General Survey

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Objective

- ☑ Calculate ideal body weight.
- ☑ Describer methods to evaluate nutritional status and physical growth.
- ☑ Describe methods of assessing general appearance.
- ☑ Identify components of general survey examination.
- ☑ Review pertinent historical data needed to evaluate nutritional status, physical growth, the skin, hair and nails.

Nutritional assessment

- Purpose;
  - Provide data for designing a nutritional plan of care incase of malnutrition.
  - Establish a base line data for evaluating the efficacy of nutritional care.
  - Identify individuals who are malnourished.

Cont…d

- A comprehesional nutritional assessment is recommended for individuals with nutritional risk, i.e. with one or more of the following factors.
  - Weight < 80% or >120% of ideal weight.
  - Hx of unintentional weight loss >5kg is significant or ≥10% of usual weight.
  - Serum albumin concentration <3.5g/dl.
  - TLC <1500 cells/mm3.
  - Hx of illness, symptoms associated with the nutrition depletion, intake, absorption.

Assessment of nutritional status

- Historical data- alcohol and illegal drug use, socioeconomic factors, diarrhea, vomiting, chronic illness, constipation, recent surgery, infections, change in appetite, change in weight, eating patterns, usual weight.
- To evaluate nutritional status you need to follow:-

Cont…d

1. Subjective data- assessment.
2. Clinical signs;
   - General appearance for obese, cachectic or edematous.
   - Check skin, subcutaneous tissue, hair, eyes, neck, gum, tongue, sign of edema.
3. Physical examination;

Cont…d

- ☑ Classify under/over nutrition based on;
  1. Anthropometric measures for growth and development:
  - ✓ Ht, wt, triceps skin fold thickness and arm circumference.
  - ✓ Body wt loss (adult mostly)=$\frac{\text{Old wt-New wt}}{\text{Old wt}} * 100$

Cont…d

- ✓ Percent ideal body weight= $\frac{\text{Current wt}}{\text{Ideal wt}} \times 100$
- ✓ As a general rule, a current wt of 80-90% of ideal body wt is suggestive of mild malnutrition; 70-80% moderate malnutrition; less than 70% is indicative of severe malnutrition.

Cont…d

- ☑ Visible wasting or wt loss classify as;

1. Severe under nutrition: MUAC is less than 160 or more, or b/n 160-185 plus one of the following sings, such as sunken eye, can not stand, pitting edema to knees on both sides.
2. Look for anemic sign: pallor (palmar & conjunctival) and breathlessness.

Cont…d

2. Body Mass Index (BMI);

- ✓ Important for adult.
- ✓ Is a simple indication of total body fat or obesity.
- ✓ BMI=$\frac{\text{wt (kg)}}{\text{ht(m)}^2}$, interpreted as:
  - <18.5=under wt.
  - 18.5-24.9=normal.
  - 25-29.9=over wt.
  - 30-39.9=obese

Cont…d

3. Waist circumference

- ✓ With the patient standing, measure the waist just above the hip bones.
- ✓ The patient may have excess body fat if the waist measures:
  - ✓ ≥35 inches for women.
  - ✓ ≥40 inches for men.

Cont…d

4. laboratory studies;

- Hgb,
- hct,
- cholesterol,
- TLC,
- serum albumin.

Cont…d

- Nursing diagnosis;
  - Altered nutrition less/greater than body requirement related to impaired absorption as manifested by significant weight loss.

  Exercise:

  1. Wt=40kg, ht=155cm, BMI=?
  2. wt-=70kg, ht=150cm, BMI=?
  3. Wt 50kg six months ago and today wt is 40kg. Find out her % wt loss.

General assessment

- Survey of the whole person, covering the general health state and obvious physical characteristics. It includes;
  - Physical appearance; age, sex, level of consciousness, skin color, facial expression, signs of acute distress (anxiety, depression, cardiac, respiratory, pain), apparent state of health (acutely or chronically ill, frail, feeble, robust, vigorous).

Cont…d

- Body structure;
  - Symmetry (body parts look equal bilaterally)
  - Stature (ht appears with in normal range for age-unusually short or tall)
  - Build (slender and lanky, muscular, or stocky).
  - Nutrition (wt appears with in normal range for ht and body fluid- emaciated, slender, plump, obese).

