

Difference Between Rales and Rhonchi

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Key Difference – Rales vs Rhonchi

Both rales and rhonchi are abnormal sounds in the [lungs](#) heard during auscultation. **Rales are characterized by the discontinuous clicking sound. Rhonchi also have this clicking or the rattling nature, but the continuity of the sound distinguishes rhonchi from rales.** This is the key difference between rales and rhonchi. Although it seems like a quite easy task the correct identification of the sound, it requires years of experience and a well-trained ear to differentiate the two conditions through the stethoscope.

What are Rales?

Rales are a type of abnormal breath sounds heard during the auscultation. They have a characteristic discontinuous crackling or clicking nature. The passage of air through a moist airway is the underlying cause of this condition.

For the convenience of describing the clinical features, rales have been rather tentatively categorized into three categories as fine rales, medium rales, and coarse rales. Fine rales are produced in the smaller airways such as [alveolar](#) ducts and [bronchioles](#). They can be clearly heard at the end of inspiration.

Medium rales arise when the air passes through more larger and wider airways such as [bronchi](#). Coarse rales have a unique gurgling nature and occur when the fluid level is slightly more than that in the other two categories.



Figure 01: Auscultation of a woman

Causes

- [Asthma](#)
- [Asbestosis](#)
- Adult respiratory distress syndrome
- Bronchiectasis
- [Bronchitis](#)
- [Fibrosis](#)
- Heart disease

What are Rhonchi?

Rhonchi are the breath sounds that are created when the airway is partially obstructed by the presence of fluid. The fluid level inside the lumen of the airway limits the space available for the free movement of the air particles and gives rise to a vibratory effect. Although rhonchi can be heard throughout respiration, they are more prominent during the expiration. According to the pitch of the sound

produced rhonchi are classified into two categories. Sibilant rhonchi have a low pitch and are produced when air passes through narrow airways. Sonorous rhonchi have a high pitch and are produced when the air passes through broad air passages.

Causes

- Asthma
- Bronchiectasis
- Adult respiratory distress syndrome
- Bronchitis
- [Emphysema](#)
- [Pneumonia](#)
- [Bronchiolitis](#)

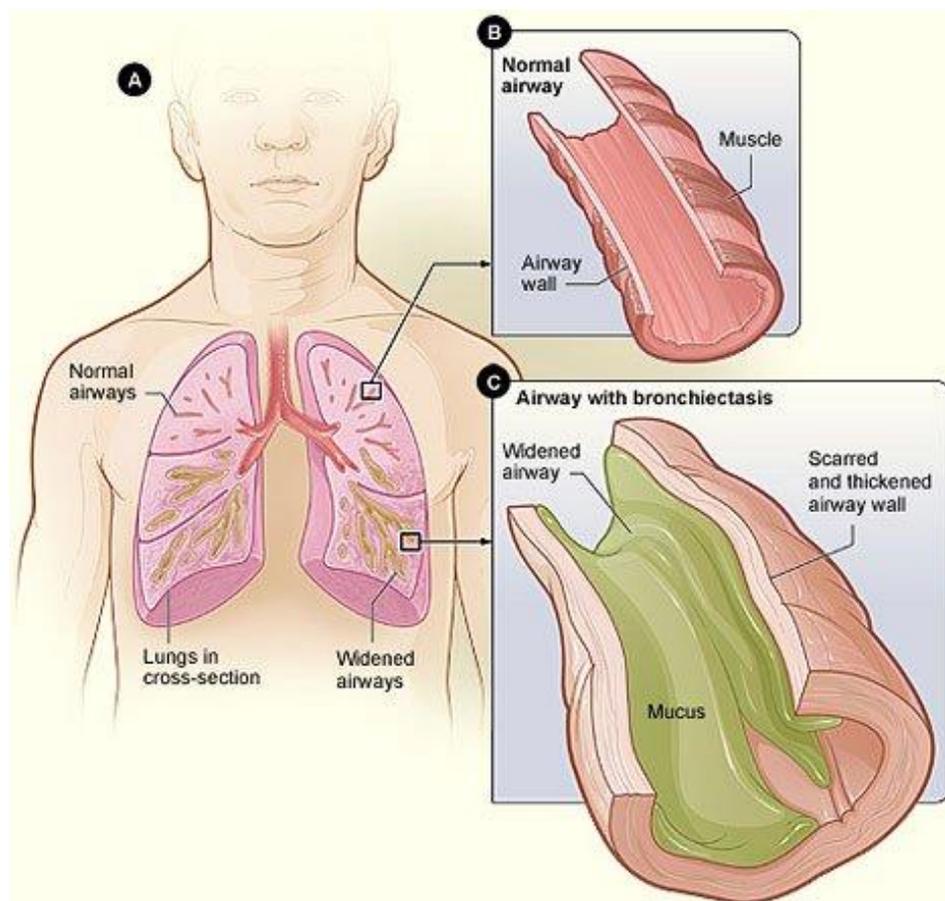


Figure 02: Bronchiectasis can cause rhonchi

What are the similarities between Rales and Rhonchi?

- Both rhonchi and rales are abnormal breath sounds that identified during the auscultation.

What is the difference between Rales and Rhonchi?

Rales vs Rhonchi	
Rales are abnormal breaths having a discontinuous crackling nature.	Rhonchi are abnormal breath sounds having a continuous crackling nature.
During Respiration	
This is more prominently heard towards the end of inspiration.	This is more prominently heard during expiration.
Cause	
This is produced mostly due to the moist nature of the wall of the airways.	This is produced due to the narrowing of the lumen because of the accumulation of fluid inside the airway.

Summary – Rales vs Rhonchi

Both entities discussed in this article are abnormal breath sounds auscultated during the clinical examination of the respiratory system. Both of them have a crackling nature but in rhonchi, the sound is of a continuous type. This is the main difference between rales and rhonchi.

References:

1. Kumar, Parveen J., and Michael L. Clark. Kumar & Clark clinical medicine. Edinburgh: W.B. Saunders, 2009. Print.

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1. “Auscultation of a women” By Wesley Carter, [U.S. Air Force](#) (Public Domain) via [Commons Wikimedia](#)
2. “Bronchiectasis NHLBI” By National Heart Lung and Blood Institute – National Heart Lung and Blood Institute, (Public Domain) via [Commons Wikimedia](#)

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