading could be serious because it:
  - A. Means the resident has hypotension.
  - B. Means the resident is in shock.
  - C. Measures the amount of pressure in the arteries when the heart is contracting.
  - D. Measures the amount of pressure in the arteries when the heart is at rest.
8. Mr. Johnson is a 75 year old, who has a cardiac condition and is experiencing bradycardia. Which pulse rate represents bradycardia?
  - A. 152 beats per minute.
  - B. 84 beats per minute.
  - C. 68 beats per minute.
  - D. 42 beats per minute.
9. The Nurse Assistant is taking routine vital signs on a resident who is known to have an irregular pulse. The Nurse Assistant should take a:
  - A. Radial pulse for 15 seconds and multiply by 4.
  - B. Radial pulse for 30 seconds and multiply by 2.
  - C. Radial pulse for one full minute.
  - D. Carotid pulse for 30 seconds and multiply by 2.
10. The radial pulse is the most common site used for routine vital signs. The radial pulse is located on the:
  - A. Internal side of the arm just below the elbow.
  - B. External side of the arm just below the elbow.
  - C. Thumb side of the wrist.
  - D. Little finger (pinkie) side of the wrist.

11. When taking a resident's temperature, pulse, respirations (TPR), the respiration should be counted after the:
- A. Temperature has been taken.
  - B. Pulse has been taken, while the fingers remain on the pulse site.
  - C. Pulse has been taken and written down.
  - D. Nurse Assistant informs the resident that the respirations will be counted.
12. A respiration is defined as:
- A. One deep inhalation.
  - B. One full inhalation and exhalation cycle.
  - C. One deep exhalation.
  - D. A breath counted with each heartbeat.
13. A resident has a temperature of 102° F. What can the Nurse Assistant do to assist in lowering the fever without a physician's order?
- A. Give the resident an alcohol bath.
  - B. Apply an ice cap to the resident's forehead.
  - C. Place the patient on a hypothermia blanket.
  - D. Encourage the resident to drink cool fluids, if allowed to have oral intake.
14. Which of the following pulse rates and blood pressure readings are within normal range for adult
- A. Pulse 100, BP 200/100.
  - B. Pulse 110, BP 140/90.
  - C. Pulse 72, BP 130/84.
  - D. Pulse 40, BP 90/60.
15. Which of the following signs is not associated with a fever?
- A. Flushed face.
  - B. Thirst.
  - C. Skin dry and hot to touch.
  - D. Decreased pulse.

16. When a resident experiences difficult, painful or labored breathing, it is known as:
- A. Tachypnea.
  - B. Apnea.
  - C. Dyspnea.
  - D. Bradypnea.
17. Which one of the following statements about blood pressure is true:
- A. The cuff can be placed over clothing.
  - B. Blood pressure can be measured on an injured arm or one that has an IV inserted.
  - C. The cuff is inflated 20mm – 30mm above the point where the radial pulse was palpated in the two step procedure.
  - D. Blood pressure cuffs should be the same size for all residents.
18. Which of the following pulses is located at the inner side of the elbow?
- A. Carotid.
  - B. Apical.
  - C. Popliteal.
  - D. Brachial.
19. When taking a blood pressure reading, the higher number represents the pressure in the artery at the peak of cardiac contraction. This is called the:
- A. Apical pressure.
  - B. Diastolic pressure.
  - C. Systolic pressure.
  - D. Pulse pressure.
20. When a resident must be in a sitting position in order to breathe, this is known as:
- A. Cheyne-stokes respiratory.
  - B. Orthopnea.
  - C. Hyperventilation.
  - D. Snoring.

21. When taking a resident's blood pressure, the Nurse Assistant will need to use a stethoscope and a:
- A. Wrist watch.
  - B. Specimen container.
  - C. Thermometer.
  - D. Sphygmomanometer.
22. The Nurse Assistant is preparing to take a resident's blood pressure. The resident has an IV in the right arm. The Nurse Assistant should:
- A. Take the blood pressure above the IV site in the right arm.
  - B. Take the blood pressure on the left arm.
  - C. Use a small cuff to take the blood pressure on the right arm.
  - D. Report the situation to the licensed nurse.
23. The Nurse Assistant should know that the first sounds heard when taking a blood pressure reading is called the:
- A. Pulse pressure.
  - B. Diastolic pressure.
  - C. Auscultatory gap.
  - D. Systolic pressure.
24. When taking a resident's vital signs, which of the following should the Nurse Assistant recognize as abnormal?
- A. Pulse 124.
  - B. Respirations 18.
  - C. Oral temperature, 99° F (37.2° C).
  - D. Blood pressure 138/60 mmHg.
25. Which of the following is the correct order for the Nurse Assistant to use when recording a resident's vital signs?
- A. Pulse, temperature, and respirations.
  - B. Blood pressure, respirations, and temperature.
  - C. Temperature, pulse, and respirations.
  - D. Respirations, pulse, and blood pressure.