Cont…d

- Position- the person sits comfortably in chair or on the bed.
- Posture-the person stands comfortably erect as appropriate for age.

- Mobility;
  - Range of motion-note full mobility for each joint, deliberate, smooth and coordinated movement.
  - Gait-accurate foot placement, smooth walking and well balanced

Cont…d

- Behavior;
  - Facial expression-the person maintain eye contact, expression are appropriate to the situation.
  - Speech-articulation is clear and understandable.
  - Dress-closing appropriate to the climate, culture, age.
  - Personal hygiene-appears clean and groomed.

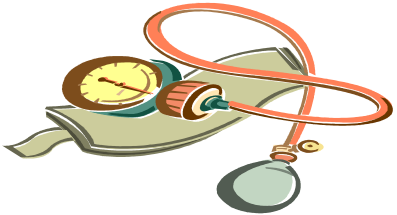
Cont…d

- Measurement;
  - V/s
  - TPR
  - B/P
  - Ht
  - Wt

Sample on general appearance statement

- Mr. M age 45 male client is active, alert and cooperative client. Ht and wt in appropriate range for his age. Good posture or walking and stands comfortably maintains eye contact and cheerful with appropriate expression. Well dressed, groomed hair with slightly gray color.

VITAL SIGN



Vital Signs and Measurements

Objectives

1 . Recognize common terminology and abbreviations used in documenting and discussing vital signs.

2 . Describe the instruments used to measure vital signs and body measurements.

3. Explain the procedure used to measure vital signs and body measurements.

4 . Demonstrate the procedures for measuring vital signs and body measurements.

Introduction

- **Vital Signs**
  - Temperature
  - Pulse
  - Respirations
  - Blood Pressure
- **Body Measurements**
  - Height
  - Weight
  - Head Circumference

Vital signs and body measurements are used to evaluate health problems, therefore, accuracy is essential.

Vital Signs

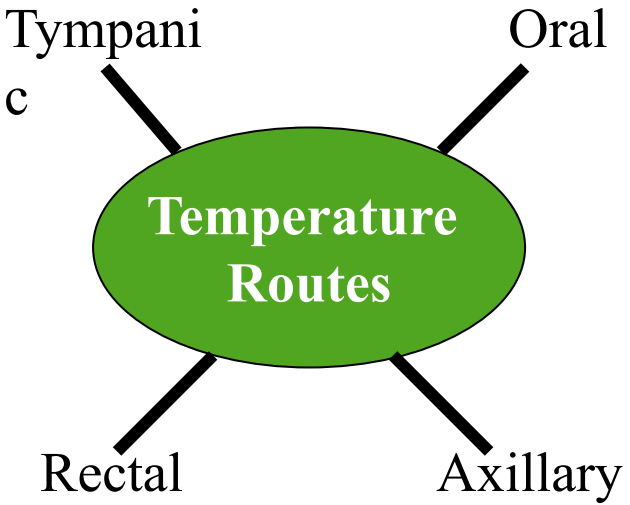
T - P - R BP

Temperature Pulse Respirations Blood Pressure

- Usually taken at each medical office visit, and are compared to patient's baseline values
- Results must be kept private according to **Health Insurance Portability and Accountability Act (HIPAA) of 1996**
- Following OSHA Guidelines is essential in preventing the transmission of diseases

Temperature

- Determines **febrile** versus **afebrile** states
- Measured in degrees **Fahrenheit** (ºF) or **Celsius** (centigrade; ºC)
- Four locations can be used to measure temperatures but the **oral** route is most commonly used



Temperature (cont.)

- A thermometer is used to obtain temperature measurements.
- Types of thermometers include:
  - **Electronic Digital**
  - **Tympanic**
  - **Disposable**

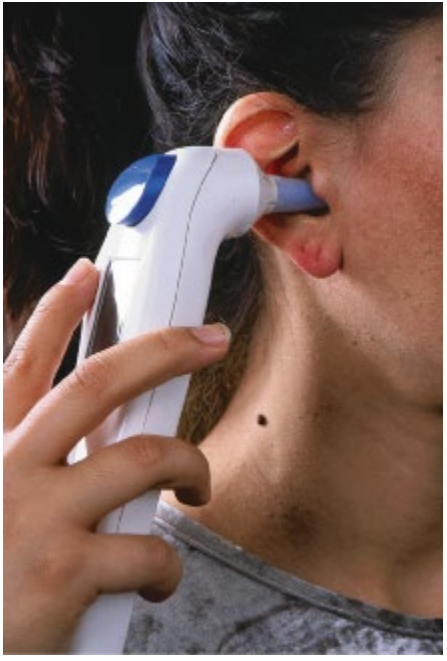
Disposable sheaths are used to prevent cross-contamination.

