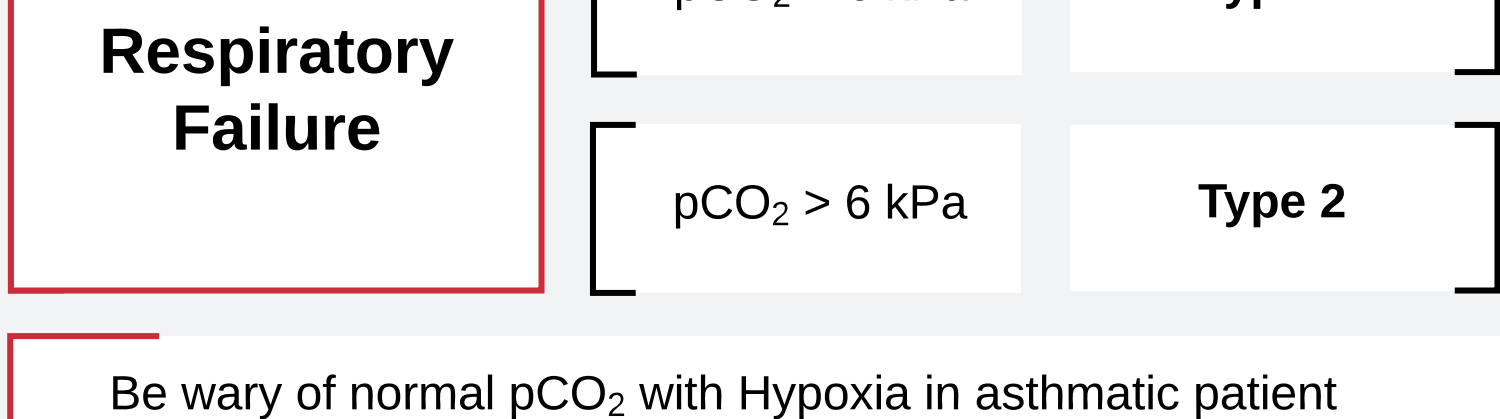
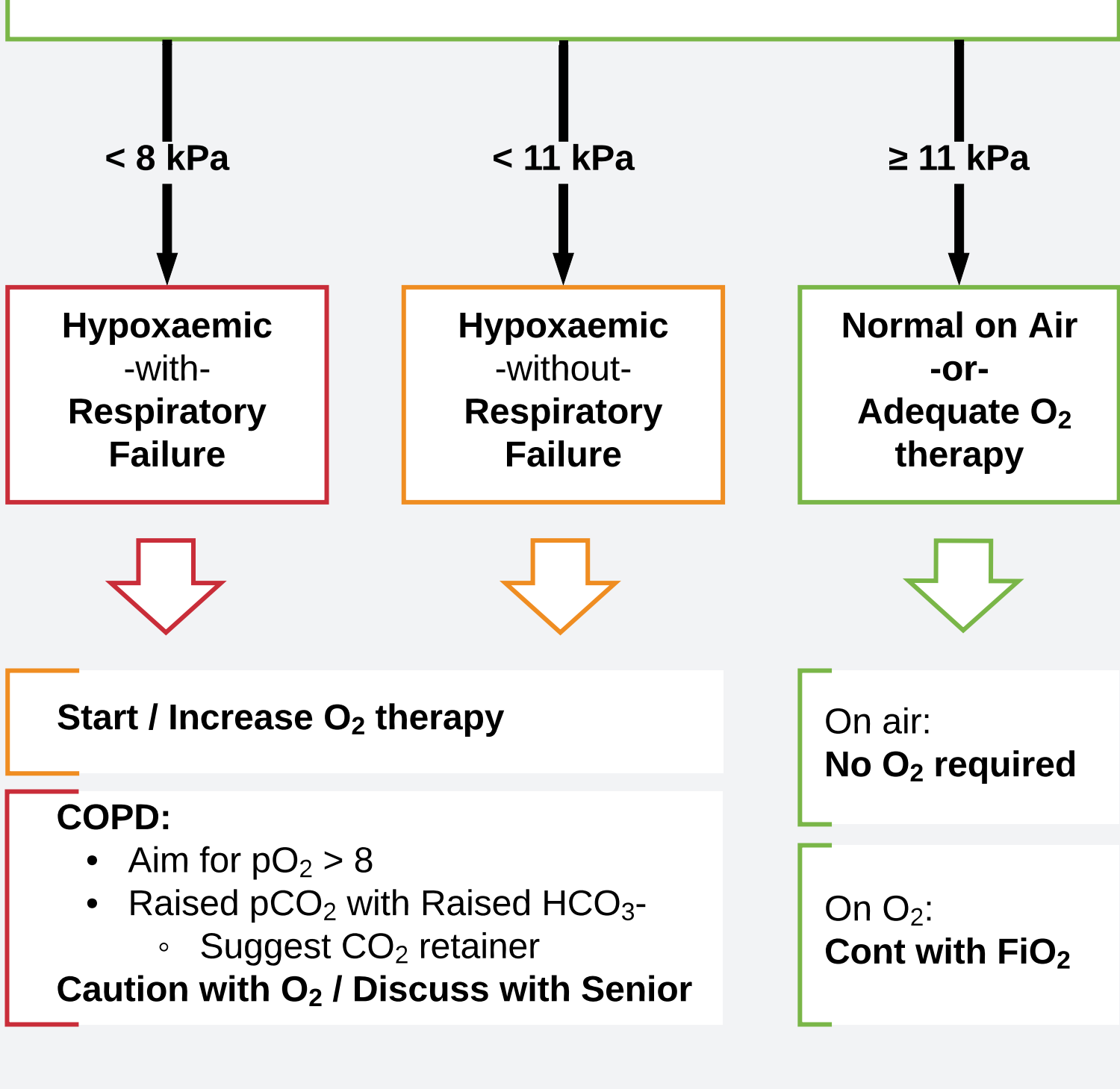


