

## Bronchial Breath Sounds

Condition	Percussion Note	Trachea	Breath Sounds	Adventitious sounds	Tactile Fremitus and Transmitted voice sounds
<b>Normal</b>	<b>Resonant</b>	Midline	Vesicular except perhaps bronchovesicular and bronchial sounds over the large bronchi and trachea respectively	None, except perhaps a few transient expiratory crackles at the bases of the lungs	Normal
<b>Chronic Bronchitis</b> Bronchi are chronically inflamed and a productive cough is present, airway obstruction may develop	<b>Resonant</b>	Midline	Vesicular (normal)	None or scattered coarse crackles in early inspiration and perhaps expiration or wheezes or rhonchi	Normal
<b>Left sided Heart failure (Early)</b> Increased pressure in the pulmonary veins causes congestion and interstitial edema (around alveoli)	<b>Resonant</b>	Midline	Vesicular	Late inspiratory crackles, in the dependant portions of the lungs, possibly wheezes	Normal
<b>Consolidation</b> Alveoli fill with fluid or blood cells as in pneumonia, pulmonary edema or hemorrhage	<b>Dull</b> over the airless area	Midline	Bronchial over the involved area	Late inspiratory crackled over the involved areas	Increased over the involved areas, with bronchophony, egophony and whispered pectoriloquy
<b>Atelectasis</b> When a plug in a mainstem bronchus obstructs airflow, affected lung tissue, collapses into an airless state	<b>Dull</b> over airless area	Maybe shifted towards involved side	Usually absent when bronchial plug persists, exceptions include right upper lobe atelectasis	None	Tactile fremitus usually absent when bronchial plug persists
<b>Pleural Effusion</b> Fluid accumulates in the pleural space separates air filled lung from the chest wall blocking the transmission of sounds	<b>Dull</b> to flat over the fluid	Shifted towards opposite side in a large effusion	Decreased to absent but bronchial breath sounds may be heard at the top of large effusion	None except a possible pleural rub	Decreased to absent but maybe increased towards the top of a large effusion
<b>Pneumothorax</b> Air leaks into the pleural space usually unilaterally, the lung recoils from the chest wall	<b>Hyperresonant</b> or tympanic over the pleural air	Shifted towards opposite side if much air	Decreased to absent over the pleural air	None except a possible pleural rub	Decreased to absent over the pleural air
<b>COPD</b> Slowly progressing disorder in which the distal airspaces become enlarged and lungs become hyperinflated	Diffusely <b>hyperresonant</b>	Midline	Decreased to absent	None or the crackles wheezes or rhonchi of associated bronchitis	Decreased
<b>Asthma</b> Widespread narrowing of the tracheobronchial tree, diminishes airflow to a fluctuating degree, during attacks airflow decreased further and lungs hyperinflate	<b>Resonant</b> to diffusely <b>hyperresonant</b>	Midline	Often obscured by wheezes	Wheezes possible crackles	Decreased