Temperature (cont.)

Route	Normal Range ºF / ºC	Sites
Oral	98.6 ºF / 37.0 ºC	**mouth**
Tympanic	99.6 ºF / 37.6 ºC	**ear**
Rectal	99.6 ºF / 37.6 ºC	**rectum**
Axillary	97.6 ºF / 36.6 ºC	**Axilla (armpit)**

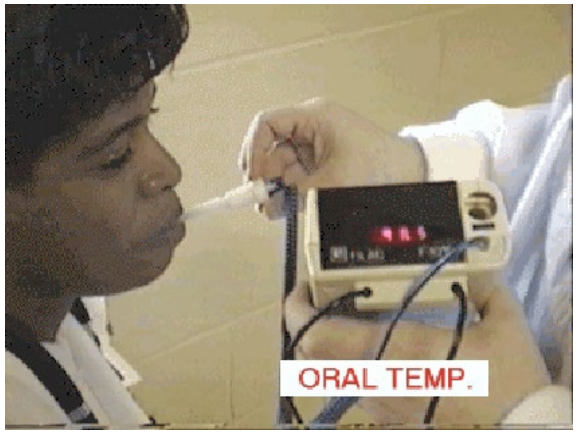
Taking Temperatures

- **Tympanic Temperatures**
  - Pull ear up and back for adults, then insert thermometer
  - Pull ear down and back for children
  - Fast, easy to use, and preferred in pediatric offices



Taking Temperatures (cont.)

- **Oral Temperatures**
  - Must wait at least 15 minutes if patient has been eating, drinking or smoking
  - Thermometer is placed under tongue in either pocket just off-center in lower jaw



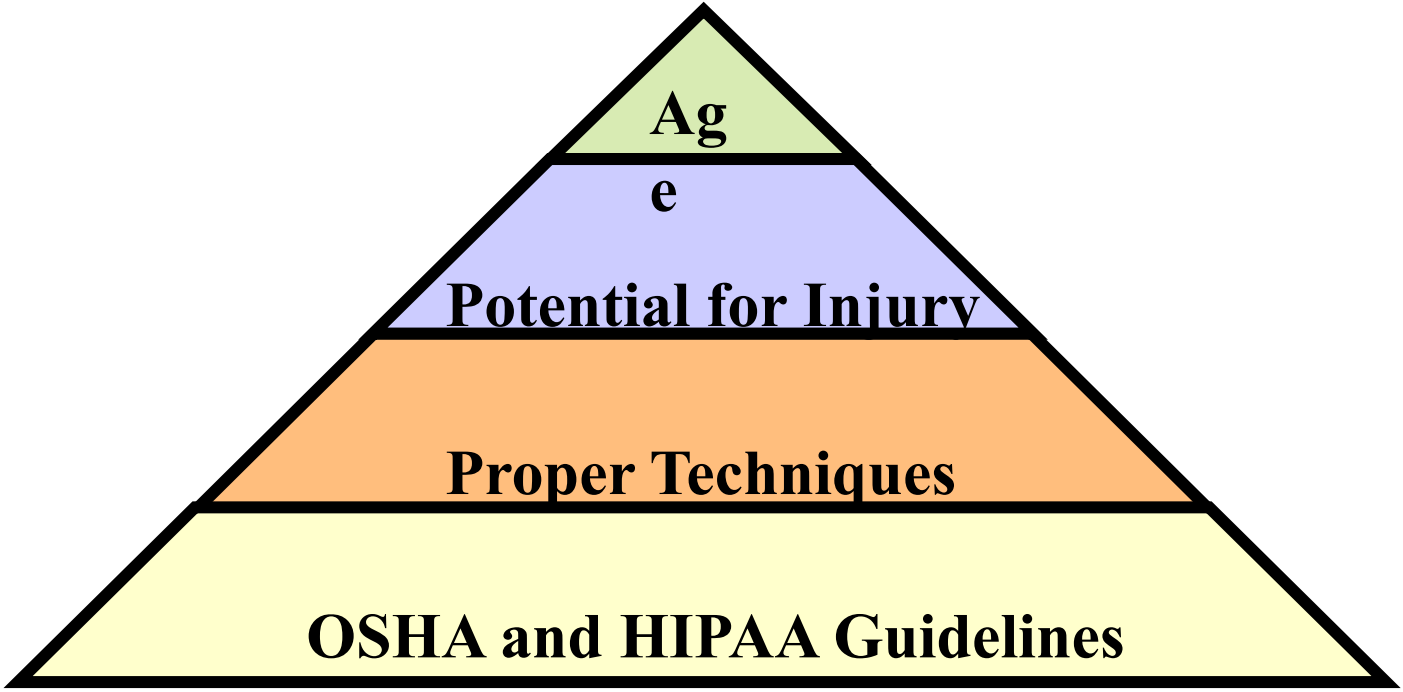
Taking Temperatures (cont.)