NORMAL ABG VALUES

pH	7.35 - 7.45
PaCO ₂	4.7 - 6.0 kPa
PaO ₂	11 - 13 kPa
HCO ₃ ⁻	22 - 26 mEq/L
Base Excess	-2 to +2 mmol/L
Lactate	<2 mmol/L

QUICK INTERPRETATION - OXYGEN

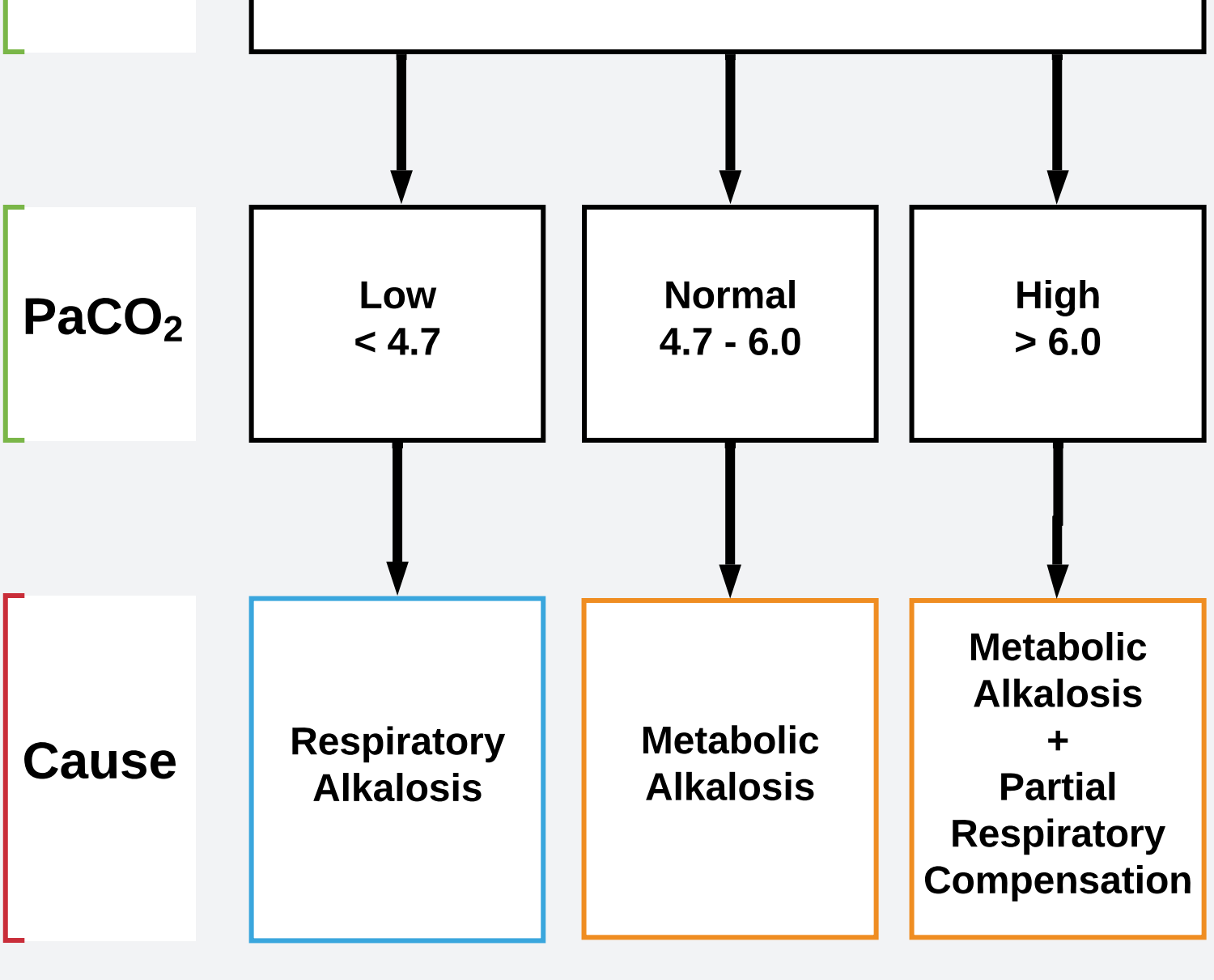
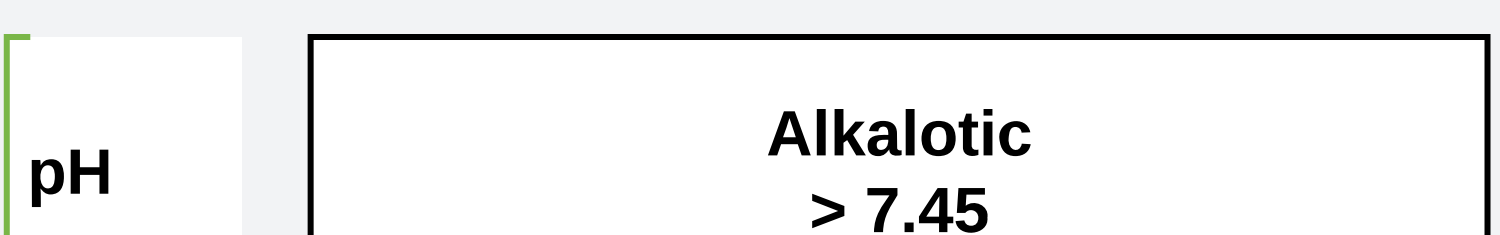