26. When the resident returns to his room after a short walk, he reports shortness of breath and tightness in the chest. Which of the following should the Nurse Assistant do FIRST?
- A. Tell the resident that he will be fine soon.
  - B. Take their vital signs.
  - C. Stay with the resident and call for the nurse immediately.
  - D. Call the family.
27. When a Nurse Assistant is unable to obtain a resident's pulse rate:
- A. Ask another nurse assistant to check the pulse.
  - B. Take the pulse again for 15 seconds and multiply the rate by 4.
  - C. Ask the resident if her pulse is sometimes hard to find.
  - D. Take the pulse for a full minute at another location.
28. The Nurse Assistant is taking a resident's temperature. Which of the following would be a normal axillary temperature reading?
- A. 97.6° F (36.4° C)
  - B. 98.6° F (37° C)
  - C. 99.6° F (37.6° C)
  - D. 100.6° F (38.1° C)
29. The Nurse Assistant is taking a resident's blood pressure. To read systolic pressure a second time, the Nurse Assistant should:
- A. Immediately pump the cuff back up to 200 mmHg and try again.
  - B. Deflate the cuff completely, wait 1-2 minutes and retake the blood pressure.
  - C. Continue to deflate the cuff and add 20 points to the first sound heard.
  - D. Wait at least 30 minutes before reading the blood pressure again.
30. To take a resident's pulse, the Nurse Assistant should:
- A. Put on gloves.
  - B. Use the thumb to feel the pulse.
  - C. Count the pulse for 10 seconds.
  - D. Take the pulse on the thumb side of the wrist.

**Sample Test Answers: Module 10**

- |     |   |     |   |
|-----|---|-----|---|
| 1.  | A | 16. | C |
| 2.  | B | 17. | C |
| 3.  | D | 18. | D |
| 4.  | B | 19. | C |
| 5.  | C | 20. | B |
| 6.  | B | 21. | D |
| 7.  | D | 22. | B |
| 8.  | D | 23. | D |
| 9.  | C | 24. | A |
| 10. | C | 25. | C |
| 11. | B | 26. | B |
| 12. | B | 27. | D |
| 13. | D | 28. | A |
| 14. | C | 29. | B |
| 15. | D | 30. | D |

**Manual Skill: Oral Temperature**

**EQUIPMENT:**

Disposable sheath (cover)  
Gloves (check facility policy)  
Pen and paper  
Thermometer Glass—Oral with blue or green color coding; check for cracks, breaks or chips  
Tissue  
Watch

**TEMPERATURE: Oral (98.6 degrees F or 37.0 degrees C)**

**BEGINNING STEPS:**

1. Wash hands.
2. Knock and pause before entering the resident's room.
3. Introduce self.
4. Identify resident.
5. Explain procedure speaking clearly, slowly, and directly. Maintain face-to-face contact whenever possible.
6. Gather equipment, if applicable.
7. Provide for privacy with a curtain, door, or screen.
8. Apply gloves (standard precautions).

**SKILL STEPS:**

1. Rinse thermometer in cool water and dry with tissue. Shake mercury down below 96 degrees F, holding the thermometer at end opposite bulb. Check again for chips, cracks or breaks.
2. Apply thermometer cover.
3. Ask the resident if he/she has recently had hot or cold liquids or smoked. If so, wait 15 minutes to take temperature.
4. Place bulb of the thermometer in resident's mouth under base of tongue. Instruct the resident to close lips around the thermometer; stay with resident.
5. Note time of insertion and remove in 2-3 minutes or time interval according to facility policy.



6. Remove thermometer cover with gloved hand and wipe thermometer from stem to bulb with tissue. Do not touch bulb end of thermometer.
7. Read thermometer to the nearest two tenths of a degree.
8. Record temperature on paper if ordered, and proceed with vital signs.
9. Wash the thermometer with cool water and soap, and shake down before storing in the proper container (according to facility procedure). Note – never use hot water.
10. Discard sheath according to facility policy.

**ENDING STEPS:**

1. Clean and return equipment and supplies, if applicable.
2. Remove gloves (without contaminating self) into waste container and wash hands
3. Position resident comfortably.
4. Place call light within reach.
5. Lower bed to safe position for the resident.
6. Leave room neat.
7. Wash hands.
8. Document.
9. Report abnormal findings to licensed nurse.

NOTE: Contraindications for oral temperatures include the resident who is:

1. Confused.
2. Disoriented.
3. Restless.
4. Unconscious.
5. Coughing.
6. Unable to breathe through his/her nose.
7. Prone to seizures.
8. Receiving oral/nasal oxygen.
9. Has difficulty breathing.
10. Receiving nasogastric tube feeding.

