3.3.) ACID / BASE DISORDERS

A) HOW TO DRAW ARTERIAL BLOOD GASES:

- Draw into heparinized syringe
- Must be sterile
- Discard if in contact with room air
- Keep on ice, transport to lab immediately
- Apply pressure to puncture site for 5-10 minutes

B) HOW TO ASSESS ARTERIAL BLOOD GASES:

- First Step: check pH
  pH < 7.35 (acidosis)
  pH = 7.4 (normal)
  pH > 7.45 (alkalosis)

- Second Step: determine primary cause of disturbance
  In case of acidosis:
    - if \( \text{CO}_2 \) > 40 mmHg; cause is respiratory
    - if \( \text{HCO}_3^- \) < 24 mmHg; cause is metabolic
  In case of alkalosis:
    - if \( \text{CO}_2 \) < 40 mmHg; cause is respiratory
    - if \( \text{HCO}_3^- \) > 24 mmHg; cause is metabolic

A normal pH may indicate perfectly normal condition, or it may indicate a compensated imbalance. For example, a client with metabolic acidosis initially has low pH and low plasma bicarbonate. The client starts to hyperventilate (lowers \( \text{CO}_2 \)) until the pH normalizes.