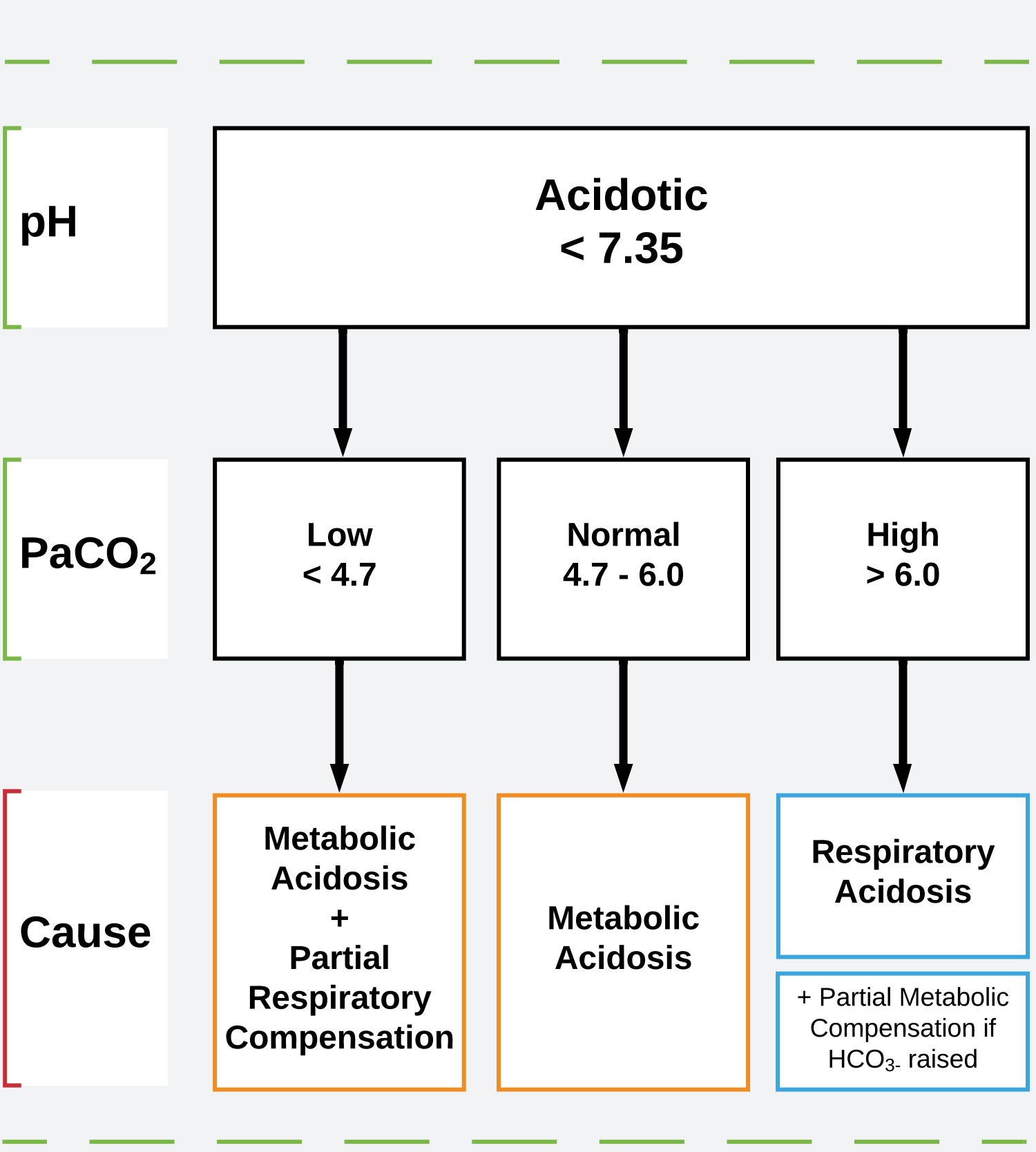
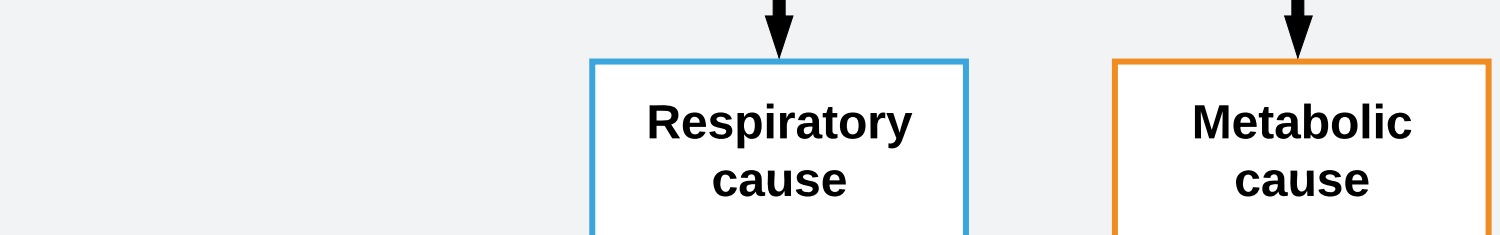
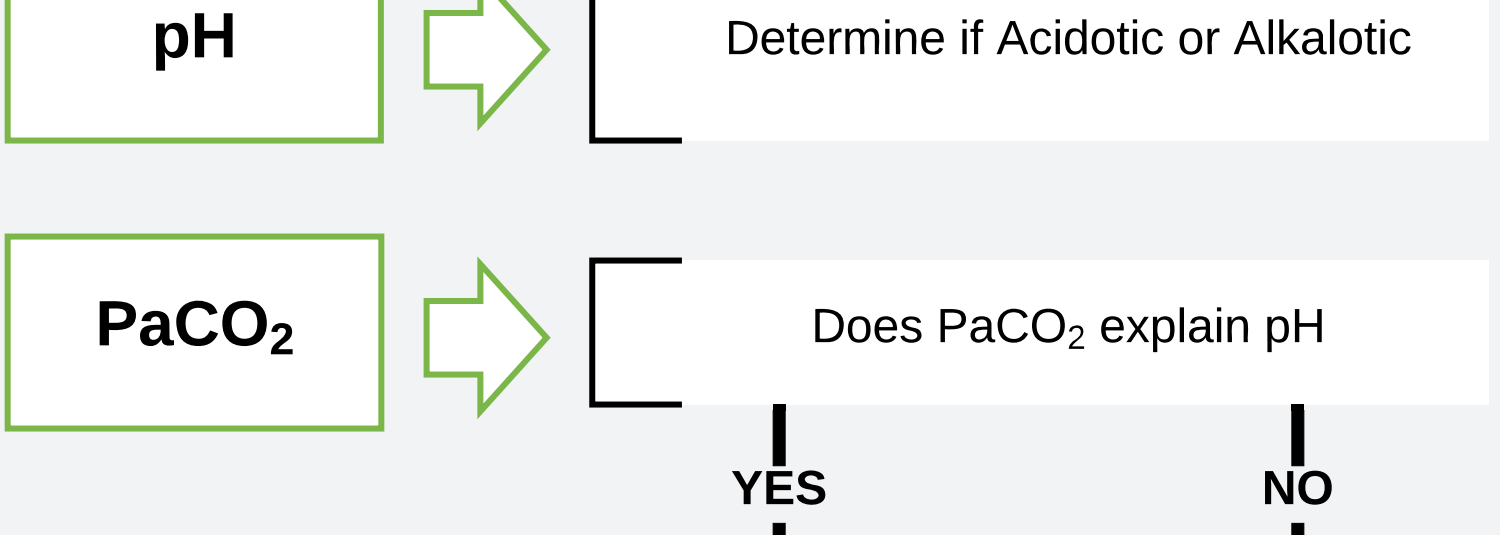


