

## Lungs Sounds

Hi and welcome to this video on lung sounds. Lung sounds, or breath sounds, refer to the sounds heard when air moves through the respiratory system. These are easily identified by auscultation, or listening to, the lung fields with a stethoscope.

The lung sounds are classified according to the sounds involved during the inhalation and exhalation phases of the breath cycle, taking note of the pitch and intensity.

Types of abnormal breath sounds include:

- Wheezing
- Rhonchi (which sound like low pitched wheezing)
- Stridor
- Crackles (also known as rales) and these may be further defined as fine or coarse, and
- Pleural friction rub

Let's start by learning about wheezing...

**Wheezing** is caused by the narrowing of the airways and is associated with asthma, bronchitis, pneumonia, COPD, smoking, heart failure, inhaling a foreign object into the lungs, or an allergic reaction. Wheezing sounds may occur during inhalation or exhalation and are continuous with a musical quality. The classic wheeze refers to the high-pitched whistle-like sound heard during exhalation, as air moves through a narrow or obstructed airway. Listen to the following wheezing lung sounds: "High-pitched wheezing"... A wheeze may also be lower-pitched, having a snoring or moaning quality, in which they are referred to as rhonchi.

**Rhonchi** sounds have a continuous, snoring, gurgling, or rattle-like quality. Rhonchi occur in the bronchi as air moves through tracheal-bronchial passages coated with mucous or respiratory secretions. This is often heard in pneumonia, chronic bronchitis, or cystic fibrosis. Rhonchi usually clear after coughing. "Low-pitched wheezing"...

**Stridor** is a high-pitched musical sound heard on inspiration, which resembles wheezing. When listening with a stethoscope, if the sound is louder over the throat, it is stridor, not wheezing. Air is moving roughly over a partially-obstructed upper airway. Stridor is caused by something blocking the larynx, such as a person choking on an object. Stridor can also be heard in a person with an infection, swelling in the throat or laryngospasm. You may frequently hear stridor in children, as they are more likely to choke and more likely to get childhood infections like croup. Stridor can indicate a medical emergency if not enough oxygen is able to get through the airways. Listen to the sound of stridor...

"High-pitched sound heard on inspiration"

Previously termed rales, **crackles** are sounds heard in a lung field that has fluid in the small airways. Crackles can be heard on inspiration and expiration. Early inspiratory and expiratory crackles are heard in chronic bronchitis. Late inspiratory crackles may indicate pneumonia, CHF, or atelectasis (a complete or partial collapse of a lung or lobe of a lung). They are broken down into *fine crackles* and *coarse crackles*. Fine crackles are high-pitched, brief, discontinuous,

popping lung sounds. Fine crackles sound like wood burning in a fireplace or cellophane being crumpled. Fine crackles usually start at the base of the lungs, where there is fluid in the lungs. As the fluid fills the lungs more, fine crackles can be heard closer & closer to the top of the lungs. Coarse crackles sound like coarse, rattling, crackling sounds, but are louder, longer, and lower in pitch than fine crackles. They are described as a bubbling sound, as when pouring water out of a bottle or like ripping open Velcro. Coarse crackles are often heard just in certain spots in the lungs, possibly only on one side or in different spots on both sides. They are usually caused by mucus in the bronchi. Listen to the sound of coarse crackles in a patient with pneumonia...

"Crackling sound"

**Pleural rubs** occur when two inflamed pleural surfaces rub against each other during respiration. This often is heard in pleurisy, or inflammation of the tissues that line the lungs and chest cavity. The sound may be continuous or broken, and creaking or grating. It can be described as the sound of walking on fresh snow or rubbing leather together. The sound of pleural rubs occurs every time the patient inhales and exhales. Pleural rubs come and go, are not altered with coughing, can usually be localized to a specific location on the chest wall, and will stop when the patient holds their breath. Remember, if there is a loss of breath sounds in an area, it probably indicates a pneumothorax, or collapsed lung, in which there is no air movement in that area.

Let's go over a quick review.

Wheezing is a musical noise during inspiration or expiration, usually louder during expiration, and continuous. Rhonchi resemble low pitched wheezes. They are rumbling, coarse sounds, like a snore, during inspiration or expiration, and continuous. It may clear with coughing. Stridor is a high-pitched musical sound heard on inspiration, resembling wheezing, however the sound is louder over the throat, due to a partially obstructed airway. Crackles are high pitched discontinuous sounds during inspiration, not cleared by a cough, and further defined as fine & coarse. Pleural friction rub occurs during inhalation and exhalation, may be continuous or broken, and creaking or grating.

They stop when the patient holds their breath.

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