- **Rectal Temperatures**
  - **Gloves are donned**
  - **Patient is positioned on side (left side preferred) or stomach**
  - **Lubricated tip of thermometer is slowly and gently inserted into anus ½ inch for infants and 1 inch for adults**
  - **Hold thermometer in place while temperature is taken**

Taking Temperatures (cont.)

- **Axillary Temperatures**
  - Place patient in seated or lying position
  - Tip of thermometer is placed in middle of axilla with shaft facing forward
  - Patient's upper arm is pressed against side and lower arm should be crossed over stomach to hold thermometer in place

Special Considerations



Apply Your Knowledge

You are about to take the temperature of a 6-month old infant being seen at the pediatrician's office for vomiting and diarrhea.

Which route will you use and why?

What are special considerations to keep in mind with this specific patient situation and why?

Apply Your Knowledge -Answer

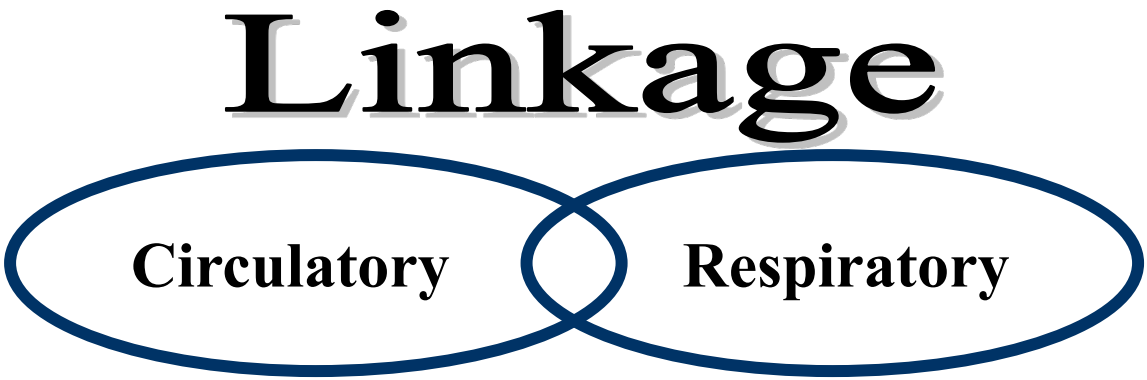
Route -Tympanic

- **A 6-month old would not be able to hold the thermometer under their tongue.**

Special considerations include:

- **Take the temperature after the pulse and respirations.**
- **Use proper technique and pull the ear down and back to prevent injury**
- **Follow OSHA guidelines to prevent the spread of microorganisms.**

Pulse and Respiration



Pulse and respirations are related since heart and lung functioning work together. Normally, increases or decreases with one causes the same effect on the other.

Pulse

- An indirect gauge of cardiovascular functioning
- Is measured using fingers not your thumb since the thumb has a pulse of its own
- The **radial artery** is the common pulse site to locate in adults, and the **brachial artery** is used in young children.
- A **stethoscope** is used to listen to the **apical** pulse.
- **Electronic devices** are also used to measure pulse rates.

