

QUESTION

1. A patient with a long history of chronic obstructive pulmonary disease (COPD) is admitted to the hospital with an acute exacerbation. The patient is currently on a long-term low-dose prednisone regimen. The patient's current vital signs are: temperature 38.2°C, heart rate 110 bpm, respiratory rate 22 breaths per minute, and oxygen saturation 90% on 2L oxygen. The patient is experiencing increased sputum production, dyspnea, and a change in sputum color to yellow-green. The patient's arterial blood gas (ABG) shows: pH 7.35, PaCO₂ 45 mmHg, PaO₂ 80 mmHg, HCO₃⁻ 28 mmol/L, and H₂O 92%. The patient's chest X-ray shows hyperinflation and a flattened diaphragm. The patient's current medications include: prednisone 5 mg daily, albuterol inhaler as needed, and tiotropium inhaler daily. The patient's medical history includes: COPD, hypertension, and type 2 diabetes. The patient's social history includes: 20 pack-year smoking history and alcohol consumption of 2-3 drinks per week. The patient's current symptoms are: increased sputum production, dyspnea, and a change in sputum color to yellow-green. The patient's current vital signs are: temperature 38.2°C, heart rate 110 bpm, respiratory rate 22 breaths per minute, and oxygen saturation 90% on 2L oxygen. The patient's current ABG shows: pH 7.35, PaCO₂ 45 mmHg, PaO₂ 80 mmHg, HCO₃⁻ 28 mmol/L, and H₂O 92%. The patient's current chest X-ray shows hyperinflation and a flattened diaphragm. The patient's current medications include: prednisone 5 mg daily, albuterol inhaler as needed, and tiotropium inhaler daily. The patient's current medical history includes: COPD, hypertension, and type 2 diabetes. The patient's current social history includes: 20 pack-year smoking history and alcohol consumption of 2-3 drinks per week.

Parameter	Normal Range	Current Value
Temperature	36.1-37.8°C	38.2°C
Heart Rate	60-100 bpm	110 bpm
Respiratory Rate	12-20 breaths per minute	22 breaths per minute
Oxygen Saturation	95-100%	90% on 2L oxygen
pH	7.35-7.45	7.35
PaCO ₂	35-45 mmHg	45 mmHg
PaO ₂	80-100 mmHg	80 mmHg
HCO ₃ ⁻	22-28 mmol/L	28 mmol/L
H ₂ O	91-96%	92%

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ANSWER

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