Today’s Agenda: 10/08/14

1. Students will grade Infection Control Test.
2. Students will highlight State Standard 10 Technical skills:
   1. Apply procedures for measuring and recording vital signs including recognition of normal ranges.
3. **TO:** Students will understand what is blood pressure and what its reading tells us.
4. Students will practice listening for systolic and diastolic sounds as a class.

**U2 EQ:** How are vital signs measured and what do their results mean?
Vital Signs, VS

**Def:** Information about the basic body conditions of pts

**There are five:**
1. Blood Pressure
2. Pulse
3. Respiration
4. Temperature
5. Degree of Pain
1. Blood Pressure, BP

**Def:** F exerted by the bld against the arterial walls when the heart contracts & relaxes.

- **Sphygmomanometer** = BP Cuff that measures B/P
Systolic Pressure

- P that occurs in the walls of arteries when the heart is contracting & pushing bld into the arteries.

- Noted on the sphygmomanometer when the first sound is heard.

- 120 mmHg is what we want

- Normal = 100 to 140
Diastolic Pressure

- P that is in the walls of the arteries when the heart is at REST or b/w contractions.

- Noted on the sphygmomanometer when the sounds stops or becomes faint.

- 80 mmHg is what we want
- Normal = 60 to 90 mmHg
On-line practice for recording:

http://familymedicine.osu.edu/products/physicalexam/exam/flash/bloodpressure/index.html

http://familymedicine.osu.edu/products/physicalexam/exam/
Pulse Pressure

• Difference b/w systolic & diastolic numbers
• Indicates health and tone of arterial walls

- Normal range 30 – 50 mmHg
Hypertension:
HBP = >140/90

• Etiology (pick 3):
  • Stress,
  • Obesity,
  • High-salt intake,
  • Aging,
  • Kidney disease,
  • Vascular problems
<table>
<thead>
<tr>
<th>Category</th>
<th>Blood Pressure Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Systolic</td>
</tr>
<tr>
<td>Normal blood pressure</td>
<td>&lt;20</td>
</tr>
<tr>
<td>Normal range</td>
<td>100–120</td>
</tr>
<tr>
<td>Prehypertension</td>
<td>120–139</td>
</tr>
<tr>
<td>Stage 1 Hypertension</td>
<td>140–159</td>
</tr>
<tr>
<td>Stage 2 Hypertension</td>
<td>≥160</td>
</tr>
</tbody>
</table>

Legend: < less than ≥ greater than or equal
Hypotension:
LBP = 100/60

- Et (pick 3):
  - Heart failure,
  - Dehydration,
  - Depression,
  - Severe burns,
  - Hemorrhage, Shock

- Orthostatic or Postural Hypotension: dec in BP from lying down to sitting to standing
Factors influencing B/P readings:

• Force of the Heartbeat
• Elasticity of the arteries
• Resistance of the arterial system
• Volume of bld in the arteries

(Remember FERV)
What will Increase B/P?

- Excitement,
- Anxiety,
- Nervous tension
- Stimulant drugs
- Exercise
- Eating

Pick 3
What will Decrease B/P?

• Rest
• Sleep
• Depressant drugs
• Excessive loss of blood
Recording B/P

Types of sphygmomanometers = each line represents 2 mm/Hg

1. mercury sphygmomanometer
2. aneroid sphygmomanometer
3. electronic sphygmomanometer

- Systolic reading is top #
- Diastolic is bottom #
- Measured in mmHg
- Example
  120/80 mmHg
Factors to follow for accurate readings:

• American Heart Association recommendations
  • Pt should sit quietly for at least 5 mins before the B/P is taken
  • 2 separate readings should be taken & averaged
  • Minimum wait of 30 s between readings
Proper Size

• B/P cuff should be at least the same diameter as the pts arm, but preferably 20% larger than the pts upper arm.

• Small cuffs may result in falsely high readings.

• Large cuffs may result in falsely low readings.