**Manual Skill: Axillary Temperature**

**EQUIPMENT:**

Disposable sheath (cover)  
Gloves (check facility policy)  
Pen and paper  
Thermometer Glass—Oral with blue or green color coding; check for cracks, breaks or chips  
Tissue  
Watch

**TEMPERATURE: Axillary (97.6 degrees F or 36.4 degrees C)**

**BEGINNING STEPS:**

1. Wash hands.
2. Knock and pause before entering the resident's room.
3. Introduce self.
4. Identify resident.
5. Explain procedure speaking clearly, slowly and directly. Maintain face-to-face contact whenever possible.
6. Gather equipment, if applicable.
7. Provide for privacy using a curtain, screen, or door.
8. Apply gloves, if necessary.

**SKILL STEPS:**

1. Rinse thermometer in cool water, dry with tissue.
2. Shake thermometer down below 96 degrees F, holding thermometer at end opposite bulb.
3. Apply thermometer cover.
4. Remove the resident's arm from the sleeve of the gown. Protect resident's privacy. If the axillary region is moist with perspiration, pat dry with a towel.
5. Place the bulb of the thermometer in the center of the armpit (axilla).
6. Put the resident's arm across the chest or abdomen.
7. If the resident is unconscious or too weak to help, hold the thermometer in place.

8. Hold the thermometer in place for 5-10 minutes. Stay with the resident.
9. Remove the thermometer. Remove the disposable cover (with gloved hand if necessary) discard cover as per facility policy. Wipe thermometer off from stem to bulb.
10. Read the thermometer and record the temperature to the nearest two-tenths degree. Note that this is an axillary temperature by writing an "AX" after the figure.
11. Put the resident's arm back in the sleeve of the gown.
12. Wash the thermometer in cool water and soap and store according to facility policy.

**ENDING STEPS:**

1. Clean and return equipment and supplies, if applicable.
2. Remove gloves (if wearing) without contaminating self into water container and washes hands.
3. Position resident comfortably.
4. Place call light within reach.
5. Lower bed to safe position for the resident.
6. Leave room neat.
7. Wash hands.
8. Document.
9. Report abnormal findings to licensed nurse.

**Manual Skill: Tympanic Temperature**

**EQUIPMENT:**

Pen and paper

Thermometer (electronic tympanic thermometer) with probe covers

**TEMPERATURE: Tympanic (Aural) (98.6 degrees F or 37.0 degrees C)**

**BEGINNING STEPS:**

1. Wash hands.
2. Knock and pause before entering the resident's room.
3. Introduce self.
4. Identify resident.
5. Explain procedure speaking clearly, slowly, and directly. Maintain face-to-face contact whenever possible
6. Gather equipment, if applicable.
7. Provide for privacy with a curtain, door, or screen.
8. Apply gloves (standard precautions).

**SKILL STEPS:**

1. Apply disposable probe cover to thermometer.
2. Ask the resident to turn their head so that the ear is in front of you.
3. Gently pull back on ear to straighten the ear canal.
4. Insert covered probe, making sure the canal opening is sealed off, rotating the probe handle until it is aligned with the jaw.
5. Activate thermometer by pressing appropriate button.
6. The temperature is measured within 2-3 seconds and is displayed in digital format.
7. Eject the used probe cover into the trash without touching it.
8. Record temperature on paper.

**ENDING STEPS:**

1. Clean and return equipment and supplies, if applicable.
2. Remove gloves (without contaminating self) into waste container and wash hands.
3. Position resident comfortably.
4. Place call light within reach.
5. Lower bed to safe position for the resident.
6. Leave room neat.
7. Wash hands.
8. Document.
9. Report abnormal findings to licensed nurse.

**Manual Skill: Rectal Temperature**

**EQUIPMENT:**

Gloves (check facility policy)  
Paper towel  
Pen and paper  
Thermometer; glass; rectal (red color coded, check for cracks, breaks or chips)  
Thermometer covers  
Tissue  
Watch  
Water-soluble lubricant (unless probe covers are pre-lubricated)

**TEMPERATURE: Rectal (99.6 degrees F or 37.5 degrees C)**

**BEGINNING STEPS**

1. Wash hands.
2. Knock and pause before entering the resident's room.
3. Introduce self.
4. Identify resident.
5. Explain procedure speaking clearly, slowly, and directly. Maintain face-to-face contact whenever possible.
6. Gather equipment, if applicable.
7. Provide for privacy with a curtain, door, or screen.
8. Apply gloves (standard precautions).

