

# Difference Between Bronchospasms and Laryngospasms

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## **Key Difference – Bronchospasms vs Laryngospasms**

A muscle spasm is a contraction or a tightening of a muscle. When such contractions happen in the <u>smooth muscles</u> of the <u>larynx</u>, they are called laryngospasms. Similarly, the contractions of the smooth muscles in the bronchial walls are called the bronchospasms. So there is only a slight difference between bronchospasms and laryngospasms. The key difference between bronchospasms and laryngospasms is that <u>laryngospasms happen</u> in the <u>larynx</u> while bronchospasms happen in the bronchi.

# What are Bronchospasms?

As previously described, the contractions of the smooth muscles in the bronchial wall are called the bronchospasms.

#### Causes

- Allergens
- Asthma
- COPD
- <u>Infections</u> affecting the <u>bronchi</u>
- General anesthesia
- Presence of a foreign body in the airway
- As an adverse effect of certain drugs
- Exercise

#### **Symptoms**

- Chest pain (this should be differentiated from a chest pain arising secondary to any cardiac problem)
- Cough
- Bronchospasms are also sometimes associated with wheezing.

#### **Diagnosis**

The past medical history of the patient plays a vital role in arriving at a diagnosis. It is extremely important to know if the patient is an asthmatic and if he/she is allergic to certain substances. This helps to prevent carrying out any unwanted and expensive investigations.

Other investigations that are usually done when necessary are,

- Chest X − Ray
- Bronchoscopy
- Spirometry
- Pulse oximetry
- Lung diffusion capacity

### Management

Bronchodilators are frequently used in the management of bronchospasms. Short term bronchodilators such as salbutamol are given for the immediate relief owing to the quick onset of their action. But since their effect wanes off within a short time, long term bronchodilators are also required.

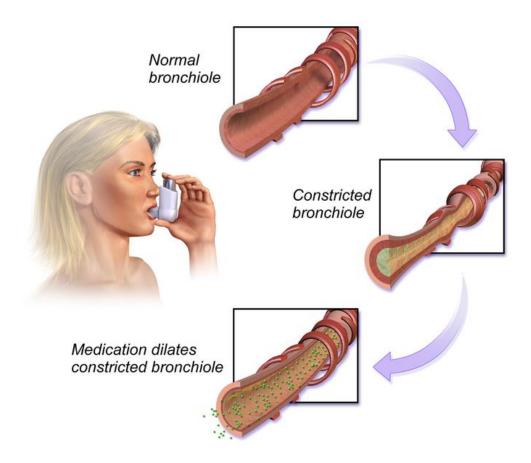


Figure 01: Effect of Bronchodilators

Since bronchospasms are almost always associated with the inflammation of the bronchial wall, anti-inflammatory steroids are usually administered.

In order to prevent the recurrence of bronchospasms, it is necessary to identify any allergens that the patient is allergic to. The patient should be advised on how to avoid the exposure to such allergens.

# What are Laryngospasms?

Laryngospasms are the contractions of the laryngeal smooth muscles.

#### Causes

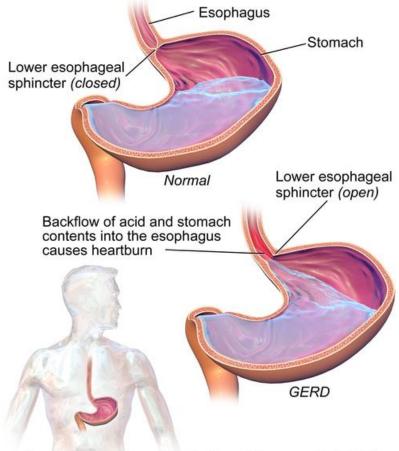
- Asthma
- GERD
- Allergens and irritants
- Exercise

- Anxiety
- Anesthesia

#### **Symptoms**

In laryngospasms, the sudden contraction of the laryngeal smooth muscles blocks the airway completely. This condition usually coexists with GERD (Gastro Esophageal Reflux Disease) where the reflux of the gastric secretions irritate the laryngeal muscles resulting in the spasms.

- Sleep disturbances because of the feeling of suffocation
- Stridor
- Heartburn
- Chest pain
- Hoarseness
- Cough



Gastroesophageal Reflux Disease (GERD)

Figure 02: Laryngospasms usually coexists with GERD

#### **Diagnosis**

- Laryngoscopy
- Ambulatory esophageal pH monitoring

### **Management**

It is very important to identify the underlying pathology. If the patient has GERD, proton pump inhibitors such as omeprazole can be prescribed. Surgical intervention may be required depending on the compliance of the patient to these drugs. In pediatric cases, it is necessary to identify any congenital malformations that cause the laryngospasms. As in bronchospasms, the exposure to irritants and allergens should be avoided.

# What are the similarities between Bronchospasm and Laryngospasms?

- It is the smooth muscles that contract on both occasions.
- Allergens and irritants can give rise to both laryngospasms and bronchospasms.

# What is the difference between Bronchospasm and Laryngospasms?

Bronchospasm vs Laryngospasms	
Bronchospasms are contractions that happen in the bronchi.	Laryngospasms are contractions that happen in the larynx.
GERD	
There is no association with GERD.	GERD is the commonest cause of laryngospasms.

## Summary – Bronchospasms vs Laryngospasms

As we have discussed here, both bronchospasms and laryngospasms are due to the abnormal contraction of the smooth muscles. The main difference between bronchospasms and laryngospasms is their location; bronchospasm is the contractions in the bronchi whereas laryngospasm is the contractions in the larynx. Since the severity of the condition depends on the underlying cause, it is necessary to exclude the possibility of any serious pathology by doing the relevant investigations.

#### **References:**

1. Kumar, Vinay, Stanley Leonard Robbins, Ramzi S. Cotran, Abul K. Abbas, and Nelson Fausto. Robbins and Cotran pathologic basis of disease. 9th ed. Philadelphia, Pa: Elsevier Saunders, 2010. Print.

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