

**Can anything be done in training to improve breathing/lung function?**

Generally speaking, swim training can affect the static lung volumes (FVC, FEV1, MMEF, PEF, etc). It is doubtful that training the inspiratory muscles using resistive breathing devices helps improve performance among elite athletes. A couple of good studies from Colorado State University have shown that a low-sodium diet can reduce the severity of asthma/EIA, but it is unlikely that a low-sodium diet can enhance static lung capacity in the healthy, non-asthmatic individual.

**What about placing ionizers in the home?**

Many young asthmatics are exposed to allergic triggering factors that aggravate their asthma...pollens, dust mites, animal danders, molds, etc. Air filters in the home may be helpful in reducing his/her exposure to these allergic triggering factors and ultimately lead to better overall control of the asthma. An asthmatic should ask the healthcare provider what his/her triggers are and if a household filter will help the situation. If a filter is selected, the best options are the HEPA type filters or the Sharper Image Ionic Breeze.

**Is it possible that my swimmer could have something else wrong?**

Yes. One of the most commonly undiagnosed conditions with symptoms similar to asthma is *Vocal Chord Dysfunction (VCD)*, a condition that may be confused with asthma. Symptoms of VCD include shortness of breath, chronic cough, chronic throat clearing, hoarseness, wheezing, and even chest tightness. These symptoms are a result of an abnormal closing of the vocal cords (VCD) rather than inflammation of their airways (asthma).

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, post-nasal drip, gastroesophageal reflux disease, cold air and exercise. Sometimes the trigger is not known.

Based on the symptoms, many people with VCD may be diagnosed with asthma and treated with asthma medications, but since VCD is not asthma, the symptoms do not improve or only minimally improve with this treatment. When VCD is not identified, and the patient is treated with asthma medication, significant side effects may develop. 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. An important factor to be aware of is that some people have a combination of asthma and VCD.

Unfortunately, it can be very difficult to diagnose VCD. Breathing tests may be normal and show no signs of asthma. If a patient has spirometry and his doctor obtains a flow volume loop during the test, the flow-volume loop can be helpful in showing VCD. The characteristic finding is a cutting off or flattening of the inspiratory (and/or expiratory) part of the loop. This is only helpful if it is done while the athlete is having symptoms. A procedure called a laryngoscopy is the most important test in making the diagnosis of VCD. This procedure is performed by a specialized doctor and should also be done when symptoms are occurring because abnormal vocal cord movements do not occur all the time. It is important to know that people with Vocal Cord Dysfunction cannot produce symptoms voluntarily.

Once diagnosed with VCD, an athlete can begin a specific treatment program. If VCD is the only condition, asthma medications may be stopped. If the athlete has a combination of asthma and VCD, asthma medications may be continued, but may often be decreased. Treatment for reflux disease and postnasal drip should be started if these are present.

Speech therapy is a very important part of the treatment for VCD as well. Special exercises increase awareness of abdominal breathing and relax the throat muscles. This enables the athlete to have more control over the throat. Learning to suppress cough and throat clearing can also be extremely helpful. A patient learns to practice these exercises while symptom-free in order to effectively use the exercises during VCD episodes. These exercises help overcome the abnormal vocal cord movements and improve airflow into the lungs.

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

(This information was adapted from National Jewish Medical and Research Center's [medfacts website](http://www.nationaljewish.org/medfacts/vocal.html) <http://www.nationaljewish.org/medfacts/vocal.html>)

**How can swimmers deal with their asthma?**

Acceptance. Avoid defeat. See success. Swimmers get pushed to a point where respiratory issues are identified...big and small. For those who are diagnosed with asthma, the first step is accepting that diagnosis. Not accepting that fact is not reality. The next step is to determine how that condition can be best managed (medically first) and not amplified by what one thinks (psychology). After all, the idea is to minimize the effects of the condition, rather than make it worse by thinking about it as a debilitating problem. Can it affect one's ultimate performance, yes it can...but the individual can play an active role in keeping the effects to a minimum. No one said life would be fair! Athletes train and compete with all kinds of medical issues. It is important to keep the "problem" in perspective. It is important to have the appropriate medical treatment. And it is important to be compliant with whatever treatment has been prescribed. Often, with asthma, there

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can be some accompanying "anxiety" which compounds the problem. From the psychology perspective, it can be helpful to learn and employ tools that allow us to maintain control of our thoughts and actions when we feel we are lighting up the asthma responses. Asthma is a physiological/medical issue, but we can compound that with having "emotional asthma". Having asthma is not an "anchor" that slows us down and ultimately limits our success any more than not having asthma is the key to success. We all have varying degrees of strengths and weaknesses. How we utilize those attributes in combination is the key. The bottom line...Maintain clear inventories of what you have and become less focused on what you don't have. "Success" is truly a matter of managing all of your existing resources. If we get into the habit of focusing on what we don't have...well, folks we are in the wrong business. When it comes to asthma, keep it in perspective, and learn to control your "anxiousness" when the asthma light begins to come on.

**How can I make sure my swimmers, their parents and their healthcare providers are educated on all of this?**

Specialists who are well-versed in exercise asthma are hard to come by. Encourage your swimmer and his/her parents to ask lots of questions, specifically ones outlined in this Guide. Encourage them to learn everything they can about asthma and EIA from resources like the ones listed in the Resources Section. You might even consider providing them with a copy of this Guide.

Consider hosting a night for parents whose children have asthma. Create an open forum to discuss action plans, rules, healthcare provider issues, tips for swimmers, etc. You might even consider a hand-out for parents at the beginning of the year. This should outline the expectations of the asthmatic swimmer and your rules for having medications on hand at practice. Call it "Does Your Child Have Asthma? What You Need to Know About joining the Swim Team."

Feel free to make copies of the Quick Quiz at the end of this booklet to keep attendees engaged. And don't forget to take the quiz yourself!

