

PFV test

Step 1 - obstruction or not

$$\frac{FEV_1 \text{ (exhale volume in 1 sec)}}{FVC \text{ (Total exhalation volume)}} = \begin{cases} \geq 70\% & \text{normal} \\ < 70\% & \text{obstruction} \end{cases}$$

Step 2 - GOLD classification (basically severity of obstruction)

Only look at the post-bronchodilator % of FEV₁

$\geq 80\%$ - mild

$50\% - 79\%$ - moderate

$< 30\% - 49\%$ - severe

$< 30\%$ - very severe

Step 3 - Reversible?

Only look at FEV₁ values

$$FEV_1 \text{ post BD} - FEV_1 \text{ before BD} = \begin{cases} \geq 12\% & \text{reversible} \\ < 12\% & \text{not reversible} \end{cases}$$

Question 1

① $FEV_1/FVC = 32\% \rightarrow < 70\% \rightarrow \text{obstruction}$

② $FEV_1 \text{ post-BD} = 25\% \rightarrow < 30\% \rightarrow \text{very severe}$

③ $FEV_1 \text{ post BD} - FEV_1 \text{ before BD} = 25\% - 23\% = 2\%$

less than 12% \rightarrow not reversible

In summary, very severe obstruction w/ no reversibility

Question 2

① $FEV_1/FVC = 67\% \rightarrow < 70\% \rightarrow \text{obstruction}$

② $FEV_1 \text{ post-BD} = 89\% \rightarrow \geq 80\% \rightarrow \text{mild}$

③ $FEV_1 \text{ post BD} - FEV_1 \text{ before BD} = 89\% - 57\% = 32\%$

greater than 12% \rightarrow reversible

In summary, mild obstruction w/ reversibility