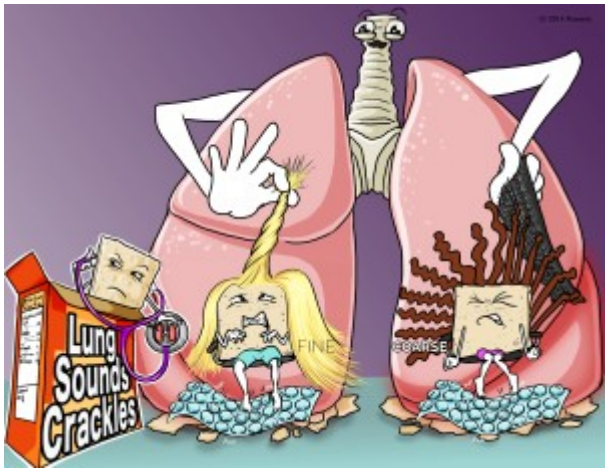
Lung Sounds - Crackles

The lung sound known as crackles are caused by sudden reinflation of groups of alveoli or disruptive passage of air through small airways. Fine crackles are high-pitched and heard during end of inspiration. Course crackles are loud, bubbly sounds heard during inspiration.



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Location

Lower Lobes
Lower Lobes of lungs
Fluid accumulates in dependent regions of the body, and for most patients, fluid accumulation secondary to a disease process in the lungs occurs in the bases of the lungs. Also, based on the disease process, it can affect one or both lungs. Dependent fluid builds pressure outside the alveoli, and as the alveoli increase in air pressure, the intra-alveolar pressure overcomes the extra-alveolar pressure - “popping” open suddenly.

Description

Fine/Coarse
Fine-hair and Coarse-hair
Crackles can be either fine or coarse and are heard more commonly with inspiration than expiration.

Sounds Like

Fine: Twisting Hair through Fingers
Twisting Fine Hair in Fingers
Fine crackles sound like salt heated on a frying pan or the sound of rolling your hair between your fingers next to your ear.

Coarse: Velcro
Coarse-hair with Velcro
Coarse crackles sound like pouring water out of a bottle or like ripping open Velcro. This lung sound is often a sign of adult respiratory distress syndrome, early heart failure, asthma, and pulmonary edema.

Cause

Collapsed Small Airways and Alveoli "Popping Open"
Popping Bubble Wrap
Crackles are thought to be due to the opening of collapsed alveoli. Fine crackles tend to occur mid-to-late inspiration and are unrelated to secretions or coughing. Coarse crackles tend to be secretion-related and occur earlier in inspiration.

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