

Pulmonary Function Testing Tip Sheet

Pulmonary function tests are typically ordered for patients ages six and older. Patients must be able to follow directions to complete testing accurately. Results may be more variable in children under age 8, particularly during their first testing experience.

Pulmonary Function Tests:

- **Spirometry**

Spirometry is the most commonly ordered pulmonary function test and measures lung volume over time. It provides the following values:

- Forced vital capacity (FVC)
- Forced expiratory volume in 1 second (FEV₁)
- FEV₁/FVC ratio
- Forced expiratory flow (FEF 25-75%)
- Peak expiratory flow

Spirometry helps diagnose obstructive lung disease.

This test includes spirometry measurements taken before and after administration of a bronchodilator. It is frequently used for patients with asthma to assess response to bronchodilator therapy and determine the need for steroid bursts or step-up therapy.

- **Lung Volumes**

Lung volume testing is performed using body plethysmography and provides the following measurements:

- Residual volume (RV): The amount of air remaining in the lungs after maximal exhalation
- Total lung capacity (TLC): The total volume of air in the lungs after maximal inhalation
- Functional residual capacity (FRC): The volume of air remaining in the lungs after a normal exhalation

Lung volume testing is used to help diagnose restrictive lung disease.

- **Diffusion Capacity (DLCO)**

DLCO testing evaluates the integrity and thickness of the alveolar-capillary membrane by measuring gas diffusion across it. A small amount of carbon monoxide is used as the test gas. This test helps identify diffusion abnormalities.

- **Other Pulmonary Testing Considerations**

- Methacholine challenge testing is not available.
- Exercise studies are coordinated through the Pediatric Cardiology Department.
- MIP/MEP testing is available for evaluation of patients with suspected or known neuromuscular disease.

TESTING LOCATIONS

Spirometry	Downtown, Jackson and Tupelo
Pre/ Post Bronchodilator Study	Downtown, Jackson and Tupelo
Lung Volume	Downtown
DLCO	Downtown