8. Describe the steps in taking an orthostatic blood pressure.
   - See orthostatic BP poster in skills lab

9. Discuss the nursing action to take when the nurse suspects an apical-radial pulse deficit.
   - Two nurses count the pulse for 1 minute simultaneously, one counts at the apical site and one at the radial site, using one watch
6. List and define the five phases of the Korotkoff sounds for auscultating blood pressure

   a. Korotkoff I – onset of faint but clear tapping sounds which gradually increase in pitch and intensity.
   b. Korotkoff II – tap is followed by a murmur or swishing like sound. In normal individuals, the second phase usually starts 10-15 mm Hg below the onset of the first phase and lasts for 14-20 mm Hg.
   c. Korotkoff III – consists of distinct, loud tapping sounds without murmurs. They are high-pitched. Third phase ends when the tap rather suddenly becomes lower pitched and less intense.
   d. Korotkoff IV – this lower-pitched distinct abrupt muffling sound with a soft blowing quality constitutes the fourth phase. Sound produced by a completely open artery. This is considered the diastolic pressure in children.
   e. Korotkoff V – the cessation or disappearance of sound – recorded as diastolic pressure in adults.

7. Identify the difference in using a one-step method versus a two-step method of taking a client’s blood pressure.

   **One step method** –
   1. palpate radial pulse and pump cuff
   2. note level at which radial pulse disappears (to make sure you pump above systolic pressure)
   3. release control valve and wait 1-2 minutes
   4. close control valve and pump to 30 mm Hg above the level at which the pulse disappeared
   5. release control valve slowly at about 2-4 mm Hg per second and listen for Korotkoff sounds 1 and 5
   6. Note systolic and diastolic pressure

   **Two-step method:**
   1. palpate radial pulse and pump cuff
   2. note level at which radial pulse disappears (to make sure you pump above systolic pressure)
   3. continue to pump to 30 mm Hg above the level at which the pulse disappeared (not releasing the control valve makes this a one-step method)
   4. release control valve slowly at about 2-4 mm Hg per second and listen for Korotkoff sounds 1 and 5
   5. Note systolic and diastolic pressure
- most convenient; contraindications: unconscious, very young, uncooperative, confused, seizure, prone patients, oral surgery, mouth breathers, if O2 by mask
- Wait at least 15 minutes to take temp if patient too hot or cold liquids and 2 minutes if smoking or chewing gum

Axillary
  - Easy access
  - Preferred site for infants
  - No contraindications – but axilla needs to be dry for accuracy
  - Only reflects shell temperature

Rectal
  - Reflects core temperature
  - Uncomfortable and use as last resort if unable to access core temp by other routes
  - Contraindications: rectal surgery patients; diarrhea, Myocardial Infarction

Tympanic
  - Reflects core temperature
  - Convenient but inaccurate reading if positioning inaccurate (ear canal needs to be straightened)
  - Contraindications: ear infections with drainage in ear canal, severe cerumen build up in ear canal

5. Locate on the diagram the anatomical position of the carotid, brachial, radial, popliteal, dorsalis pedis, and posterior tibial pulses.
iv. Gender – temp slightly increased in women of childbearing age during ovulation.
v. Exercise and activity – both involve muscle contraction that produce heat.
vi. Circadian Rhythm – body temp. fluctuates during a 2-hour period which tends to be lowest from midnight to dawn, and highest in late afternoon to early evening.

vii. Emotions – affect metabolic rate by triggering hormonal changes. People who are consistently anxious and nervous tend to have slightly increased body temp, while people who are apathetic and depressed are prone to have slightly lower body temp.

viii. Illness or injury – diseases, injuries, and illnesses that affect the hypothalamus or mechanisms of heat production and loss alter body temp.

ix. Medications – alter body temp by increasing or decreasing metabolic rate and energy requirements.

2. Identify the physical findings associated with fever

<table>
<thead>
<tr>
<th>Fever</th>
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<tbody>
<tr>
<td>Pinkish, red, flushed skin that</td>
</tr>
<tr>
<td>Is warm to touch</td>
</tr>
<tr>
<td>Restlessness or excessive sleepiness</td>
</tr>
<tr>
<td>Irritability</td>
</tr>
<tr>
<td>Poor appetite</td>
</tr>
<tr>
<td>Glassy eyes and sensitivity to light</td>
</tr>
<tr>
<td>Increased perspiration</td>
</tr>
<tr>
<td>Headache</td>
</tr>
<tr>
<td>Above normal pulse and resp. rates</td>
</tr>
<tr>
<td>Disorientation and confusion</td>
</tr>
<tr>
<td>Convulsions in infants and children</td>
</tr>
<tr>
<td>Fever blisters about the nose or lips in</td>
</tr>
<tr>
<td>Clients with herpes simplex virus</td>
</tr>
</tbody>
</table>

3. Differentiate hypothermia and hyperthermia and identify nursing interventions for a client with hypothermia and hyperthermia.

4. List different routes of obtaining temperature, give indications and contraindications for their use

   Oral –
1. Define the following terms:

   a. Bradycardia – slow heart rate less than 60 BPM
   b. Tachycardia – fast heart rate (100-150 BPM)
   c. Hyperventilation – rapid or deep breathing or both
   d. Orthopnea – breathing facilitated by sitting up or standing
   e. Auscultatory gap – period during which phase 1 Korotkoff sound disappears
   f. Hypertension – high blood pressure (systolic of 140 mm Hg or greater and diastolic of 90 mm Hg or greater)
   g. Pulse pressure – difference between systolic pressure and diastolic blood pressure measurements
   h. Apical-pulse deficit - difference between apical and radial pulse rates
   i. Diastolic blood pressure – pressure within the arterial system when the heart relaxes and fills with blood
   j. Korotkoff sounds – sounds that results from the vibrations of blood within the arterial wall or changes in blood flow
   k. Orthostatic hypotension – sudden but temporary drop in blood pressure when rising from a reclining position
   l. Eupnea – normal breathing

i. Food intake – affects thermogenesis. Food has a therinic effect, thus producing heat.
ii. Age – infants and older adults have difficulty maintaining normal body temperature, due to limited subcutaneous tissue. Newborns and young infants tend to experience temp. fluctuations because they have three times greater surface area from which heat is lost and a metabolic rate twice that of adults.
iii. Climate - affects mechanisms for temp. regulation. Changes in climate (heat and cold) stimulate thermal receptors in the skin and transmit information to the hypothalamus.