

Pulmonary Function Screening



Pulmonary Function Screening evaluates and measures how much air and how easily the air moves in and out of your lungs. These tests do not test for lung fitness or exercise tolerance.

The results of your Pulmonary Function Screening test will help determine if you have any potential problems with your lungs which may be caused by exposure to irritants or allergens (such as smoke, animals, ragweed, chemicals) in your work or home. These results also can help your doctor diagnose a lung disease such as asthma, emphysema, or pulmonary fibrosis. These tests may detect a respiratory defect at an early stage. Therefore, your doctor may choose to have your Pulmonary Function Screening test repeated periodically to check your lung function over time.

During the screening:

- You will be asked to breathe through a mouthpiece and to wear nose clips or pinch your nose closed during the test. All of the air that you breathe out during the test must go through the mouthpiece to be sure the results are accurate.
- You will be asked to take a breath in as deeply as you can and then blow your air out as fast as you can and as much as you can, keeping a tight seal with your lips and teeth around the mouthpiece. You will be asked to repeat the test several times to insure that we get the best results. Accurate measurements depend on you following the instructions and giving your best effort!
- The tests may make you tired or short of breath. You can rest between the repeated tests if you need to.
- There are no side effects from this screening.

Results of the screening:

Your performance on these tests will be compared with what is predicted for you, based on your sex, age, height, and race.

- **Forced Vital Capacity (FVC)** is the amount of air you could force from your lungs during a single breath. Normal FVC is about 80-100% of predicted. A decrease in the FVC may indicate lung disease.
 - ▶ Repeated exposure to certain irritants in your work without taking proper work precautions (such as wearing a respirator mask) can cause your lungs to scar and become stiff. This stiffness makes it hard to take a deep breath in.

- **Forced Expiratory Volume over One Second (FEV1)** is the amount of air that you could force from your lungs in the first second of your single breath. Normal FEV1 is about 80 - 100% of predicted.
- **Forced Expiratory Volume over One Second/ Forced Vital Capacity Ratio (FEV1/FVC)** is the percent of your single breath that you could breathe out during the first second. Normal FEV1/FVC is above 75%, although this values changes with age. A decrease in the FEV1/FVC ratio indicates obstructive lung disease.
 - ▶ Exposure to certain irritants or allergens can cause the muscle surrounding the airway to spasm and cause narrowing of the bronchi or airways. This narrowing makes it hard to breathe air in and out. This could be compared to trying to breathe out quickly through a small straw.
 - ▶ Examples of obstructive lung disease are reactive airway disease, asthma, bronchitis, and emphysema.
- **Peak Flow (PF or PEF)** is a measurement of the fastest flow that you could breathe out. Normal Peak Flow is usually greater than 80% of predicted.
- **Forced Expiratory Mid-Flow (FEF 25-75%)** is your single breath divided into 4 parts, This number reflects how fast the air was coming out of your lungs during the middle 2 parts, between 25% and 75% of your breath. Normal FEF 25-75%, is greater than 80% predicted.

If you have any questions about this Pulmonary Function Screening test or the results, you should consult with your doctor.

If you would like more written information, please call the Library for Health Information at (614)293-3707. You can also make the request by e-mail: health-info@osu.edu.

- ▶ Upon request all patient education handouts are available in other formats for people with special hearing, vision and language needs, call (614) 293-3191.