

Pulmonary Function Test (PFT) Interpretation Chart

Patient information	
Name:	Date of birth:
Ethnicity:	Gender:
Height:	Weight:
Contact information:	Date of assessment:
Key spirometry measurements	
Forced Vital Capacity (FVC)	Total air exhaled forcefully after a deep breath.
Forced Expiratory Volume in 1 Second (FEV1)	Volume of air forcibly exhaled in the first second.
FEV1/FVC Ratio	Assesses obstructive vs. restrictive patterns.
Decision flowchart	
<pre> graph TD Start[Confirm validity (consistent, reproducible effort and flow loops)] --> FEV1_FVC{FEV1/FVC Adults: < LLN (ATS criteria) or < 70% (GOLD criteria)* 5 to 18 years of age: < 85% of predicted} FEV1_FVC -- Yes --> FVC_Yes{FVC Adults: < LLN 5 to 18 years of age: < 80% of predicted} FEV1_FVC -- No --> FVC_No{FVC Adults: < LLN 5 to 18 years of age: < 80% of predicted} FVC_Yes -- No --> Obstructive[Obstructive defect Grade severity:] FVC_Yes -- Yes --> Mixed[Mixed pattern Grade severity:] FVC_No -- Yes --> Restrictive[Restrictive pattern Grade severity:] FVC_No -- No --> Normal[Normal If there is still concern for asthma, order bronchoprovocation] Obstructive --> Bronchodilator_Yes[Bronchodilator therapy Increase in FEV1 or FVC: Adults: > 12% and > 200 mL 5 to 18 years of age: > 12%] Mixed --> Bronchodilator_Mixed[Bronchodilator therapy Increase in FVC: Adults: > LLN of predicted 5 to 18 years of age: > 80% of predicted] Restrictive --> Confirm[Confirm restrictive defect through full pulmonary function tests with DLCO] Confirm --> Consider[Consider differential diagnosis] Bronchodilator_Yes -- Yes --> Reversible[Reversible obstruction (asthma)] Bronchodilator_Yes -- No --> Irreversible[Irreversible obstruction] Irreversible --> Consider2[Consider differential diagnosis] Bronchodilator_Mixed -- Yes --> Chronic[Pure obstruction with air trapping is likely chronic obstructive pulmonary disease] Bronchodilator_Mixed -- No --> Confirm </pre>	
<p>NOTE: A tool to calculate the LLN in adults up to 75 years of age is available at http://hankconsulting.com/RefCal.html.</p> <p>*—The 70% criteria should be used only for patients 65 years and older who have respiratory symptoms and are at risk of chronic obstructive pulmonary disease (i.e., current or previous smoker).</p>	

Stepwise interpretation

Step 1: Obstruction

Patient's FEV1/FVC ratio:

- Normal (\geq LLN or ≥ 0.70) → No obstruction.
- Low ($<$ LLN or < 0.70) → Obstructive defect (e.g., COPD, asthma).

Step 2: Restriction

Patient's FVC:

- Normal ($\geq 80\%$) → No restriction.
- Low ($<$ LLN or $< 80\%$) → Suspected restrictive defect → Confirm with full PFTs (TLC).

Step 3: Severity grading (obstruction or restriction)

FEV1% predicted:

- Mild ($> 70\%$)
- Moderate (60–69%)
- Moderately severe (50–59%)
- Severe (35–49%)
- Very severe ($< 35\%$)

Step 4: Reversibility (Post-bronchodilator)

FEV1/FVC or FEV1 improvement:

- No improvement
- Improvement $> 12\%$ and > 200 mL → Reversible obstruction (e.g., asthma).

Additional testing

DLCO (Diffusion capacity):

- Low → Consider interstitial lung disease, emphysema, or pulmonary vascular disease.
- High → Consider asthma, pulmonary hemorrhage, or polycythemia.

Bronchoprovocation testing: Indicated Not indicated

Results:

Overall interpretation

Diagnosis (check all that apply):

- Normal
- Obstructive defect → Likely:
- Restrictive defect → Confirmed with TLC? Yes No
- Mixed defect

Clinical notes and recommendations:

Notes for use

- Ensure demographic adjustments are applied. The Global Lung Function Initiative has a calculator that takes different ethnicities into consideration, which you can access here: <https://gli-calculator.ersnet.org/index.html>
- Severity classifications should guide but not dictate treatment—consider clinical context.
- Always confirm results with clinical history and additional tests as necessary.

Additional notes

Healthcare professional information

Name:

License ID number:

Signature:

Date of assessment:

References:

Barreiro, T. J., & Perillo, I. (2004). An approach to interpreting spirometry. *American Family Physician*, 69(5), 1107–1115. <https://www.aafp.org/pubs/afp/issues/2004/0301/p1107.html>

Johnson, J. D., & Theurer, W. M. (2014). A stepwise approach to the interpretation of pulmonary function tests. *American Family Physician*, 89(5), 359–366. <https://www.aafp.org/pubs/afp/issues/2014/0301/p359.html>