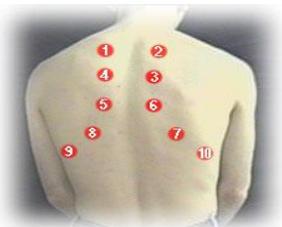
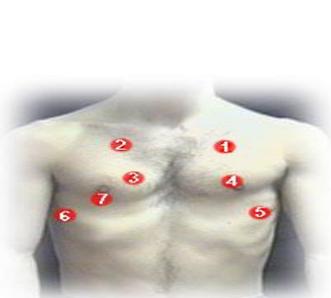
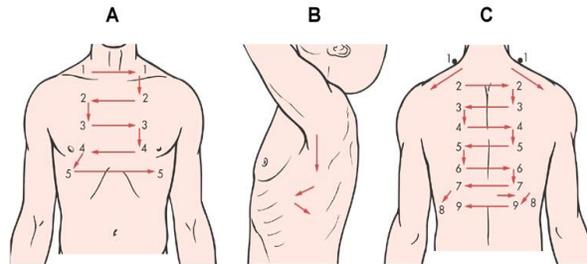


# Nursing 101 Assessment

## Pulmonary Auscultation (save for respiratory unit)

### • Auscultating lung sounds

- Wash hands. Explain procedure, provide for privacy & quiet (turn off TV)
- Avoid listening through clothing, which may obscure or alter sounds.
- Position patient in sitting position if possible or alternately on each side to check anterior/posterior if can't sit.
- Observe patient for respiratory effort, general appearance, and color.
- Warm stethoscope in hands prior to auscultation. Wet chest hair to prevent hearing false sounds.
- Instruct to breathe slowly & deeply thru mouth, not to hyperventilate. Allow rest periods PRN
- Listen with diaphragm. Place firmly on skin. Listen @ ICS, not on bones. Listen for one full breath cycle.
- Auscultate in systematic fashion, apex to base, side to side for comparison.
- Listen to anterior, posterior, and lateral. If an abnormal sound is heard, ask patient to cough & reassess.
- Identify sounds as normal, vesicular, bronchial (clear), or as adventitious (crackles, wheezes, rhonchi, rub) & if heard on Inspiration or Expiration.
- Making the order of the numbers in the images a ritual will ensure you compare both sides every time!
- (i.e., If you are listening to the left apex, you should follow thru by comparing what you hear @ the right apex.)
- Chart according to findings & location.



- **Abnormal breath sounds**

- A sound in an area other than where you expect to hear it.
  - I.E., bronchovesicular in an area you would normally hear vesicular. (Bronchioles & alveoli filled with fluid or exudate as occurs in pneumonia or atelectasis). You won't hear vesicular sounds because no air is moving thru the small airways.

- **Adventitious sounds (troublemakers)**

- Abnormal no matter where you hear them. (See table below)

- **Keep in mind- Solid tissue transmits better than air or fluid.**

- Breath sounds, spoken word, or whispered words will be louder over areas of consolidation.
- Breath sounds will be quieter over pus, fluid, or air-filled pleural spaces.
- If a foreign body or secretions obstruct a bronchus, breath sounds will be diminished or absent over lung tissue distal to the obstruction.

### Normal Breath Sounds

Type	Description	Location	Characteristics
<b>Vesicular</b>	“Soft & breezy” Soft intensity, low pitched gentle sighing sounds created by air moving thru smaller airways (bronchioles & alveoli)	Peripheral lung best heard @ base.	Best on I (inspiration) which is 2.5 times longer than E (expiration). (5:2 ratio)
<b>Broncho-vesicular</b>	Moderate-intensity & pitched blowing sounds created by air moving thru larger airways (bronchi)	Between scapulae & lateral to sternum at first & second ICS.	Equal I & E phases (1:1 ratio)
<b>Bronchial</b>	High-pitched loud harsh sounds created by air moving thru the trachea.	Anteriorly over the trachea, not normally heard over lung tissue.	Louder than vesicular sounds, short I & long E phase (1:2 ratio)

## Adventitious Breath Sounds

Adventitious	Characteristics	Source	Conditions
<b>Discontinuous</b>			
<b>Crackles (fine)</b>	High-pitched discontinuous short popping sounds heard usually during I, not cleared by cough, simulated by rolling strand of hair between fingers near ear or Velcro pulling apart.	Inhaled air suddenly opens small deflated air passages that are coated & sticky with exudates	Crackles occurring late in I are associated with restrictive diseases (pneumonia, CHF, pulmonary fibrosis). Crackles early in I are associated with obstructive disorders (bronchitis, asthma, emphysema)
<b>Crackles (coarse)</b>	Low-pitched, bubbling, gurgling, moist sounds that may persist from early I to early E.	Inhaled air passes thru narrowing airways intermittently occluded by mucus, unstable bronchial wall, or fold of mucosa	Can indicate pneumonia, pulmonary edema, COPD, pulmonary fibrosis & severely ill patients cannot cough (death rattle).
<b>Continuous</b>			
<b>Wheezes (High-pitched)</b>	High-pitched musical sounds heard primarily during E, but may be heard on I.	Air passing thru constricted passages caused by swelling, secretions, or tumor.	High-pitched (sibilant) wheezes often heard in acute asthma or chronic emphysema. (Poly-phonic or general obstruction)
<b>Wheezes (Low-pitched)</b>	Continuous Low-pitched snoring or moaning sounds heard primarily during E but may also occur throughout respiratory cycle. May clear with coughing.	Air passing thru constricted passages caused by swelling, secretions, or tumor.	Low-pitched (sonorous) wheezes often heard in cases of bronchitis or single-bronchus obstruction. (Monophonic-one airway obstruction)
<b>Rhonchi</b>	Continuous low-pitched musical sounds similar to wheezes on expiration (may also be heard on I). May change/disappear with coughing.	Air passing thru narrowed air passages. Imply obstruction of larger airways by fluid. Heard most lung areas, but mostly over trachea & bronchi.	
<b>Pleural friction rub</b>	Continuous low-pitched dry grating rubbing sound like crackles more superficial occurs during I & E.	Pleural inflammation causes two layers of pleura to rub together, may cause pain.	Pleural effusion or pneumothorax
<b>Stridor</b>	Loud high-pitched crowing sound heard without stethoscope during I & E	Upper airway obstruction (trachea or larynx)- medical emergency!	Often heard with edema post extubation.