**SKILL STEPS:**

1. Take the thermometer from the container; check for breaks or chips.
2. Shake thermometer down to below 96° F.
3. Apply thermometer cover.
4. Assist the resident to lie on one side with their back toward you. (Sim's position).
5. Cover the resident with the bed linens so that only the anal area shows.
6. Obtain a paper towel and tissues.

7. Place a small amount of lubricating jelly on the paper towel.
8. Lubricate the bulb end of the thermometer.
9. Apply gloves if not already wearing.
10. Lift the upper buttock so the anus is seen.
11. Insert the thermometer 1" into the rectum. (NEVER FORCE, STOP IF UNABLE TO INSERT, notify charge nurse.)
12. Hold it in place for 2-3 minutes or as required by facility policy. Stay with the resident.
13. Remove the thermometer.
14. Remove the plastic cover with a tissue.
15. Place the used tissue on the paper towel.
16. Place thermometer on the paper towel.
17. Wipe the rectal area clean of any excess lubricant with tissue.
18. Cover the resident.
19. Discard soiled tissue in the toilet.
20. Read temperature to the nearest two-tenths degree and note it was measured rectally by writing an "R" after the number.
21. Shake down the thermometer.
22. Wash with cool water and soap from stem to bulb.
23. Place the thermometer into the proper container.
24. Remove gloves.
25. Wash hands.
26. Write down the temperature on a piece of paper.

**ENDING STEPS:**

1. Clean and return equipment and supplies, if applicable.
2. Remove gloves (without contaminating self) into waste container and wash hands.
3. Position resident comfortably.
4. Place call light within reach.
5. Lower bed to safe position for the resident.
6. Leave room neat.
7. Wash hands.
8. Document.
9. Report abnormal findings to licensed nurse.

**Note:** Contraindications for rectal temperatures include the resident who has:

Diarrhea	Rectal bleeding	Surgical rectal closure
Fecal impaction	Hemorrhoids	

**Manual Skill: Electronic Temperature**

**EQUIPMENT:**

Battery-operated electronic thermometer; correct color coded probe (blue/green for oral or axillary, red for rectal)

Plastic disposable probe cover

Water-soluble lubricant (for rectal temperature)

Gloves (for rectal temperature)

Pen and paper

**BEGINNING STEPS:**

1. Wash hands.
2. Knock and pause before entering the resident's room.
3. Introduce self.
4. Identify resident.
5. Explain procedure speaking clearly, slowly, and directly. Maintain face-to-face contact whenever possible.
6. Gather equipment, if applicable.
7. Provide for privacy with a curtain, door, or screen.
8. Apply gloves (standard precautions).

**SKILL STEPS:**

1. Remove the probe from its stored position and insert it into the probe cover; turn on electronic thermometer.
2. Insert the covered probe in the appropriate opening (mouth, axilla, or rectum). For rectal temperature, lubricate the probe cover and wear gloves.
3. Hold probe in place and wait for beep to signal the temperature is complete, and note reading.
4. Remove the probe, release and discard the probe cover without touching it.
5. Return the probe to its stored position.
6. Write the temperature on a piece of paper.



**ENDING STEPS:**

1. Clean and return equipment and supplies, if applicable.
2. Remove gloves (without contaminating self) into waste container and wash hands.
3. Position resident comfortably.
4. Place call light within reach.
5. Lower bed to safe position for the resident.
6. Leave room neat.
7. Wash hands.
8. Document.
9. Report abnormal findings to licensed nurse.

**Manual Skill: Apical Pulse**

**EQUIPMENT:**

Alcohol wipe  
Gloves if necessary  
Pen and paper  
Stethoscope  
Watch with second hand

**BEGINNING STEPS:**

1. Wash hands.
2. Knock and pause before entering the resident's room.
3. Introduce self.
4. Identify resident.
5. Explain procedure speaking clearly, slowly, and directly. Maintain face-to-face contact whenever possible.
6. Gather equipment, if applicable.
7. Provide for privacy with a curtain, door, or screen.
8. Apply gloves (standard precautions).

**SKILL STEPS:**

1. Clean the earpieces and diaphragm with wipes.
2. Have resident sit or lie down.
3. Expose the nipple area of the left chest. Do not expose a woman's breast.
4. Warm the diaphragm in your palm.
5. Place the earpieces in your ears.
6. Locate the apical pulse. Place the diaphragm 2-3 inches to the left of the breastbone and below the left nipple.
7. Count the pulse for one full minute, note if it is regular or irregular.
8. Cover the resident; remove earpieces.

**ENDING STEPS:**

10. Clean and return equipment and supplies, if applicable.
11. Remove gloves (without contaminating self) into waste container and wash hands.
12. Position resident comfortably.
13. Place call light within reach.
14. Lower bed to safe position for the resident.
15. Leave room neat.
16. Wash hands.
17. Document.
18. Report abnormal findings to licensed nurse.

