Pulmonary Function Test interpretation

→Ensure good quality (reproducible curves on graph)
→Check patient info (age, sex, race)

1. Curves

1.1: Volume-time curve (bottom)
→Total lung volume?
→Slope? (obstruction if not steep)
→Plateau?

1.2: Flow-volume curve (top)
→Large airway obstruction? (3 types)
→Lung volume: high=obstruction, low=restriction
→Effort-independent expiratory limb contour: concave=obstruction, convex = restriction
→Tidal flow (smaller circle): flow limited?

2. Spirometry

2.1: FVC
→*High* = normal
→*Low* = obstructive or restrictive dx; check FEV1/FRC & lung volumes

2.2: PEV1/FVC
If FVC is low:
→Normal = restrictive dx
→Low (<75%) = obstructive dx

3. Lung Volumes

(if FVC is low, lung volumes will be abnormal)

Low VC

3.1: TLC
→Normal = acute obstruction (i.e. asthma)
→High = chronic obstruction/gas-trapping
→Low = restrictive lung dx

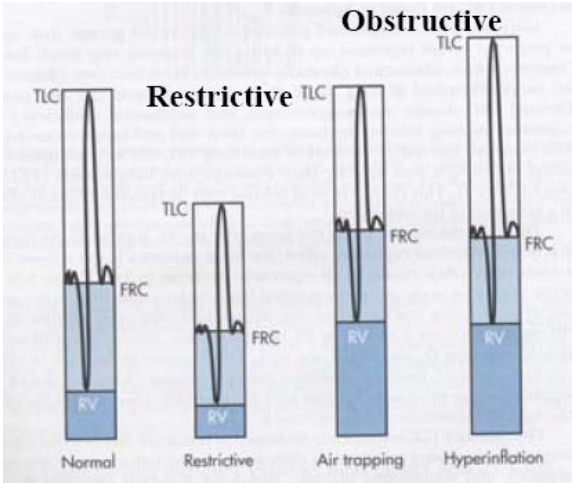
3.2: RV
→High = obstructive dx or restrictive chest wall dx
→Low = restrictive lung dx

4. Diffusion Capacity (D_LCO)

Normal > 75%

High:
→CHF (w/out pulm edema)
→Polycythemia

Low:
→Emphesema
→Restrictive lung disease
→Low pulm HgB volume: anemia, PE, pulm HTN



Yan Yu, 2012 (www.yanyu.ca)