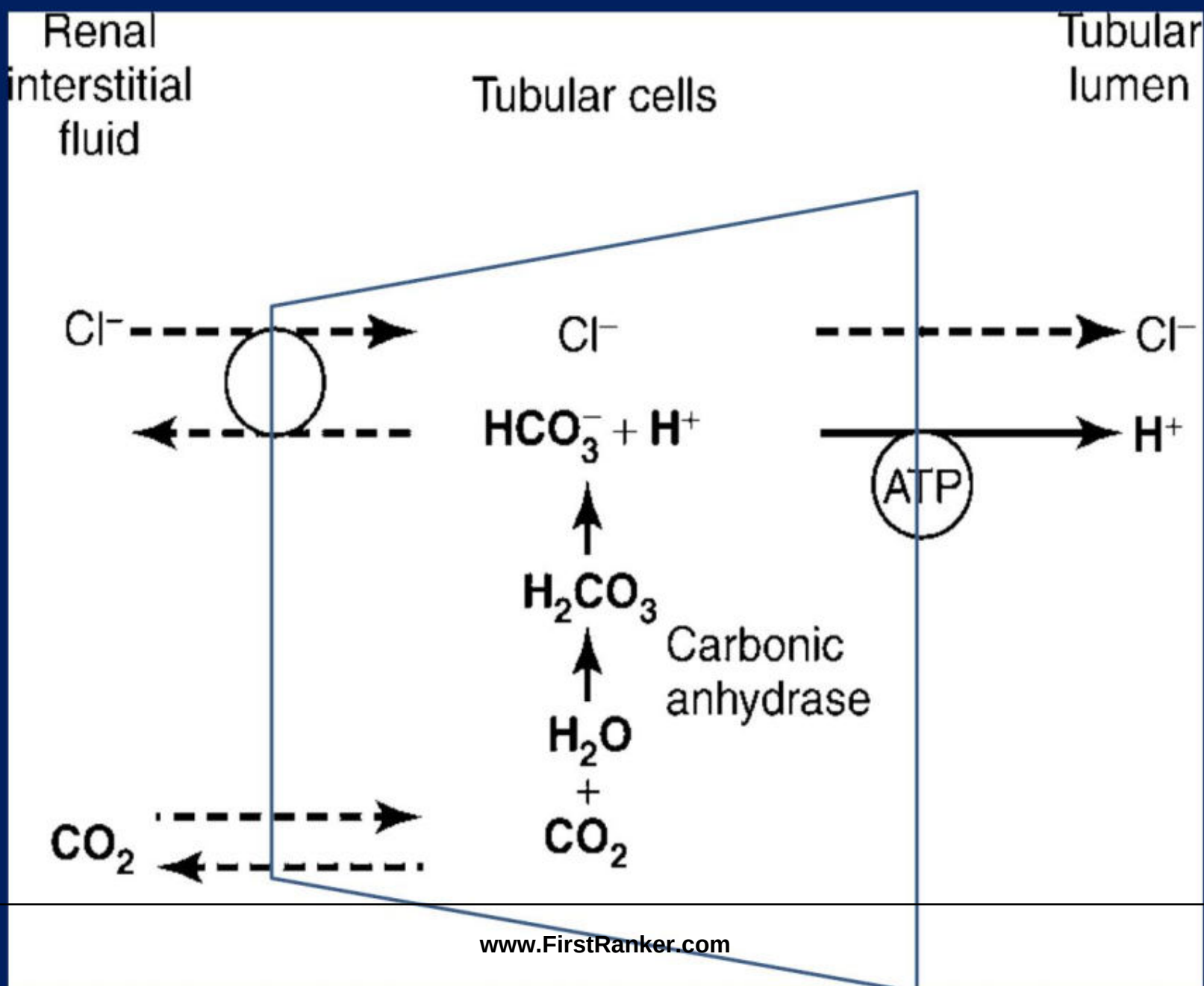
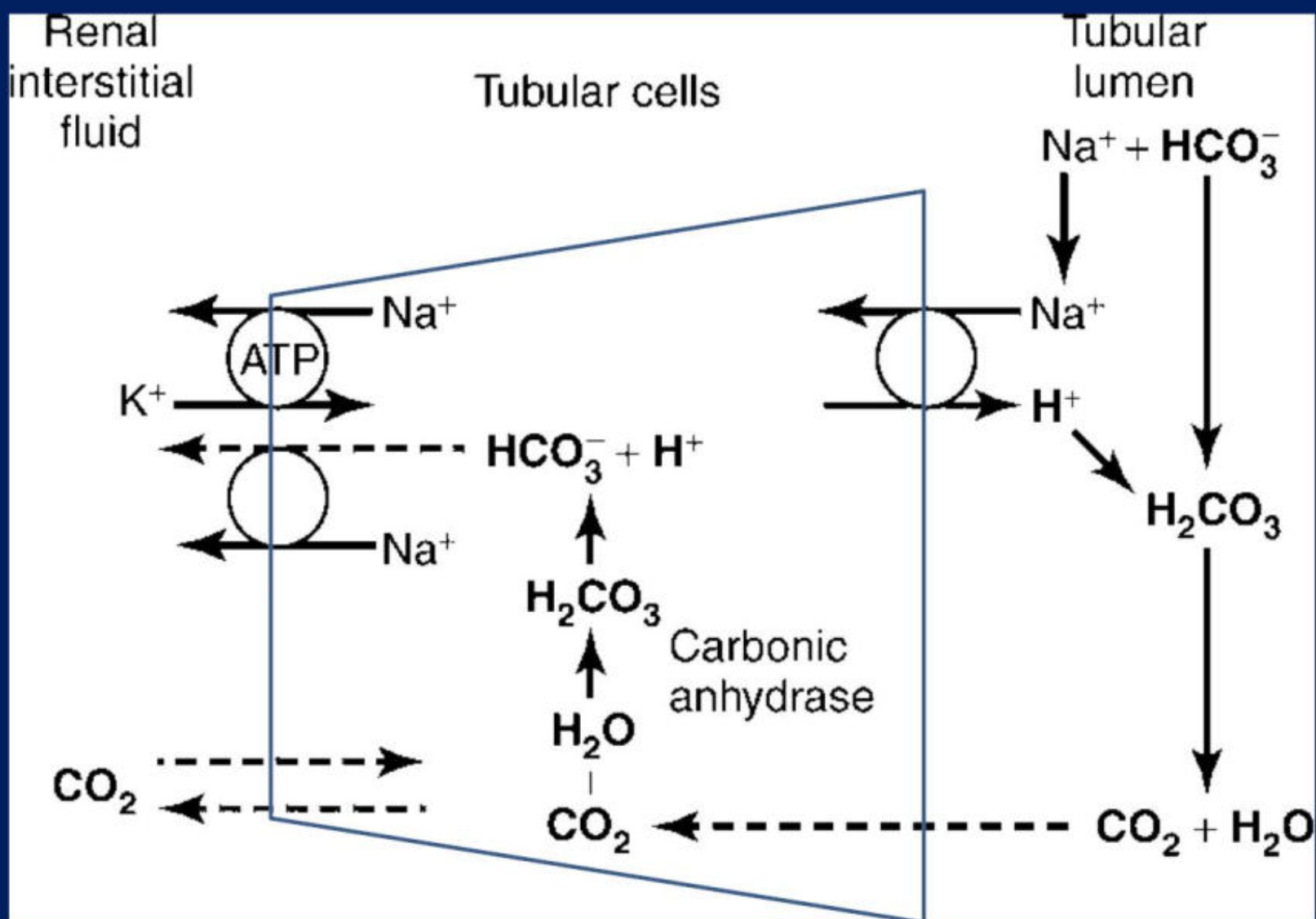