**Manual Skill: Count and Record Radial Pulse**

**EQUIPMENT:**

Wrist watch or other clock with second hand

**BEGINNING STEPS**

1. Wash hands.
2. Knock and pause before entering the resident's room.
3. Introduce self.
4. Identify resident.
5. Explain procedure speaking clearly, slowly, and directly. Maintain face-to-face contact whenever possible
6. Gather equipment, if applicable.
7. Provide for privacy with a curtain, door, or screen

**SKILL STEPS:**

1. Places fingertips on thumb side of client's wrist to locate radial pulse.
2. Count beats for one full minute.
3. After obtaining pulse by palpating in radial artery position, records pulse rate within plus or minus 4 beats of evaluators reading.

**ENDING SKILLS:**

1. Position resident comfortably.
2. Lower bed to safe position for the resident.
3. Signaling device is within reach.
4. Leave room neat.
5. Wash hands.
6. Document.
7. Report abnormal findings to licensed nurse.

**Manual Skill: Count and Record Respiration**

**EQUIPMENT:**

Gloves if necessary  
Pen and paper  
Watch with second hand

**BEGINNING STEPS:**

1. Wash hands.
2. Knock and pause before entering the resident's room.
3. Introduce self.
4. Identify resident.
5. Explain procedure speaking clearly, slowly, and directly. Maintain face-to-face contact whenever possible.
6. Gather equipment, if applicable.
7. Provide for privacy with a curtain, door, or screen.

**SKILL STEPS:**

1. Count respirations for one full minute.
2. Washes hands.
3. Record respirations rate within plus or minus 2 breaths of evaluators reading.

**ENDING STEPS:**

1. Position resident comfortably.
2. Lower bed to safe position for the resident.
3. Signaling device is within reach.
4. Leave room neat.
5. Wash hands.
6. Document.
7. Report abnormal findings to licensed nurse.

**Manual Skill: Measure and Record Blood Pressure**

**EQUIPMENT:**

Alcohol wipe  
Blood pressure cuff (sphygmomanometer)  
Pen and paper  
Stethoscope

**BEGINNING STEPS:**

1. Wash hands.
2. Knock and pause before entering the resident's room.
3. Introduce self.
4. Identify resident.
5. Explain procedure speaking clearly, slowly, and directly. Maintain face-to-face contact whenever possible.
6. Gather equipment, if applicable.
7. Provide for privacy with a curtain, door, or screen.

**SKILL STEPS:**

1. Before using stethoscope, wipe bell/diaphragm and earpieces of stethoscope with alcohol.
2. Client's arm is positioned with palm up and upper arm is exposed.
3. Feels for brachial artery on inner aspect of arm, at bend of elbow.
4. Places blood pressure cuff snugly on client's upper arm, with sensor/arrow over brachial artery site.
5. Earpieces of stethoscope are in ears and bell/diaphragm is over brachial artery site.
6. **Candidate** inflates cuff between 160 mm Hg to 180 mm Hg. If beat heard immediately upon cuff deflation, completely deflate cuff. Re-inflate cuff to no more than 200mm Hg.
7. Deflates cuff slowly and notes the first sound (systolic reading), and last sound (diastolic reading) (If rounding needed, measurements are rounded UP to the nearest 2 mm of mercury.)
8. Removes cuff.
9. Before recording wash hands.
10. After obtaining reading using BP cuff and stethoscope, record both systolic and diastolic pressures each within plus or minus 8 mm Hg of evaluators reading .

**ENDING STEPS:**

1. Clean and return equipment and supplies, if applicable.
2. Position resident comfortably.
3. Lower bed to safe position for the resident.
4. Signaling device is within reach.
5. Leave room neat.
6. Wash hands.
7. Document.
8. Report abnormal findings to licensed nurse.

**Manual Skill: Blood Pressure – Two Step**

**EQUIPMENT:**

Alcohol wipe  
Blood pressure cuff (sphygmomanometer)  
Pen and paper  
Stethoscope

**BEGINNING STEPS:**

1. Wash hands.
2. Knock and pause before entering the resident's room.
3. Introduce self.
4. Identify resident.
5. Explain procedure speaking clearly, slowly, and directly. Maintain face-to-face contact whenever possible
6. Gather equipment, if applicable.
7. Provide for privacy with a curtain, door, or screen
8. Apply gloves (standard precautions)

**SKILL STEPS:**

1. Wipe the stethoscope earpieces and diaphragm with alcohol wipes.
2. Have the person sit or lie down.
3. Position the person's arm so it is level with the heart. The palm should be up.
4. Stand no more than three feet away from the sphygmomanometer. A mercury model should be vertical, on a flat surface, and at eye level. Have the aneroid type directly in front of you.
5. Expose the upper arm.
6. Squeeze the cuff to expel any remaining air. Close the valve on the bulb.
7. Find the brachial artery at the inner aspect of the arm, at bend of elbow.
8. Place the arrow on the cuff over the brachial artery. Wrap the cuff around the upper arm at least one inch above the elbow. It should be even and snug.
9. Place the stethoscope earpieces in your ears.
10. Locate the radial artery, palpating the radial pulse. Inflate the cuff until you can no longer feel the pulse.

