Pulmonary Hygiene

Chest PT

1. Percussion:
   a. topotment
   b. percussion- shaking
   c. vibration- ped's
   *changes in cadence, force, flatten hand, ↑ cupping
   *quick stretching technique:

2. Postural Drainage
   contraindications: trandelenburg position CHF, pulmonary edema, HPTN, obesity, hiatal hernia, nausea, recent food consumption, any condition that makes position uncomfortable

3. Breathing Techniques-
   pursed lips
   segmental
   diaphragmatic

4. Obstructive vs. Restrictive Pulmonary Disease
   a. obstructive: characterized by the presence of an airflow obstruction ex. COPD- alveolar collapse or atelectasis
   b. restrictive: group of disorders with differing etiologies characterized by difficulty expanding the lungs with reduction in lung volume. Can come from fibrosis of lung tissue alveoli, or changes in chest wall

5. Atelectasis: a collapsed or airless condition of the lung

6. Secretion Analysis: viscous, thin, frothy
   *1. color  2. smell  3. consistency  4. amount
   mucoid- clear white
   purulent- yellow puss/infection
   green- infection pseudomonas? Common
   blood stained- bronchiectasis, CA? TB?
   bright red- hemoptysis= bleeding in lungs
   rusty color- pneumonia
Pathology Review:

1. Pink Puffers (Emphysema) common structural obstruction destruction of alveolar walls- rather than mucous barrel chest
difficulty with expiration
hyperventilate to prevent cyanosis
CPAP
O2 therapy
Energy conservation

2. Blue Bloaters: COPD
* prolonged bouts of coughing, purulent mucous, dyspnea
* results in pulmonary hypertension and chronic cor pulmonal = R ventricular failure with marked peripheral venous stagnation

3. Pneumonia: acute pulmonary disease
* infection and inflammation of lung due to bacteria, virus, etc

4. Pleuritis: inflammation of the pleura surrounding lung/thoracic wall

↑ in friction

lungs / ribs

visceral pleura / parietal pleura
pleural space

5. Pneumothorax, hemopneumo

O2 Therapy

- respiratory drive- shift from CO2 to O2
- titration of O2- be careful less is more!
- Nasal Canula
- Mask
- Ventilator

Auscultation
Zig-Zag approach bronchovesicular- medially post/ant
* over muscle not bone vesicular- distal areas
* cover entire thoracic cage bronchial- over trachea
**Breathing classifications**
- Apnea / Apnic
- Bradypnea- slow rate, shallow, consistent rhythm
- Tachypnea- fast rate, shallow, consistent rhythm
- Hyperpnea- normal rate, deep, consistent rhythm
- Chyne-Stokes- increasing rate- then decreasing or absent, consistent rhythm
- Orthopnea- difficulty breathing due to changes in position
- Hyperventilation- fast rate, increased depth, consistent rhythm
- Biots- slow rate, periods of apnea, irregular rhythm

**Review of Anatomy of Lungs**
- Lobes
- Segments
- Bronchial tree

**Breathing Exercises**
1. Pursed lips
2. Segmental
3. Diaphragmatic

**Coughing techniques**
1. double cough
2. Practice "K" sounds
3. "huffing" to contract abdominals
4. deep controlled inspiration with double cough
5. hand overpressure over abdomen