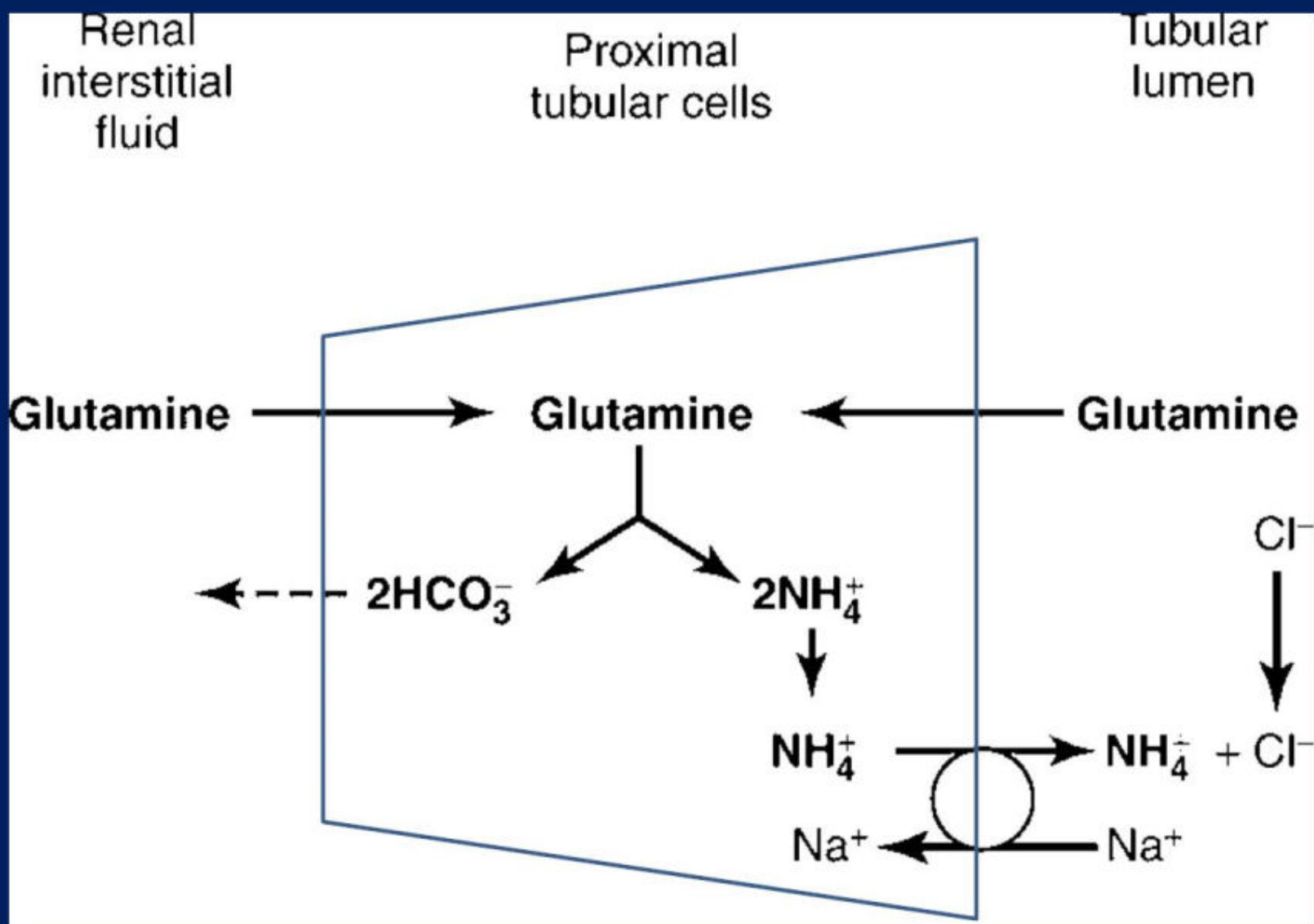
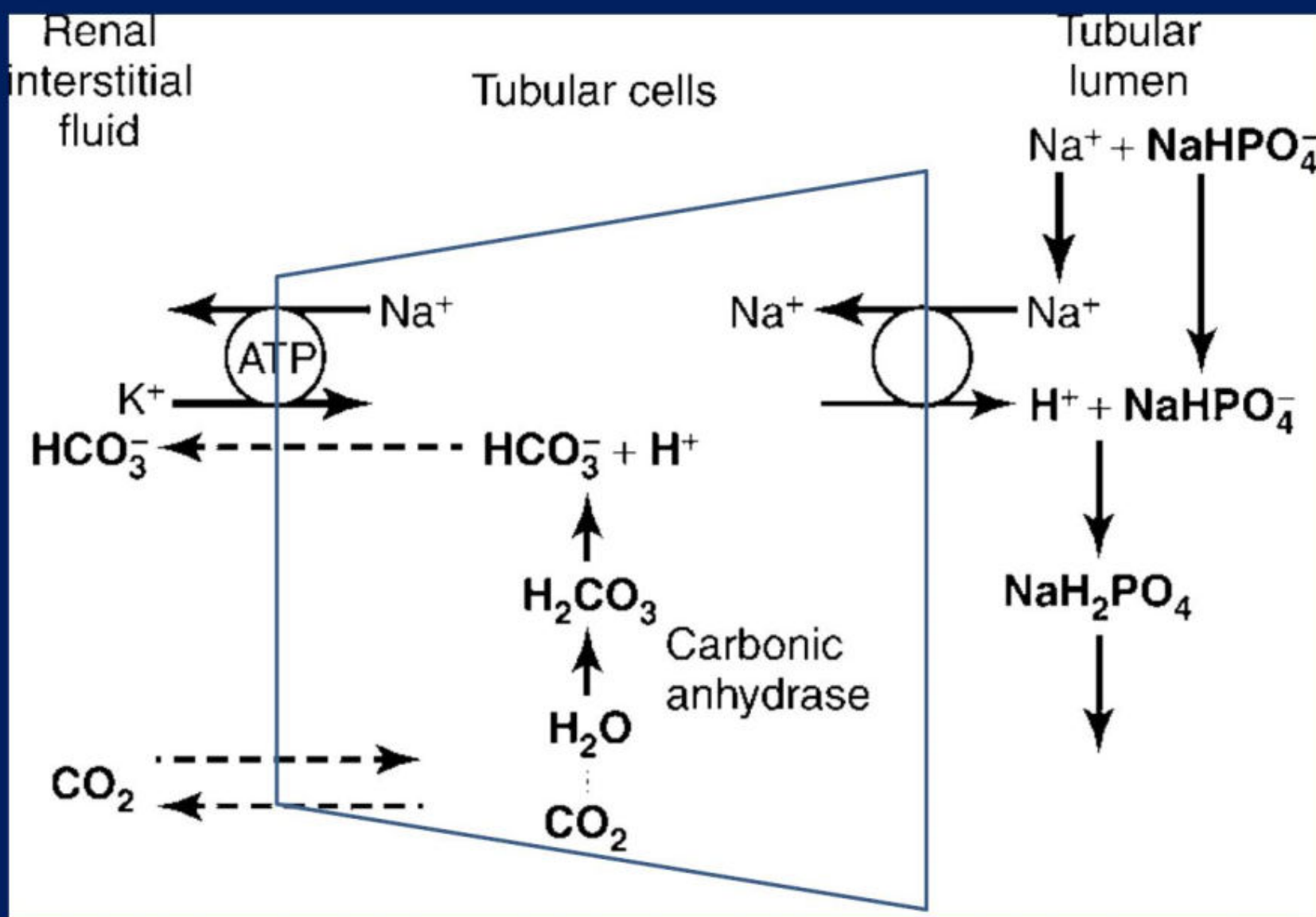


