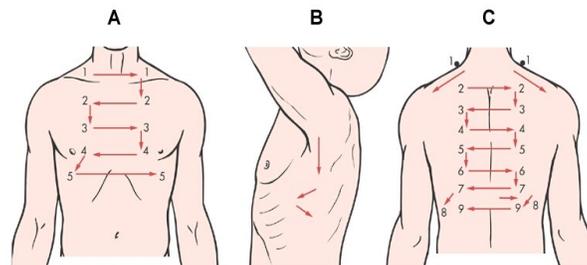


Beebe Healthcare
Margaret H. Rollins School of Nursing
Nursing 101 - Foundations of Nursing

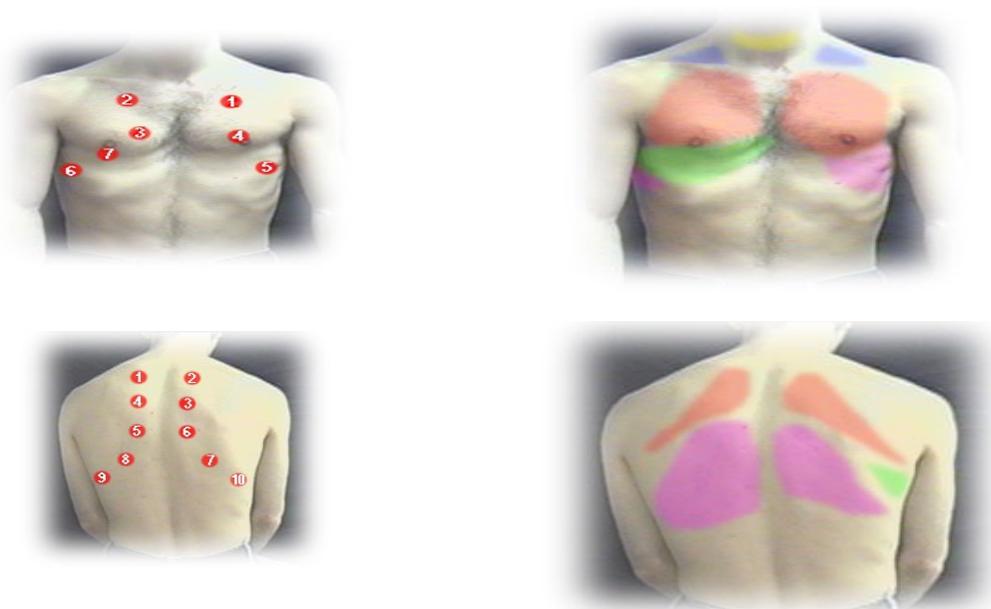
Pulmonary Assessment Guide *(save for respiratory unit)*

• **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.
- Instruct client to breathe slowly & deeply through 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 (one inspiration & expiration at each site).
- Auscultate in systematic fashion – anterior & posterior, apex to base, side to side for comparison
 - Be sure you are using the ladder technique – see pictures below
 - This will ensure you compare sides bilaterally every time
- **Identify sounds as normal (clear), or as adventitious (crackles, wheezes, rhonchi, rub)**
 - Be sure to determine the location of adventitious sounds and if heard on inspiration or expiration (ex: inspiratory wheezing notes in right lower lobe)



Copyright © 2004, 2000, Mosby, Inc. All Rights Reserved.



Beebe Healthcare
Margaret H. Rollins School of Nursing
Nursing 101 - Foundations of Nursing

- **Abnormal breath sounds**
 - A sound in an area other than where you expect to hear it.
 - Ex: 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 through 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	Characteristic s
Vesicular	“Soft & breezy” – Soft intensity, low pitched gentle sighing sounds created by air moving through 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)
Broncho-vesicular	Moderate intensity & pitched blowing sounds created by air moving through larger airways (bronchi)	Between scapula & lateral to sternum at first & second ICS	Equal I & E phases (1:1 ratio)
Bronchial	High-pitched, loud harsh sounds created by air moving through the trachea	Anteriorly over the trachea, not normally heard over lung tissue	Louder than vesicular sounds, short I & long E phase (1:2 ratio)

Beebe Healthcare
Margaret H. Rollins School of Nursing
Nursing 101 - Foundations of Nursing

_____ Adventitious Breath Sounds

Adventitious	Characteristics	Source	Conditions
Discontinuous			
Crackles (fine)	High-pitched, short popping sounds heard usually during inspiration	Inhaled air suddenly opens small deflated air passages that are coated & sticky with exudates, is not cleared with cough	Late restrictive diseases (pneumonia, CHF, pulmonary fibrosis) or early obstructive disorders (bronchitis, asthma, emphysema)
Crackles (coarse)	Low-pitched, bubbling, gurgling, moist sounds that may persist from inspiration to expiration	Inhaled air passes through 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)
Continuous			
Wheezes (High-pitched)	High-pitched musical sounds heard primarily during expiration, but may be heard on I	Air passing through constricted passages	Acute asthma or chronic emphysema
Rhonchi	Low-pitched musical sounds similar to wheezes most often heard on expiration, but may also be heard on inspiration	Air passing through narrowed (constricted) air passages. <i>May change/disappear with coughing.</i>	Pneumonia or COPD
Pleural friction rub	Low-pitched dry grating or rubbing sound that occurs during inspiration & expiration	Pleural inflammation causes two layers of pleura to rub together, may cause pain.	Pleuritis or pleural effusion
Stridor	Loud high-pitched crowing sound heard without stethoscope during inspiration and expiration	Upper airway obstruction (trachea or larynx)- medical emergency!	Often heard with edema post extubation