

Spirometry interpretation guide

The information present is intended to provide supplemental information only.

GLOSSARY OF TERMS

Spirometric values

FVC—Forced vital capacity; the total volume of air that can be exhaled during a maximal forced expiration effort.

FEV1—Forced expiratory volume in one second; the volume of air exhaled in the first second under force after a maximal inhalation.

FEV1/FVC ratio—The percentage of the FVC expired in one second.

FEV6 —Forced expiratory volume in six seconds.

FEF25–75%—Forced expiratory flow over the middle one half of the FVC; the average flow from the point at which 25 percent of the FVC has been exhaled to the point at which 75 percent of the FVC has been exhaled.

MVV—Maximal voluntary ventilation.

Lung volumes

ERV—Expiratory reserve volume; the maximal volume of air exhaled from end-expiration.

IRV—Inspiratory reserve volume; the maximal volume of air inhaled from end-inspiration.

RV—Residual volume; the volume of air remaining in the lungs after a maximal exhalation.

VT —Tidal volume; the volume of air inhaled or exhaled during each respiratory cycle.

Lung capacities

FRC—Functional residual capacity; the volume of air in the lungs at resting end-expiration.

IC—Inspiratory capacity; the maximal volume of air that can be inhaled from the resting expiratory level.

TLC—Total lung capacity; the volume of air in the lungs at maximal inflation.

VC—Vital capacity; the largest volume measured on complete exhalation after full inspiration.

Prior to performing Spirometry, review patient medical/surgical history and vital signs

Respiratory History:

Wheezing Resting Exercise How Long _____

Cough Productive Non-Prod How Long _____

Dyspnea Resting Exercise How Long _____

Test Conditions:

Good Fair Poor

Subject's Effort:

Good Poor Comment: _____

Inhaler or Medication Use:

Yes No Explain: _____

Smoking History:

Currently Smoke: Y N

Ever Smoked: Y N When _____

Cigarettes

Cigars

Pipe

Other

TABLE 1

Contraindications to Use of Spirometry

Acute disorders affecting test performance (e.g., vomiting, nausea, vertigo)
Hemoptysis of unknown origin (FVC maneuver may aggravate underlying condition.)
Pneumothorax
Recent abdominal or thoracic surgery
Recent eye surgery (increases in intraocular pressure during spirometry)
Recent myocardial infarction or unstable angina or Blood Pressure >150/90
Thoracic aneurysms (risk of rupture because of increased thoracic pressure)

TABLE 2

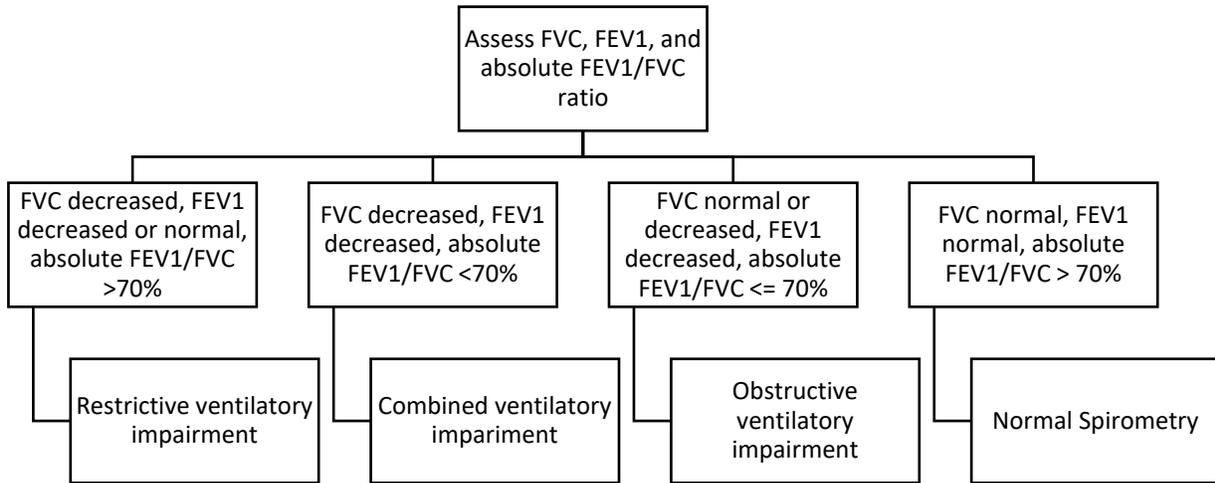
Normal Values of Pulmonary Function Tests

PULMONARY FUNCTION TEST	NORMAL VALUE (95 PERCENT CONFIDENCE INTERVAL)
FEV ₁	80% to 120%
FVC	80% to 120%
Absolute FEV ₁ /FVC ratio	Within 5% of the predicted ratio
TLC	80% to 120%
FRC	75% to 120%
RV	75% to 120%
DLCO	> 60% to < 120%

DLCO = diffusing capacity of lung for carbon monoxide. Adapted with permission from Salzman SH. Pulmonary function testing: tips on how to interpret the results. J Resp Dis 1999;20:812.

Interpreting Spirometry Results

Determine if the test is interpretable



Spirometry plotting chart