Be wary of normal pCO₂ with Hypoxia in asthmatic patient
Sign of tiring and may require HDU/ITU support
Discuss with Senior

Expected kPa on O₂ = FiO₂ - 10
Patient on 40% FiO₂ should have pO₂ 30 kPa

Thus do not be falsely reassured with a normal pO₂ if patient is on high-flow oxygen. Discuss with Senior

QUICK INTERPRETATION - ACID / BASE



Mixed Acidosis / Alkalosis

Possible to have mixed causes of acidosis / alkalosis

- i.e. acidosis due to both respiratory and metabolic cause

PaCO₂ and HCO₃⁻ will move in opposite directions:

- i.e. PaCO₂ HIGH and HCO₃⁻ LOW

CAUSES OF ACID / BASE DISTURBANCES

Respiratory Acidosis	Inadequate ventilation: <ul style="list-style-type: none">Obstructive airway disease:<ul style="list-style-type: none">COPDAsthmaRespiratory depression:<ul style="list-style-type: none">OpiatesNeurological (Guillian-Barre)
Respiratory Alkalosis	Excessive ventilation: <ul style="list-style-type: none">AnxietyPainPEPneumothorax
Metabolic Acidosis	Increased Acid production / Ingestion: <ul style="list-style-type: none">DKAIncreased Lactic acid (i.e. sepsis)Aspirin overdose Decreased Acid excretion: <ul style="list-style-type: none">Renal failureRenal tubular acidosisAddison's disease GI Loss HCO₃⁻: <ul style="list-style-type: none">Diarrhoea / High Ileostomy output
Metabolic Alkalosis	Increased Acid loss: <ul style="list-style-type: none">GI HCO₃⁻ loss:<ul style="list-style-type: none">VomitingRenal loss (contraction alkalosis):<ul style="list-style-type: none">Diuretics (Loop and Thiazides)HyperaldosteronismHeart failure / Dehydration:<ul style="list-style-type: none">RAAS system activation Ingestion HCO₃⁻ <ul style="list-style-type: none">Excessive Antacids