

What are They, and When Do I Need Them?

What are the Different Types of Lung Tests?

- ✓ The most familiar of all lung tests are pulmonary function tests (PFTs). PFTs are a series of different breathing tests. Your results are compared to predicted normal values, based on your age, sex, and height. These tests include:
 - ❑ Spirometry, which measures the amount of air exhaled and the time it takes you to exhale it.
 - ❑ Lung volume testing, which helps determine whether you have obstructive lung disease (such as chronic obstructive pulmonary disease or emphysema), restrictive lung disease (such as sarcoidosis), or a mix of both.
 - ❑ Diffusing capacity (DLCO), which provides information about how well gases like oxygen move from your lungs into your blood.
- ✓ Additional lung tests beyond PFTs include:
 - ❑ Arterial blood gases (ABGs), which show how well your lungs take in oxygen from your blood and get carbon dioxide out. This test uses a sample of your blood.
 - ❑ Pulse oximetry, which estimates the saturation of oxygen in your blood. Pulse oximetry is not as accurate as arterial blood gas testing.
 - ❑ Chest X-ray (CXR), which helps understand if your pulmonary symptoms are due to diseases other than chronic obstructive pulmonary disease (COPD). Note that COPD does not show on CXR unless COPD is severe.
 - ❑ Computed tomography (CT) of the lungs and high-resolution CT scans (HRCT) of the chest are the most sensitive tests to quantify emphysema and identify other lung abnormalities.

When and Why Should I Do Lung Testing?

- ✓ In adults, lung testing is recommended when alpha-1 antitrypsin deficiency (AATD) is first diagnosed, even if you have not been diagnosed with lung disease.
 - ❑ Lung disease is the most common health condition associated with AATD. Therefore it is important to do lung testing in order to learn the current health status of your lungs.
 - ❑ PFTs are recommended to determine whether you have lung disease, and if so, to learn the type and severity of lung disease. If you are newly diagnosed with lung disease, complete PFTs are recommended, including measurement of diffusing capacity (DLCO).
 - ❑ Your physician may recommend getting a high-resolution CT scan (HRCT) in addition to PFTs. It is possible to have normal PFTs when HRCT shows emphysema. HRCT also provides a good “baseline” for future comparison.
- ✓ Lung testing (typically spirometry) is recommended on a yearly basis. Your healthcare provider may choose a different schedule for testing.
 - ❑ If you have not been diagnosed with lung disease, annual testing will determine whether you have developed lung disease.
 - ❑ If you have already been diagnosed with lung disease, annual testing will track your lung disease and monitor your lung health. Depending on your specific health situation, your healthcare provider may order additional lung tests beyond PFTs.
- ✓ More frequent lung testing might be recommended in some situations, including:
 - ❑ If you have had an unexpected change in your symptoms or perceived lung health
 - ❑ If you have been having frequent exacerbations
 - ❑ If you have started a new medication or lung therapy

Can At-Home Tests Replace Lung Testing With a Healthcare Provider?

- ✓ At-home tests can help you monitor some aspects of your lung health. Pulse oximeters and spirometers are widely available, although accuracy can differ widely among these devices.
- ✓ At-home testing does not replace testing conducted by a healthcare provider.
- ✓ If you exercise regularly, a decrease in exercise performance can be an early sign that more formal testing is needed. This is one reason that regular exercise is important for all Alphas.