Taking Pulse Rates

- Press lightly with your index and middle finger pads at the pulse site to locate the pulse.
- Count the number of beats you feel against your fingers in one minute.
- If the pulse rate is regular your office policy may be to count the number of beats for 30 seconds and multiply this number by 2 to obtain the beats per minute.

Taking Pulse Rates (cont.)

Regular Pulse Rhythm

- **Count for 30 seconds then multiply by 2 (i.e. rate of 35 beats in 30 seconds equals a pulse rate of 70 beats/minute).**

Irregular Pulse Rhythm

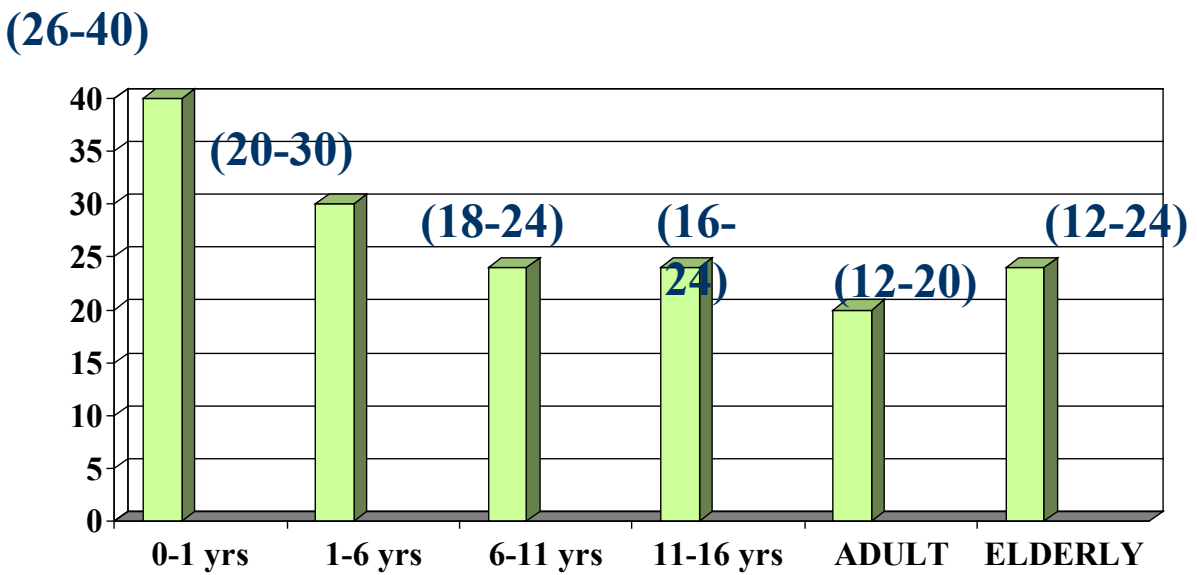
- **Count for one full minute**
- **May also use stethoscope to listen for apical pulse located in the 5th intercostal space and count for a full minute.**

Respiration

- **Respiratory rate** is an indication of how well the body is providing oxygen to the tissues.
- One respiration consists of both inhaling and exhaling air also referred to as breathing in and breathing out.
- Respiratory rates are higher in infants and children than in adults.

inhalation + exhalation = 1 respiration

Normal Respiration Rates



NOTE: Ranges reflect **breaths per minute**

Taking Respirations

- Most reliable method for measuring respirations is with a stethoscope to count the number of breaths heard per minute.
- Other methods include:
  - Look, listen and feel for movement of air by placing your hand over the patient's chest, shoulders or abdomen.

NOTE: If patients are aware that you are counting their respirations they may unintentionally alter their breathing

Respiration

Breathing Abnormalities

Apnea — Temporary absence of breathing

Tachypnea — Rapid breathing

Dyspnea — Difficult or painful breathing

Hyperpnea — Deep, rapid breathing

Apply Your Knowledge

A 26-year old athlete visits the medical office for a routine check-up. The medical assistant takes T-P-R and obtains the following:

Temperature 98.8° F
Pulse 52 beats/minute
Respirations 18/minute

What should the medical assistant do about these results?