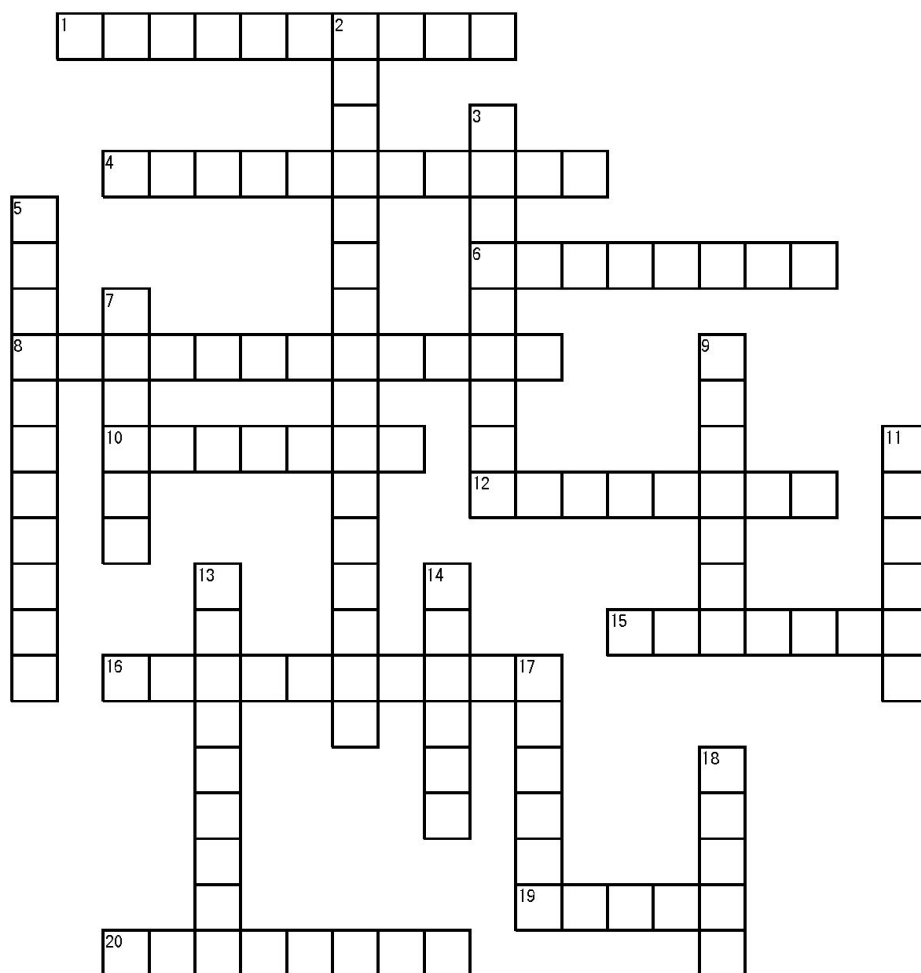


11. Deflate the cuff completely.
12. Inflate the cuff 30 mm Hg beyond the point at which you last felt the pulse.
13. Position the diaphragm over the brachial artery. Do not use thumb on diaphragm.
14. Deflate the cuff at an even rate of 2 to 4 millimeters per second. Turn the valve counterclockwise to deflate the cuff.
15. Note the point on the scale where you hear the first sound. This is the systolic reading. It should be near the point where the radial pulse disappeared.
16. Continue to deflate the cuff. Note the point where the sound disappears for the diastolic reading. Measurements are rounded up to the nearest 2mm of mercury if rounding is needed.
17. Deflate the cuff completely. Remove it from the person's arm. Remove the stethoscope.
18. Record the person's name and blood pressure on your note pad.
19. Return the cuff to the case or wall holder.

**ENDING STEPS:**

1. Clean and return equipment and supplies, if applicable.
2. Remove gloves (without contaminating self) into waste container and wash hands.
3. Position resident comfortably.
4. Place call light within reach.
5. Lower bed to safe position for the resident.
6. Leave room neat.
7. Wash hands.
8. Document.
9. Report abnormal findings to licensed nurse.

