

# MEDfacts

An Educational Health Series From National Jewish Health®



## Vocal Cord Dysfunction/VCD (Also Known as Paradoxical Vocal Fold Motion/PVFM)

In 1983, doctors at National Jewish Health described a condition that may mimic asthma. This condition is called Vocal Cord Dysfunction, or VCD. People with VCD may report asthma-like symptoms to their doctors. It can also co-occur with asthma, making its correct diagnosis complicated.

### What are the symptoms of VCD?

Symptoms of VCD can include:

- Shortness of breath
- Intermittent hoarseness or wheezing
- Chronic cough and/or throat clearing
- Chest and/or throat tightness
- “Just having trouble getting air in.”

These symptoms are a result of an intermittent abnormal closing of the vocal cords (VCD) during breathing, versus an inflammation of the lower airways (as occurs with asthma). Based on these symptoms, many people with VCD may be diagnosed with asthma and treated with asthma medications, including oral steroids. VCD alone does not respond to traditional asthma therapy, or only minimally improve with this treatment. When VCD is not correctly identified, patients may develop significant side effects from taking medication. These are often seen with long-term use of oral steroids, without much benefit. Incorrect diagnosis and treatment may also lead to frequent emergency room visits and hospitalizations, even intubation. An important factor to be aware of is that some people have a combination of asthma and VCD.

### What happens with VCD?

To understand VCD, it is helpful to know how the vocal cords work. The vocal cords are located at the top of the windpipe (trachea) and vibrate from exhaled air to produce noise and voice. Breathing in and out causes the vocal cords to open, allowing air to

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flow through the windpipe (trachea). However, with Vocal Cord Dysfunction, the vocal cords close together, or constrict, during inhalation or exhalation. This leaves only a small opening for air to flow through to the windpipe and causes asthma-like symptoms.

Many people with VCD have problems with postnasal drip from chronic nasal and/or sinus congestion, gastroesophageal reflux (GER) or laryngopharyngeal reflux (LPR). This relationship may be one of cause and effect, because these conditions can lead to chronic irritation of the throat that then causes the vocal cords to become hypersensitive to irritant stimuli.

### How is VCD diagnosed?

Making a diagnosis of VCD can be **very** difficult. If your doctor suspects VCD, you will be asked many questions about your symptoms. Common symptoms include a chronic cough, chronic throat clearing, shortness of breath, difficulty breathing, chest tightness, throat tightness, intermittent hoarseness and wheezing. Many people diagnosed with VCD complain that they have "difficulty getting air in."

Breathing tests like spirometry can be useful in diagnosing VCD, but only if they are done when symptoms are occurring. In the absence of any other complicating conditions like asthma, breathing tests for VCD will be normal. However, if spirometry is conducted when symptoms are present, and if the doctor obtains what is called a "flow volume loop," VCD will cause a flattening of the inspiratory (and/or expiratory) part of the loop.

While spirometry is important and useful, a procedure called a laryngoscopy is the most definitive test in making the diagnosis of VCD. This procedure is performed by a specialized doctor. Using a flexible tube with a fiber optic camera, the doctor can see how your vocal cords open and close. A laryngoscopy should be done when you are having symptoms, because abnormal vocal cord movements do not occur all the time. Other tests may be done to trigger symptoms so that your doctor can observe your vocal cords when you are having symptoms. These may include an exercise challenge, bronchial provocation, or irritant challenge. It is important to know that people with Vocal Cord Dysfunction **cannot** produce symptoms voluntarily.

If the symptoms of VCD are not provoked during testing, your doctor may still have you evaluated by the speech-language pathology team. These individuals add their expertise and perspective to the diagnostics and may start you with a trial of therapy. How you respond to therapy can provide information on whether you do or do not have VCD.

### What can trigger VCD symptoms?

Possible triggers of VCD are often similar to asthma triggers. Triggers may include upper respiratory infections, air pollution, strong chemical fumes and odors, cigarette smoke, singing, laughing, emotional upset, postnasal drip, gastroesophageal reflux, laryngopharyngeal reflux, "silent" reflux, cold air and exercise. Sometimes the trigger is not known.

## How is VCD treated?

Once diagnosed with VCD, a specific treatment program can begin. If VCD is the only condition, asthma medications may be stopped. If both asthma and VCD are diagnosed, asthma medications may be continued, but are often decreased once the VCD is better controlled. Treatment for gastroesophageal reflux, laryngopharyngeal reflux disease and postnasal drip should be started if these are present, as they irritate the vocal cords.

There are special exercises and therapies that help control VCD. Speech therapy is a very important part of the treatment for VCD. These exercises increase your awareness of abdominal breathing and relax your throat muscles. This enables you to have more control over your vocal cords and throat. Learning cough suppression and throat clearing techniques can also be extremely helpful. You will learn to practice these exercises while you are symptom-free in order to effectively use the exercises during VCD episodes. All of these exercises are aimed at overcoming the abnormal vocal cord movements, controlling the vocal folds with the breath stream and improving airflow into your lungs.

Another important part of treatment is supportive counseling. Counseling can help you adjust to a new diagnosis and a new treatment program. Counseling can also help you identify and deal positively with stress that may be an underlying factor in VCD. Most people with VCD find counseling to be very beneficial.

## The role of National Jewish Health

Doctors, speech-language pathologists and researchers at National Jewish Health are continuing to discover more about vocal cord dysfunction, a condition that may mimic asthma. In addition, National Jewish Health offers a variety of programs that can help people with known or suspected VCD. Doctors and a team of specialists can work together to evaluate your condition and determine the best treatment program. National Jewish Health's long-standing intensive specialization in respiratory diseases has been instrumental in our success in treating this newly recognized medical condition.

Note: This information is provided to you as an educational service of National Jewish Health LUNG LINE® (1-800-222-LUNG).

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PTE.046