Obstructive vs Restrictive Spirometry

The FEV1/FVC ratio (Tiffeneau index) separates the two patterns at a glance

OBS

Obstructive pattern

FEV1/FVC < 0.7 · FEV1 very low · total lung capacity normal or increased (air trapping) · asthma, COPD

RES

Restrictive pattern

FEV1/FVC preserved or > 0.7 · all volumes fall (TLC, FVC, FEV1) · fibrosis, chest wall and neuromuscular disease

BD

Bronchodilator test

FEV1 improves by 12% or more and 200 mL: suggests asthma (reversible) · if not, COPD

DLCO

Diffusing capacity (DLCO)

low in emphysema and in fibrosis · normal or high in asthma

FEV1/FVC < 0.7
Obstruction

FEV1/FVC > 0.7
Suspect restriction: confirm with a low TLC

Mixed pattern
Typical of some interstitial diseases

A flow-volume curve with a plateau suggests upper airway obstruction