What is it?
Those having trouble breathing while exercising might be suffering from vocal cord dysfunction (VCD), also known as paradoxical vocal fold movement/motion (PVFM). Athletes with VCD are limited in sport and exercise on a regular basis. Even though the vocal cords should stay open during exercise, in VCD they inappropriately close. While closed, airflow to the lungs is limited and breathing becomes difficult.

Symptoms are usually worse with activity and may improve with rest. Although most patients are likely to be female and young, it can happen to anyone at any age. Some athletes think they have trouble breathing from asthma but do not get better with the usual asthma treatments like inhalers. Since the symptoms are very similar, many individuals are mistakenly told they have asthma or exercise-induced bronchospasm (EIB). While in VCD the vocal cords close, in asthma and EIB the airway closes because of inflammation and smooth muscle contraction in the lungs. It is even possible for an athlete to have a combination of VCD and asthma or EIB. The exact cause of VCD is unknown, but potential triggers include throat irritants like smoke, heartburn or gastroesophageal reflux disease (GERD), allergens, emotional or psychological stressors (e.g. obsessive-compulsive disorder, depression, history of childhood abuse), and neurological issues.

Symptoms
Symptoms of Vocal Cord Dysfunction may include:
- Shortness of breath that comes and goes
- Inspiratory stridor (harsh noise while breathing in)
- Wheezing
- Coughing
- Throat/chest tightness
- Voice changes
- Choking

Sports Medicine Evaluation & Treatment
A sports medicine physician is trained to check for anything that might keep you from staying active, even the less common diagnoses. If you visit a sports medicine physician, he or she will ask about your symptoms and medical history. They will listen to your lungs for abnormal sounds and check your throat for any problems. The doctor may check the oxygen level in your blood with a painless device on your finger. Sometimes the doctor will want to see your lungs and get an x-ray of your chest. He or she may order special breathing tests to check your lung function called pulmonary function tests. These tests are painless and are done to make sure there is nothing else causing the breathing problems. When the doctor thinks the athlete has VCD, the best way to check is to look at the vocal cords with a camera called a laryngoscope.
The best treatment is a team approach. Different people with special skill sets will work together to manage the athlete. The sports medicine physician may check and treat GERD and any allergies. Other treatment may include behavioral management, which is when a speech-language pathologist teaches different breathing exercises called laryngeal control therapy. Rapid shallow breathing (panting), low (diaphragmatic) breathing, inhaling quickly through the nose (“sniff”) then slow exhalation through pursed lips or while producing an “s” sound can be very helpful when done properly. A sports psychologist or psychiatrist can provide counseling on biofeedback to help recognize any attack and prevent it from happening. Each athlete is treated on an individual basis to get the best care.

Injury Prevention
To prevent future VCD attacks, the athlete should avoid potential triggers, manage stressors, and take any prescribed medications. Speech or breathing therapy can help athletes recognize an oncoming VCD attack and use breathing techniques to control it.

With the wrong diagnosis, the athlete may get medication that will not work and has side effects. Getting the right diagnosis and treatment of vocal cord dysfunction will allow athletes to compete safely. Breathing oxygen is essential for exercise, and successful treatment of VCD will prevent attacks and lead to improved exercise performance.

Return to Play
Once the right diagnosis is made, the athlete’s breathing while exercising will improve. As soon as the symptoms are controlled, the athlete can progressively return to sport as tolerated.

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References