Scenario 1 COPD Exacerbation With Suspected Pneumonia	
Scene Set Up	Equipment: CPAP, BVM, NRB, NC Proctor: You are a 54 year old female who has been having trouble breathing for the past 2 days. Recently, symptoms have been getting worse so you have called for an EMT. You are able to answer questions yourself.
Dispatch	Respond Code 2 to a 54 YOF with respiratory issues.
Scene Size Up	Scene Safety: safe General Impression: pt is sitting in tripod position on sofa in living room with no visible injuries
Primary Assessment	AVPU: pt is alert PPTE: pt is A&O4 A slight wheezing B labored breathing, dyspneic, tachypneic C skin signs = pale, hot, sweaty pulse = strong, regular cap refill < 2 seconds
Secondary Assessment	SAMPLE S: coughing up green mucus, fever, chest pain, chills, SOB, headache, fatigue A: none M: oxygen via NC P: COPD (emphysema) L: 2 hours ago E: been feeling sicker than usual, staying in bed for past 2 days PASTE P: don't know what caused it, just been progressively getting worse A: yes S: green mucus T: yes E: been in bed OPQRST O: happened overnight P: pain more prominent upon inhalation

	Q: sharp R: no S: 7 T: 2 days
Vitals	Before Treatment HR: 90 RR: 24 BP: 140/90 SpO2: 89% Lung Sounds: rhonchi After Treatment HR: 90 RR: 18 BP: 140/90 SpO2: 91% Lung Sounds: rhonchi
Treatment	Use NC to ease breathing difficulty Request ALS Rapid Transport
Key Points	While pt has SpO2 of 88%, this is actually healthy as the goal SpO2 of a pt with COPD is between 88-92%. Do not exceed this limit as it can be harmful.
Bonus Questions	Q: Why do COPD patients have lower SpO2? A: They develop a hypoxic drive to trigger respirations. In patients without COPD, the brain stem determines when to breathe based on increased levels of carbon dioxide in the blood. Since COPD patients develop a tolerance to their body's high levels of carbon dioxide, the brain learns to rely, instead, on low oxygen levels as the trigger to breathe. The higher oxygen levels that result from oxygen administration may, in rare cases, signal the COPD patient to reduce or even to stop breathing (leading to respiratory arrest). Q: What is the difference between bacterial and viral pneumonia? A: Bacterial pneumonia tends to be more common and more severe than viral pneumonia. It's more likely to require a hospital stay. Providers treat bacterial pneumonia with

	antibiotics. Viral pneumonia causes flu-like symptoms and is more likely to resolve on its own.

Scenario 2

Scenario 2 - Asthma Attack	
Scene Set Up	Equipment: BVM, NRB, NC Proctor: You are a 22 year old male who is having difficulty breathing after fog machines go off in a themed escape room. You are slightly panicked and can't breathe. You are currently sitting on the floor in a tripod position.
Dispatch	Respond to Code 2 to a 22 YOM with difficulty breathing at an escape room downtown.
Scene Size Up	Safe General impression: - Pt seated in tripod position on the floor of an escape room, the room is slightly small - There is fog from a fog machine - No visible injuries
Primary Assessment	AVPU: alert PPTE: A&Ox4 airway - patent breathing: - RR 30, labored - expiratory wheezing, prolonged expiratory phase - accessory muscle use - mild intercostal retractions - lung sounds: diminished in lower lobes, no crackles circulation: - HR: 118 bpm - BP: 142/86 - SPO2: 91% - pulse rapid and strong - slightly pale, cool
Secondary Assessment	SAMPLE: S: "chest tight, can't breathe out" A: "allergic to cats" M: albuterol inhaler P: asthma since child; hasn't needed inhaler in months L: pizza an hour ago E: fog machines went off, fake dust sprayed for clue

	PASTE: P: started 10-15 minutes ago after fog machines went off - worsened as fog accumulated and they continued to work on activity A: chest feels tight; not sharp, crushing, or radiating S: minimum sputum, clear mucus T: 2-3 word sentences; audible wheezing; increased work of breathing E: decreased; could not continue participating OPQRST: O: gradual onset after fog machines went off P: worsened by continued exposure and activity; brief relief after going outside into fresh air Q: feels “tight” and “can’t get air out” R: no radiation, tightness only in chest S: shortness of breath 7/10, feels like past asthma attack T: around 20 minutes before EMS arrival, worsening
Vitals	initial: - HR: 118 BPM - RR: 30/min, labored - BP: 142/86 - SPO2: 91% 3-4 min if untreated: - increasing fatigue - less pronounced wheezing - SPO2: 88% 3-4 min if treated - HR: 108 bpm - RR: 20/min - BP: 128/82 - SPO2: 96% - skin: warm, pink, slightly diaphoretic - lung sounds: wheezes still present, better air movement bilaterally
Treatment	- move outside into fresh air - high flow O2 (NRB if possible)

	- retrieve and assist w/ albuterol inhaler; albuterol per protocol - consider ALS intercept - monitor: mental status, how labored breathing is, lung sounds, SPO2 - prepare BVM if respiratory fatigue
Key Points	- irritants can trigger asthma > not just because of exercise - expiratory wheezing and prolonged expiration are key signs of asthma - decreased wheezing w/ worsening effort can signal “silent chest” [DEFINE] - remove patient from environments w/ any triggers (dust, smoke, etc) - early intervention prevents respiratory failure - not all panic attacks are anxiety

Bonus Questions	1. what are late signs of respiratory failure
	  a. decreasing LOC, silent chest (minimal/no air movement), diminished/absent wheezing, poor chest rise, cyanosis (central), inability to speak, bradycardia
	2. why is patient positioning important in asthma
	  a. upright, leaning forward (tripod) support themselves with arms
	  b. maximize lung expansion. reduce pressure on diaphragm, allow for accessory muscle use, improve ventilation
	  c. why supine is bad: increases work of breathing, reduces lung expansion, can rapidly worsen distress
	3. when would you begin assisting ventilations
	  a. can no longer ventilate effectively
	  b. indications: poor/minimal chest rise, inadequate RR, exhaustion, altered mental status, SPO2 not improving despite being on oxygen
	4. why is expiratory phase prolonged in asthma
	  a. asthma is obstructive
	  b. bronchoconstrict, inflammation, mucus production, narrowed bronchioles
	  c. airways narrow, bronchioles partially collapse, air gets trapped

	= prolonged expiration, wheezing (air squeezing through tight airway) 5. how can you differentiate anxiety induced hyperventilation from asthma a. asthma: expiratory wheezing and prolonged expiratory phase; accessory muscle use; tripod; decreased air; possible hypoxia; history of asthma; not being able to breathe OUT b. anxiety: clear lung sounds; rapid, deep breathing; no wheezing; regular SPO2; tingling in fingers/lips; emotion triggers; can't catch breath i. overbreathing