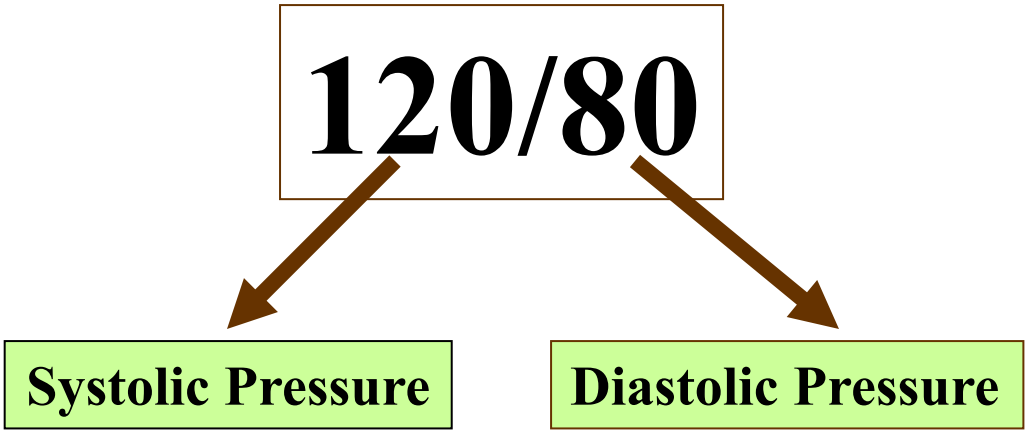
Apply Your Knowledge -Answer

- The temperature and pulse are within the normal range.
- The pulse of 52 is below the normal range. Check the patient's previous vital sign results. Remember for some patients, especially athletes, a low pulse rate is normal so these results may be within normal limits for this patient.

Blood Pressure

- The force at which blood is pumped against the walls of the arteries yields **blood pressure**.
- Two pressure measurements are obtained with blood pressure readings:
  - **Systolic pressure** (measurement of pressure during contraction of left ventricle) is the top number.
  - **Diastolic pressure** (measurement of minimal amount of pressure against vessel walls at all times) is the bottom number.

Blood Pressure (cont.)



- Left ventricle of heart is contracting
- Top or first number

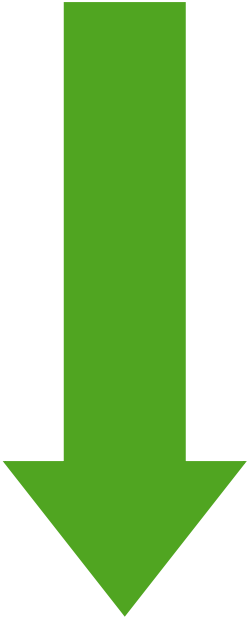
- Heart is at rest
- Bottom or second number

Blood Pressure (cont.)

Hypertension

- **High blood pressure readings**
- **Major contributor to heart attacks and strokes**
- **Physicians often request a re-check of patient's blood pressure within two months or less when readings are elevated**

Blood Pressure (cont.)



Hypotension

- **Low blood pressure reading**
- **Is generally not a chronic health problem and may be normal for some patients**
- **Severe low blood pressure readings occur with:**
  - **Shock**
  - **Heart failure**
  - **Severe burns**
  - **Excessive bleeding**

Blood Pressure Equipment

- A **sphygmomanometer** is the instrument used to measure blood pressures consisting of a cuff, pressure bulb, and manometer.
- Three types of sphygmomanometers:
  - **Mercury**
  - **Aneroid**
  - **Electronic**

Blood Pressure Equipment (cont.)

- **Mercury Sphygmomanometers**
  - Consists of a column of mercury that rises to reflect increased pressure as the cuff is inflated
  - Very accurate, yet mercury has an ill effect on the environment, so these are no longer manufactured
  - Require calibration every 6 to 12 months
  - When properly calibrated the column of mercury will rest on "zero" when viewed at eye level

Blood Pressure Equipment (cont.)

