

# Paradoxical Vocal Fold Dysfunction (PVFD)

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## What is paradoxical vocal fold dysfunction?

Paradoxical vocal fold dysfunction (PVFD) happens when the vocal folds narrow during breathing and block the flow of air. This causes a person to feel like they are having serious trouble breathing.

The vocal folds are located at the top of the trachea (wind pipe) and act as a valve for our breathing. When we talk, the vocal folds close so they can vibrate to make sound. When we breathe, the vocal folds should be open at a wide angle, to allow air to pass to and from the lungs with ease.

With PVFD, the vocal folds tighten, narrow, or close this valve at times during breathing. This can happen when you breathe in (inhalation) or breathe out (exhalation), but takes place most often during inhalation.

## What are the signs and symptoms of PVFD?

- Sudden or irregular (may not happen all the time) shortness of breath
- Unable to take a deep or filling breath
- Tight feeling in the throat
- Noisy or wheezing sound (stridor)
- Little or no improvement with use of rescue inhalers

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**This handout is for informational purposes only. Talk with your doctor or health care team if you have any questions about your care.**

## What are the causes or triggers for PVFD?

The cause of PVFD is not known and is different for each person. There are certain things that can trigger this abnormal breathing pattern to develop. The following problems can make PVFD worse:

<ul style="list-style-type: none"><li>• Acid reflux</li><li>• Post-nasal drainage</li><li>• Dryness in your throat</li><li>• Upper respiratory illnesses, such as an upper respiratory infection, bronchitis, or COVID 19</li><li>• Contact with allergens</li></ul>	<ul style="list-style-type: none"><li>• Physical stress, for example, when exercising</li><li>• Emotional stress</li><li>• Very small pieces of material, such as dust</li><li>• Upper airway sensitivity, such as a reaction to strong odors or weather changes</li></ul>
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## What is the treatment for PVFD?

Laryngeal control therapy (LCT) is a treatment used for PVFD. This therapy is done under the direction of a speech pathologist who specializes in airway and voice disorders. Treatment may include the following:

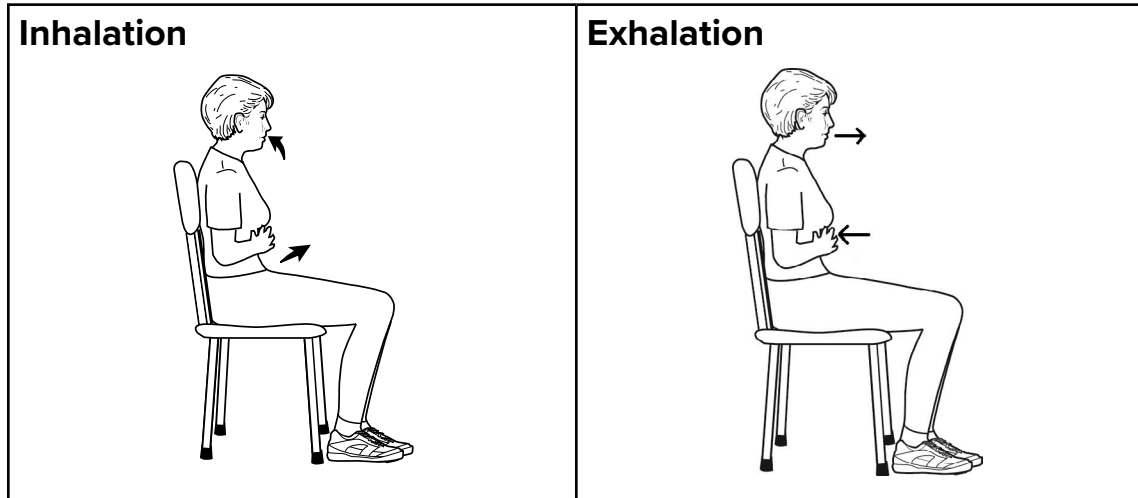
- Breathing exercises that retrain the vocal folds to stay in an open, relaxed position.
- Behavioral changes to help manage triggers, such as voice use changes and hydration.
- Breath holding exercises to help you learn when you hold your breath and how to correct it.

Counseling may also be helpful to learn ways for how to manage stress and anxiety.

## Respiratory Training Exercises for PFVD

- **Low Abdominal Breathing**

This breathing exercise is a **retraining** technique. It creates connected and pressurized airflow by breathing in through the nose and out through the mouth. The focus of low abdominal breathing is to cause relaxed breathing with enough pressure to keep the vocal folds fully opened. This exercise not only improves natural breathing, but also creates muscle memory for the vocal folds to remain open.