# Vital Signs



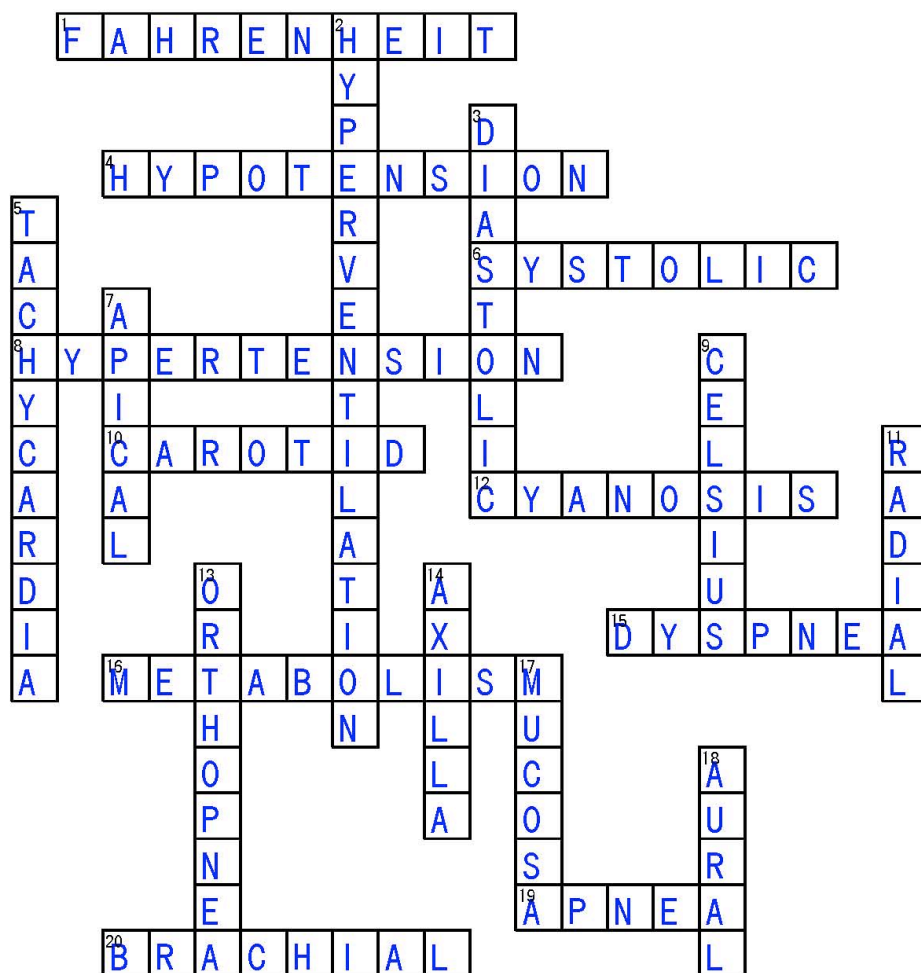
## Across

- 1 A particular type of temperature scale
- 4 Low blood pressure
- 6 Top or first number of blood pressure
- 8 High blood pressure
- 10 Pulse found in neck
- 12 Blue color to lips or skin
- 15 Labored breathing
- 16 Body burns food for energy
- 19 Not breathing
- 20 Pulse found at front of elbow

## Down

- 2 Rapid, deep breathing
- 3 Second or lower number of blood pressure reading
- 5 Rapid heart beat
- 7 Pulse located over the heart
- 9 A centigrade thermometer
- 11 Pulse at wrist
- 13 Must sit upright to breathe
- 14 Underarm
- 17 A type of membrane in the mouth
- 18 Referring to the ear

