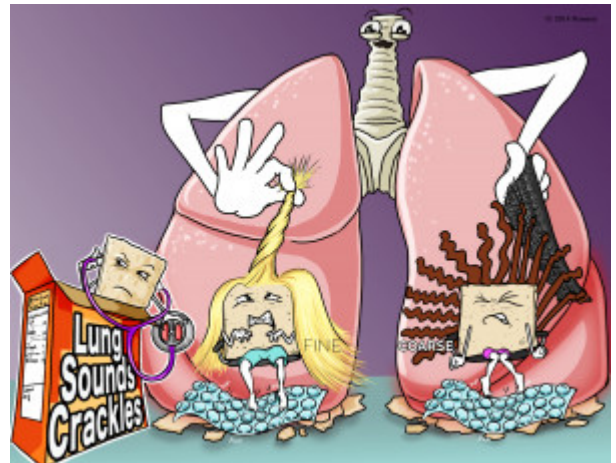


## Lung Sounds - Crackles

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. Coarse crackles are loud, bubbly sounds heard during inspiration.



PLAY PICMONIC

### Location

#### Lower Lobes

##### [Lower Lobes of lungs](#)

Crackles can be heard from auscultation at the lower lobes of the lungs. If they are significant, they imply either accumulation of fluid secretions or exudate within airways or inflammation and edema in the pulmonary tissue.

### 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 airways. Fine crackles tend to occur mid-to-late inspiration and are unrelated to secretions or coughing. Coarse crackles tend to be secretion-related and early in inspiration.