### Steps:

1. Breathe in through your nose like you are smelling one of your favorite scents. This should be a slow, powerful inhale. Your lower abdomen should move out as you breathe in and your chest and shoulders should stay relaxed.
2. Blow out through your mouth like you are blowing out a birthday candle from several feet away or blowing out through a large straw. Your lower abdomen should move in as you breathe out.

This exercise should sound noisy at the nose when you breathe in and noisy at the lips when you blow out. There should not be noise coming from your throat. It is important to keep a steady pressure when you breathe in and when you breath out.

- **Biofeedback Exercise**

This treatment is used to help reduce chest/shoulder engagement. Doing this exercise helps you connect to the diaphragm (muscle at the bottom of the ribs) more, while relaxing your chest and shoulders, which will allow you to take a deeper breath.

**Steps:**

1. Lie down, flat on your back in a relaxed position.
2. Place a book, small weight, or other object at the bottom of your ribcage (sternum), where your diaphragm is located.
3. Take a deep breath in through your nose until you feel the object lift up.
4. Release the breath through your mouth until you feel the object lower.

- **Rescue Breathing**

This breathing technique is helpful to use during times when you have shortness of breath, coughing, or a laryngospasm. A laryngospasm is when the larynx reacts to an irritant and causes the airway to quickly close shut.

The spasm may last for 30 to 60 seconds and make it very hard to breathe. At times, this problem may cause someone to pass out. If this happens, the muscles will relax right away and normal breathing will return.

People often feel panic during this time because they are not in control. The following breathing techniques help to create a high pressure system to force the vocal folds open.

Rescue breathing includes:

- 3 short, strong breaths/sniffs in through your nose
- 3 short, strong breaths/puffs out through your mouth

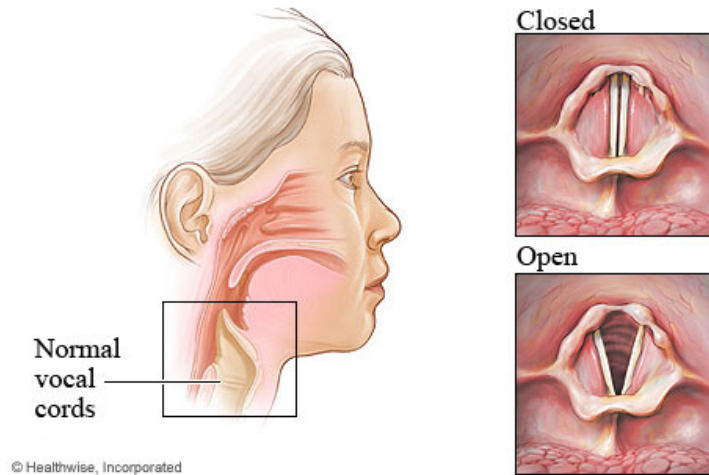
During times when you have shortness of breath, coughing, or a laryngospasm, do this breathing technique for 15 to 30 seconds or until your breathing improves. It may feel like the technique is not working, but do not stop. It may take some time to pop the vocal folds open. When your breathing is better, start normal relaxed breathing or use the low abdominal breathing technique for one minute.

It is important to practice the rescue breathing technique until you are sure how to do it. Being comfortable and confident with the technique, will make it easier and more successful, when needed.

- **Breath Holding**

It is important to know how to tell when your vocal folds are open (breathing) or closed (breath holding). During certain activities, people hold their breath. When you hold your breath, your vocal folds close and do not allow air to enter or exit the lungs (as shown below).

**Normal Vocal Cords**



For some activities, such as swallowing, it is important for the vocal folds to be closed to prevent food from going into your lungs. At times, we hold our breath during the day when it is not necessary. When we incorrectly hold our breath, it reinforces the vocal folds being closed and can make the exercises you are doing to manage PVFD less effective.

Some common breath holding triggers are listed below. You may find that some of these activities cause you to hold your breath or may have other activities not on the list that also trigger your breath holding.

<ul style="list-style-type: none"><li>• Bending over</li><li>• Lifting a heavy object</li><li>• Pushing an object</li><li>• Pulling an object</li><li>• Intense concentration/thinking</li><li>• Standing up from a seated position</li></ul>	<ul style="list-style-type: none"><li>• Climbing stairs</li><li>• Raising your arms above head</li><li>• Twisting</li><li>• Contact with strong odors, such as perfumes, smoke, and household cleaners</li></ul>
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## **Exercises to do at home:**

### **Steps:**

- For 2-3 days, be aware of your breathing, and the activities that cause you to hold your breath. It may be helpful to write these activities down.
- Once you know your breath holding triggers, work to make sure you are breathing before, during, and after each task.
- You may also find it helpful to practice the low abdominal breathing technique (in through the nose, out through the mouth) to use for certain triggers, specifically strong odors.