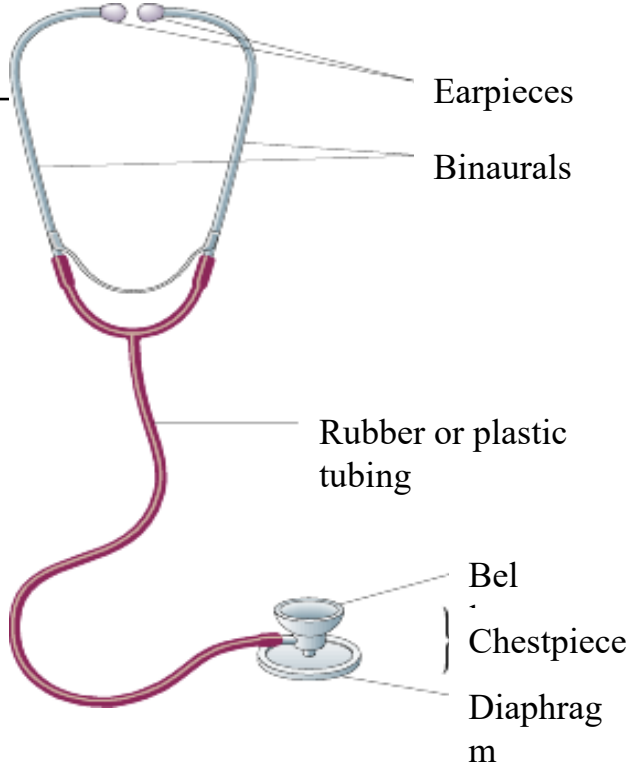
- Aneroid Sphygmomanometers
  - Consists of a circular gauge with needle dial that measures pressure
  - Each line on the circular dial represents **2 mmHg**
  - Considered to be very accurate
  - Must be checked, serviced, and calibrated every 3 to 6 months
  - When properly calibrated, the needle on the dial rests within the small square at the bottom of the dial.

Blood Pressure Equipment (cont.)

- Electronic Sphygmomanometers
  - Provides a digital readout of the blood pressure on a lit display
  - Unlike mercury and aneroid devices, no stethoscope is needed
  - Considered to be the least accurate, yet are easy to use

Stethoscope

- Amplifies body sounds
- Consists of earpieces, binaurals, tubing and a chestpiece (bell and diaphragm)



Stethoscope (cont.)

- **Bell**
  - Cone-shaped side of chestpiece
  - Amplifies low-pitched sounds such as heart sounds
  - Must be held lightly against skin for proper amplification
- **Diaphragm**
  - Larger flat side of the chestpiece
  - Amplifies high-pitched sounds like bowel and lung sounds
  - Must be held firmly against skin for proper amplification

