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Lung Function in COPD

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Overview

Lung function means how well your lungs work. When you have COPD, your lungs can't move as much air in and out as they should. And the more serious your COPD is, the less air your lungs are able to move.

Spirometry tests are used to measure lung function. They measure how much air you breathe out when you take long, deep breaths and push the air out of your lungs. For people with COPD, the test measures how well the lungs do two important jobs:

- How much air you can push out in 1 second.
 - This is called forced expiratory volume in 1 second, or FEV1.
- How much air you can push out after you take a deep breath, with no time limit.
 - This is called forced vital capacity, or FVC.

Your FEV1 and FVC numbers are lower than normal when you have COPD, and they get lower as the disease gets worse. These numbers are usually stated in the form of a percentage.

Picture a glass of water. If the glass is full to the brim, it is 100% full. If it is only half full, it is 50% full. And 33% means it is only one-third full, and so on. Likewise, if your FEV1 is 50%, your lungs are able to handle only half as much air as they should. If your FEV1 is 33%, your lungs are able to handle even less—only a third as much. The lower your FEV1 percentage, the less air your lungs are able to handle.

Here are the FEV1 numbers for the various grades of COPD, according to the Global Initiative for Chronic Obstructive Lung Disease (GOLD).¹ The symptoms you have may vary from the symptoms listed below.

COPD: Grade, FEV1, and symptoms

Grade	FEV1 and symptoms
Mild COPD (grade 1)	80% or higher. People at this stage may not have shortness of breath and may not know that their lungs aren't as healthy as they should be.
Moderate COPD (grade 2)	50% to 79%. People at this stage may think that their symptoms are just part of getting older.
Severe COPD (grade 3)	30% to 49%. At this level, the lungs are not working well at all.
Very severe COPD (grade 4)	Less than 30%. People at this stage get out of breath with just a little activity. When symptoms get worse, they can be life-threatening.

If you don't understand your lung function numbers, ask your doctor to explain them for you. To help make the best treatment plan for you, your doctor will look at your FEV1, your symptoms, and what other health problems you have.

Credits

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