

## **COPD Mega Case – Sharon Blackbreath**

39 yo female presents to the office with complaints of progressive shortness of breath over the last year. There was no one inciting incident, just a gradual decrease in her ability to climb stairs or walk up an incline without having to stop and catch her breath. She has a daily cough, occasionally productive of white to yellow sputum. No recent fevers, chills, or known sick contacts. She has been using a Combivent inhaler qid prescribed to her from the ER a couple years ago.

She describes a history of multiple episodes of “walking pneumonia” in the last decade, never requiring hospitalization, but always receiving antibiotics. No significant PMH as a child. She takes no medications and has no allergies. She lives with her husband and two teenage sons. Everyone in the household smokes, she herself has a 60 pack year history. She works for a chemical distributor that processes cleaning supplies in a factory-type setting. She has a limited income, her husband is unemployed and they use primarily wood to heat their home. They do have a furnace, but “it isn’t working right” so they avoid using it.

VS in the EMR are:

T 97.6 HR 82 BP 137/89 Weight 112

She is well-appearing and in no distress

**What additional questions do you have?**



**What diagnostic testing might you recommend and why?**

**What therapeutic interventions would you recommend?**

**She hates to take medicines or inhalers and wants to know why you think these interventions will help her.**

**What is your differential diagnosis for her dyspnea?**

### SPIROMETRY

		Ref	Pre Meas	Pre % Ref	Post Meas	Post % Ref	Post % Chg
FVC	Liters	5.04	2.19	43	2.55	51	16
FEV1	Liters	4.04	1.01	25	1.18	29	17
FEV1/FVC	%	79	46		46		
FEF25-75%	L/sec	4.02	0.49	12	0.56	14	13
FEF50%	L/sec	4.92	(0.41)	(8)	(0.52)	(10)	25
FEF75%	L/sec	1.87	(0.27)	(14)	(0.25)	(13)	-7
PEF	L/sec	9.33	4.09	44	3.92	42	-4
MVV	L/min	150	(42)	(28)			
MVV Length			12				

### PLETHYSMOGRAPH LUNG VOLUMES

		Pre Meas	Ref	Pre % Ref
TLC	Liters	(8.82)	7.38	(120)
Vtg	Liters	8.65		
RV	Liters	(5.36)	2.58	(208)
FRC PL	Liters	(6.09)	3.51	(174)
VC	Liters	3.47	5.04	69
IC	Liters	2.74		
ERV	Liters	0.73		
Raw	cmH2O/L/sec	3.65	1.29	284
RV/TLC	%	(61)	37	

### ARTERIAL BLOOD GAS

FIO2  
pH  
PCO2  
PO2  
HCO3  
SaO2

### DIFFUSING CAPACITY

		Pre Meas	Ref	Pre % Ref
DLCO	mL/min/mmHg	(12.5)	30.8	(41)
VA	Liters	6.19		
DLCOVA	1/min/mmHg	2.03	3.83	53