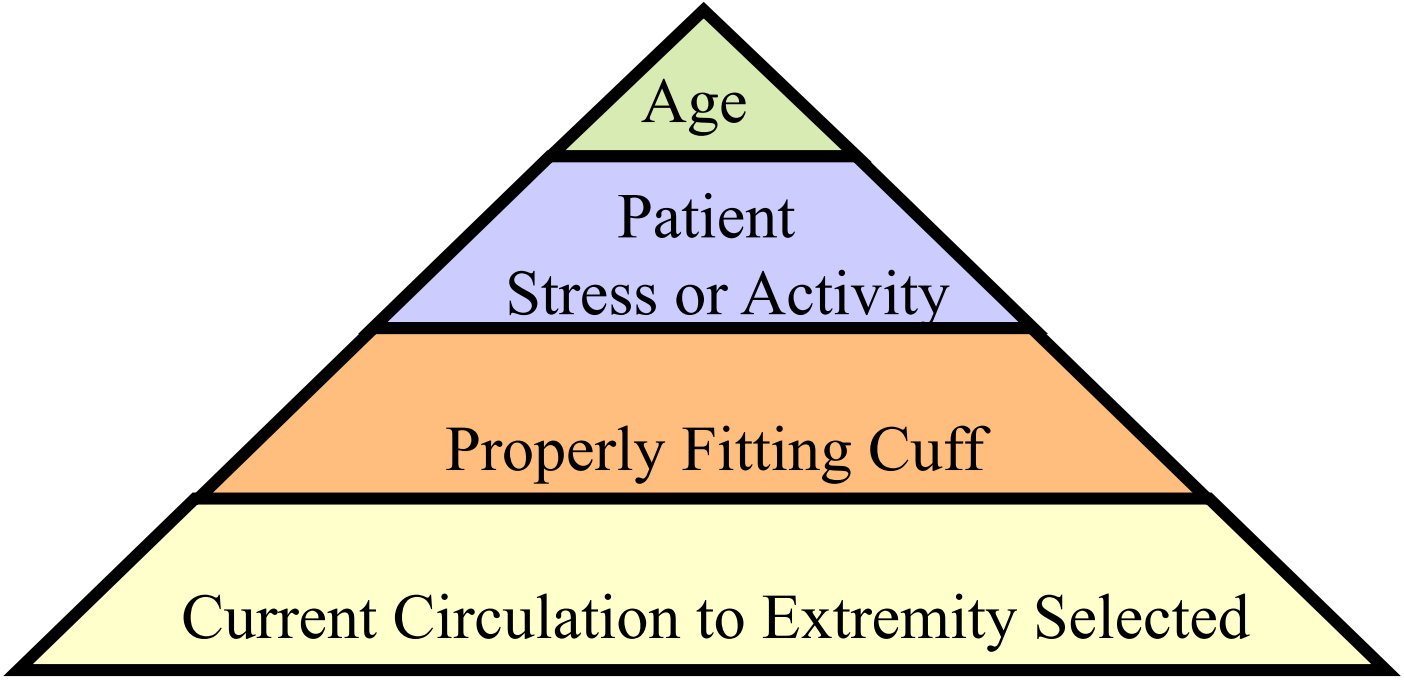
Measuring Blood Pressure

- The cuff must be placed on the upper arm above the brachial pulse site.
- Palpate the brachial pulse then place stethoscope over this site.
- Inflate cuff about 30 mmHg above palpatory result or approximately 180 mmHg to 200 mmHg.
- Release the air in cuff and listen for the first heartbeat (systolic pressure) and the softest or last heartbeat (diastolic pressure).
- Record results with systolic being top number and diastolic being bottom number (i.e. 120/76).

Measuring Blood Pressure (cont.)

- Wait 15 minutes before taking readings if patient has been engaged in strenuous exercise or has ambulatory disabilities.
- Be sure cuff is properly fitted and placed on the extremity or inaccurate readings may result.
- **DO NOT TAKE BP's IN AN EXTREMITY IF:**
  - Injury or blocked artery is present
  - History of mastectomy on that side
  - Implanted device is under the skin

Special Considerations



Apply Your Knowledge

A 67-year old patient is in the medical office complaining of headache. The blood pressure reading is 212/142. What should the medical assistant do in this situation?

Apply Your Knowledge -Answer

This blood pressure reading is very high and should be reported to the physician at once. The complaint of headache should also be reported to the physician. Recall that hypertension is a major contributor to stroke and heart attacks.

Body Measurements

- **Adult and Older Children Measurements**
  - **Height**
  - **Weight**
- **Infant Measurements**
  - **Length**
  - **Weight**
  - **Head Circumference**

Measurements provide insight into metabolic functioning and growth and development patterns.

Body Measurements (cont.)

- **Adult Weight**
  - Taken at each office visit
  - Should be listed to the nearest quarter of a pound
- **Adult Height**
  - Taken on initial visit and whenever a complete physical examination is performed
  - Measure following weight
  - Record in inches and quarter inches

Body Measurements (cont.)

- **Weight of Infants and Children**
  - Infants are weighed on infant scales and recorded in ounces and pounds.
  - Children that can stand are weighed on adult scales.
  - Children unable to stand may be held by an adult using the adult scale, and subtract adult weight from total to yield child's weight.

Body Measurements (cont.)

- **Length of Infants and Height of Children**
  - Length of infants is measured at each visit while the infant is lying down
  - Height of children is taken using same technique as for adults. Some offices have wall charts that are separate from the scale.

Body Measurements (cont.)

- **Head Circumference of Infants**
  - This is an important measure of growth and development
  - Medical assistants are often asked to assist the physician with this measurement
  - Tape measure is placed around head at its largest circumference to obtain measurement

Apply Your Knowledge

The medical assistant is about to weigh a 6-month old infant using the infant scale. When the medical assistant places the infant on the scale she notices the diaper is very soiled.

What should the medical assistant do in this situation?

Apply Your Knowledge -Answer

If the diaper is soiled, the medical assistant should weigh the diaper after weighing the infant and subtract the difference to obtain the infant's accurate weight in pounds and ounces.

End of Chapter