

Shortness of Breath

Patient Education Guide

Why do I have shortness of breath?

Shortness of breath (dyspnea)—the feeling like you cannot get enough air—has many causes. Many people experience shortness of breath once in a while. However, call your doctor if it is severe, limits your activities, or does not go away. This information is designed to help you understand what causes shortness of breath. There is also information about some of the tests your doctor may use to discover what is causing your breathing problem.

First Tests

In order to find the cause of your shortness of breath, your doctor will start by asking you questions about your medical history and, then, will do a physical examination. Next, your doctor will check the amount of oxygen in your blood. This is a simple test done by placing a sensor on your finger or earlobe while you are sitting and walking. Once those tests are done, your doctor may then perform one or more of the following screening tests:

- Chest x-ray—to look at the lungs.
- Breathing tests (called *pulmonary function tests*)—to see how well the lungs get air in and out. These tests can help identify problems of the airways or bronchial tubes, such as COPD (*chronic obstructive pulmonary disease*), asthma, scarring of the lungs (*fibrosis*), or other breathing problems.
- Blood tests—to check for anemia or low blood count.
- Heart tracing (called an *electrocardiogram* or *ECG*)—to see if there is any heart damage.

Additional Tests

Sometimes, even after the first tests, the cause of the shortness of breath is still not known. Other common tests for patients with shortness of breath include the following:

- CT scan of the chest—shows more detail than a chest x-ray and may show scarring in the lungs (*interstitial lung disease*). Sometimes CT scans are done with contrast. This means a dye is injected into a vein to give an even more detailed view. This may be done if your doctor thinks there may be a blood clot in your lungs.
- If your doctor suspects you may have asthma, you may be given a medication that affects the bronchial tubes while breathing tests are done.
- Bronchoscopy—If the breathing tests show that something is blocking your airway, your doctor may need to look into your airways with a lighted scope. This procedure is called a *bronchoscopy*. This test may also be necessary, along with a biopsy of the lung, if the CT scan shows areas which are not normal.
- Muscle and nerve testing—to see if your muscles or nerves are causing weak breathing muscles (this is rare).
- Heart tests—many times, shortness of breath is not caused by a lung problem but by a heart problem instead. The most common heart tests for patients with shortness of breath include:
 - echocardiogram—ultrasound waves are used to get a detailed look at the heart valves and how well the heart pumps.
 - stress test—walking on a treadmill to check the heart during exercise.
 - nuclear medicine testing—another way to get a look at how well the heart is working.
 - maximum cardiopulmonary exercise test. This means exercising on a treadmill or bicycle until you cannot go any further. This test helps your doctor see how well your whole body is working during activity.

More Causes of Shortness of Breath

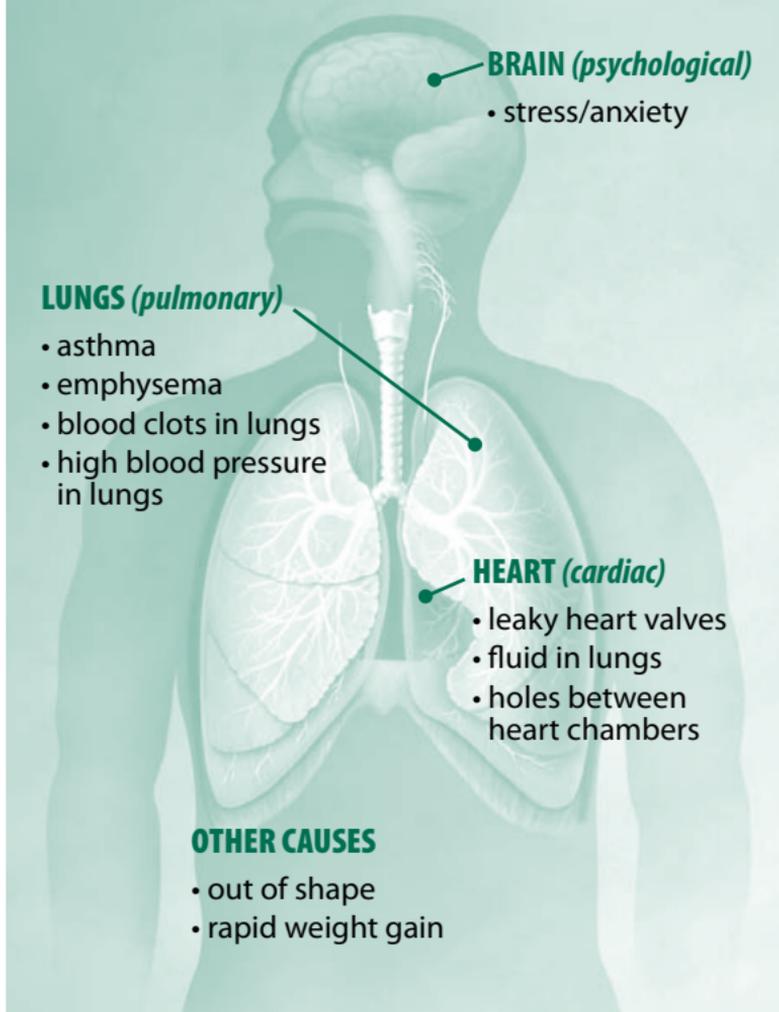
The heart tests help your doctor to identify problems, such as the following:

- Leaky heart valves.
- Stiff heart muscles (*diastolic dysfunction*).
- Heart muscles that do not get enough blood during exercise (*ischemic heart disease*).
- An opening in the heart that should not be there (*patent foramen ovale* or *atrial septal defect*). This condition makes it difficult for the lungs to get enough oxygen into the blood.
- A connection between veins and arteries in the lungs or somewhere else in the body that should not be there (*arteriovenous malformation* or *AVM*).
- High pressure on the right side of the heart. This can be from a lung problem or from blood clots or other blockages in the lungs (*chronic pulmonary embolism* or *pulmonary vasculitis*). High pressures in the right side of the heart can also be from an unknown cause (*primary pulmonary hypertension*).

Other possible causes of shortness of breath include the following:

- *Postnasal discharge*—when sinus drainage collects in the back of your throat.
- *Gastroesophageal reflux* (GER)—when stomach acids “splash” up into your throat.
- *Deconditioning*—when you have a low level of physical fitness.
- *Hyperventilation*—when breathing is too fast, often as a result of anxiety or feelings of panic.

Shortness of Breath: Common Causes



Remember

Shortness of breath should not be ignored. Since it has many causes, it may take awhile for your doctor to find the exact reason for your breathing trouble. You may even need to repeat certain tests. Once a cause has been determined, your doctor will talk to you about how best to treat your condition.

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