# Pulmonary Function Tests (PFTs) Pre- & Post-Procedure Instructions

## What are pulmonary function tests?

Pulmonary function tests (PFTs) measure how well your lungs take in and exhale air and how efficiently they transfer oxygen into the blood.

There are 2 different commonly used pulmonary function tests:

- Spirometry - measures how much air you can breathe into your lungs (inhale) and how much air you can quickly blow out of your lungs (exhale)
- Diffusion capacity of carbon monoxide (DLCO) – reflects how efficiently the lungs transfer oxygen breathed in from the air into the bloodstream

PFTs - are painless, and you will have time to rest between the different breathing measurements. The measurements may be repeated 2 or more times.

## When is it used?

Pulmonary function tests help

- compare lung function with known standards that give an indication of how well normal lungs should be functioning
- diagnose diseases of the lung such as asthma, bronchitis, and emphysema
- determine the cause of shortness of breath
- measure the effects of exposure to chemicals, coal dust, and other toxins on lung function
- measure the effectiveness of medicines and other lung treatments

## How do I prepare for the procedure?

- Do not smoke for 4 to 6 hours before your test.
- If you have asthma, ask your primary care provider if you need to stop using asthma medicine (bronchodilators) before the test.

## What happens during the procedure?

**Spirometry** - You breathe into a mouthpiece that is connected to an instrument called a spirometer. The spirometer measures the volume of air that you can rapidly force out of your lungs after having first inhaled as much air as you can. You will be asked to hold the mouthpiece of the spirometer in your mouth, inhale as much air as possible, then blow out as hard as you can into the spirometer. The maximum amount of air you can expel is called the forced vital capacity (FVC). The amount you force out in 1 second is the $FEV_1$ (forced expiratory volume).

**Diffusion capacity** - You breathe in a very small amount of carbon monoxide with a tracer gas (like methane or helium) for a very short time (often 1 breath). You hold your breath for 10 seconds, then rapidly exhale (blow out). The concentration of carbon monoxide in the air you exhale is then measured. The difference in the amounts of carbon monoxide inhaled and exhaled shows how quickly gas can travel from your lungs into the blood.

## How will I get my test results?

Discuss with your health care provider when and how you will get the results of your tests. Test results are only one part of a larger picture that takes into account your medical history and current health. Sometimes a test needs to be repeated to check the first result. Talk to your health care provider about your results and ask questions. If your test results are not normal, your health care provider will discuss with you

- if you need additional tests
- what you can do to improve your lung function
- when you need to be tested again

## Who should I call if I have questions?

- Please contact our clinic at 734-936-8857 during office hours (Monday - Friday, 8 a.m. – 4:30 p.m.).

- After hours, holidays, and on weekends call Hospital Paging at (734) 936-6267 and ask for the General Thoracic Surgery Resident on call.