# Vital Signs



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Module 10: Vital Signs

	<b>Temperature (T)</b>	<b>Pulse (P)</b>	<b>Respiration (R)</b>	<b>Blood Pressure (BP)</b>
<b>Normal Range</b>	Oral: 97.6°-99.6°F Average: 98.6°F (37°C) Rectal: 98.6°-100.6°F Axillary: 96.6°- 98.6°F Tympanic: 97.6°-99.6°F Temporal: 99.4°-101.4°F	Adult:60-100 per minute	Adult: 12-20 per minute	<b>Normal:</b> Systolic- 100-139 Diastolic- 60-89 <b>High:</b> 140/90 or above
<b>Factors that affect the vital signs</b>	<p><b><u>Raises Temperature:</u></b></p> <ol style="list-style-type: none"> <li>1. Dehydration</li> <li>2. Exercise</li> <li>3. Exposure to external heat</li> <li>4. Infection</li> <li>5. Pain</li> <li>6. Smoking</li> <li>7. Strong emotions</li> </ol> <p><b><u>Lowers Temperature:</u></b></p> <ol style="list-style-type: none"> <li>1. Cold drink or food</li> <li>2. Depression</li> <li>3. Exposure to cold</li> <li>4. Rest/sleep</li> <li>5. Shock</li> <li>6. Starvation</li> </ol> <p><b><u>Time of day (diurnal changes)</u></b></p> <ul style="list-style-type: none"> <li>• Temperature highest in the P.M. (4-6pm)</li> <li>• Temperature lowest in the A.M. (2-6am)</li> <li>• Reflects changes in cellular activity, muscle activity, and food metabolism.</li> </ul>	<p><b><u>Raises pulse:</u></b></p> <ol style="list-style-type: none"> <li>1. Anemia</li> <li>2. Excitement</li> <li>3. Exercise</li> <li>4. Fever</li> <li>5. Hemorrhage</li> <li>6. Pain</li> <li>7. Shock</li> <li>8. Strong emotions</li> </ol> <p><b><u>Lowers pulse:</u></b></p> <ol style="list-style-type: none"> <li>1. Depression</li> <li>2. Lying down</li> <li>3. Rest/sleep</li> </ol>	<p><b><u>Raises respiration:</u></b></p> <ol style="list-style-type: none"> <li>1. Elevated body temperature and/or environmental temperature</li> <li>2. Exercise</li> <li>3. Infection</li> <li>4. Strong emotions</li> </ol> <p><b><u>Lowers respiration:</u></b></p> <ol style="list-style-type: none"> <li>1. Depression</li> <li>2. Respiratory center depression</li> <li>3. Rest/sleep</li> </ol>	<p><b><u>Raises Blood Pressure:</u></b></p> <ol style="list-style-type: none"> <li>1. Digestion</li> <li>2. Disease of blood vessels</li> <li>3. Excitement</li> <li>4. Exercise</li> <li>5. Pain</li> <li>6. Standing or sitting</li> <li>7. Strong emotions</li> </ol> <p><b><u>Lowers Blood Pressure:</u></b></p> <ol style="list-style-type: none"> <li>1. Depression</li> <li>2. Hemorrhage</li> <li>3. Lying down</li> <li>4. Rest/sleep</li> <li>5. Shock</li> </ol>

## Module 10: Vital Signs

<b>Charting reminders</b>	<ol style="list-style-type: none"> <li>1. When written on chart as part of TPR Temperature is the first number. 98.6- 82-16</li> <li>2. Note as               <ol style="list-style-type: none"> <li>a. Oral 98.6</li> <li>b. Rectal 99.6(R)</li> <li>c. Axillary 97.6 (AX)</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. Rate; number of beats/minute</li> <li>2. Rhythm refers to time interval between beats</li> <li>3. Strength (force); thready, bounding</li> </ol> <p><b>Examples:</b></p> <ol style="list-style-type: none"> <li>a. Strong and regular: even beats with good force</li> <li>b. Weak and regular: even beats with poor force</li> <li>c. Irregular: both strong and weak beats occur within a minute</li> <li>d. Thready: generally means it is of weak force and irregular</li> </ol>	<ol style="list-style-type: none"> <li>1. Rate; number of respirations/minute</li> <li>2. Rhythm; time interval between respirations</li> <li>3. Depth; shallow, normal, deep</li> <li>4. Effort it involves</li> <li>5. Discomfort it causes</li> <li>6. Position patient adopts</li> <li>7. Sounds that accompany it.</li> <li>8. Cyanosis</li> </ol> <p><b>Examples:</b></p> <ol style="list-style-type: none"> <li>a. Regular in both depth and rate</li> <li>b. Rapid, shallow</li> <li>c. Very slow or very deep</li> <li>d. Irregular depth and rhythm (Cheyne-Stokes)</li> <li>e. Dyspnea; labored or difficult R, usually with pain</li> <li>f. Orthopnea; breathing possible only when person sits or stands up.</li> </ol>	<ul style="list-style-type: none"> <li>• If taken in a place other than the arm, note the location: <b>Example:</b> 150/90 thigh</li> </ul>
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**CHOOSE THE FACE THAT BEST DESCRIBES HOW YOU FEEL**




0 No Hurt      2 Hurts Little Bit      4 Hurts Little More      6 Hurts Even More      8 Hurts Whole Lot      10 Hurts Worst

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**CHOOSE A NUMBER FROM 0 TO 10 THAT BEST DESCRIBES YOUR PAIN**

No pain      Distressing pain      Unbearable pain



0 1 2 3 4 5 6 7 8 9 10

Jacobs A, Carr DB, Payne R, et al. *Clinical Practice Guideline Number 9: Management of Cancer Pain*. Rockville, Md: US Dept of Health and Human Services, Agency for Health Care Policy and Research; 1994. AHCPR publication 94-0692.

**Key subjects to ask patients about their pain:**  
**INTENSITY • LOCATION • ONSET • DURATION • VARIATION • QUALITY**

For more information about pain and pain management and prevention, visit our Web site: [www.partnersagainstpain.com](http://www.partnersagainstpain.com)

centimeters