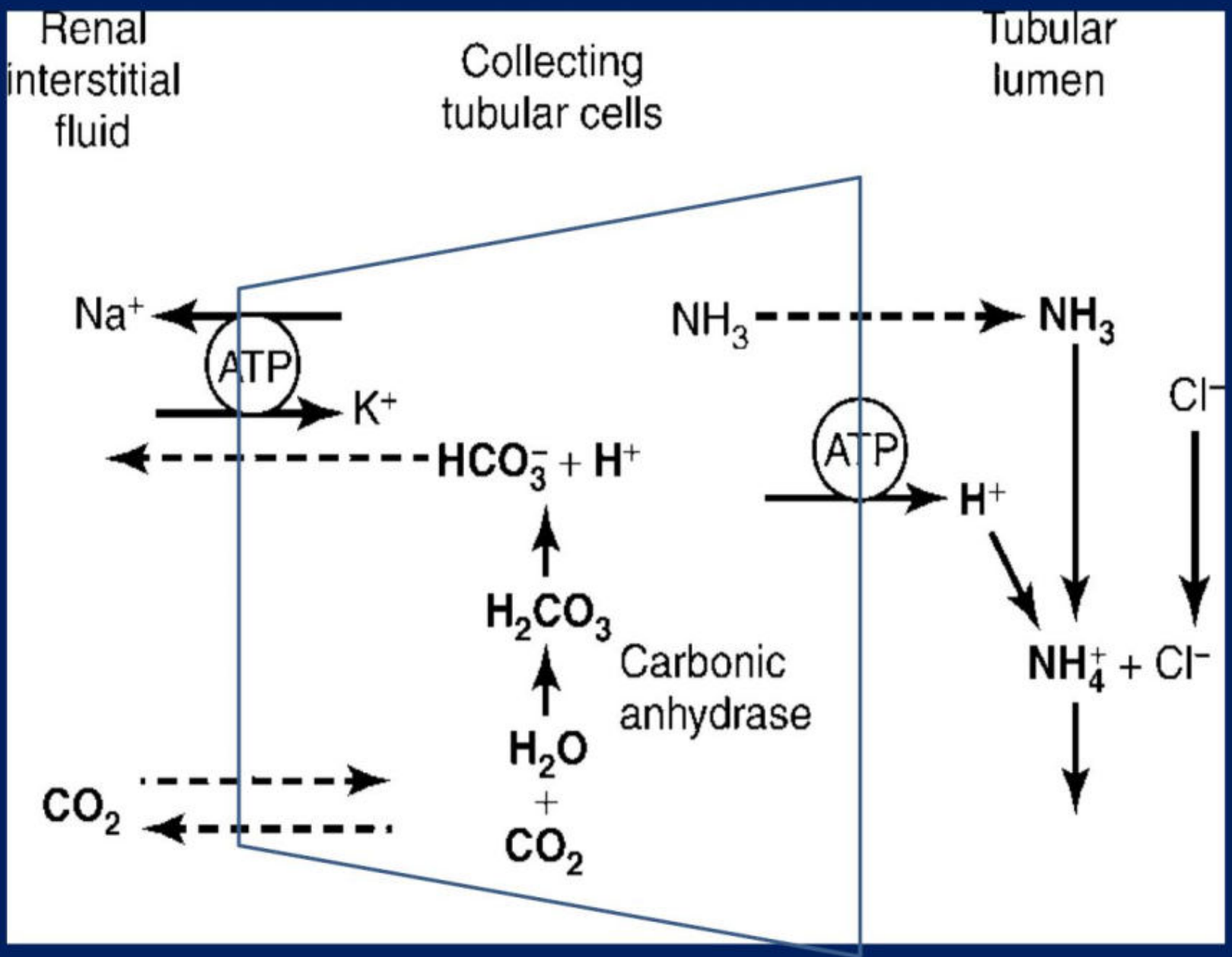
Acid –Base Regulation

Types of acids

- Volatile acids: Carbon dioxide
- Fixed acids:
Sulfuric acid and phosphoric acid
- Organic acids:
Lactic acid, Aceto-acetic acid, β - Hydroxy
Butyric acid

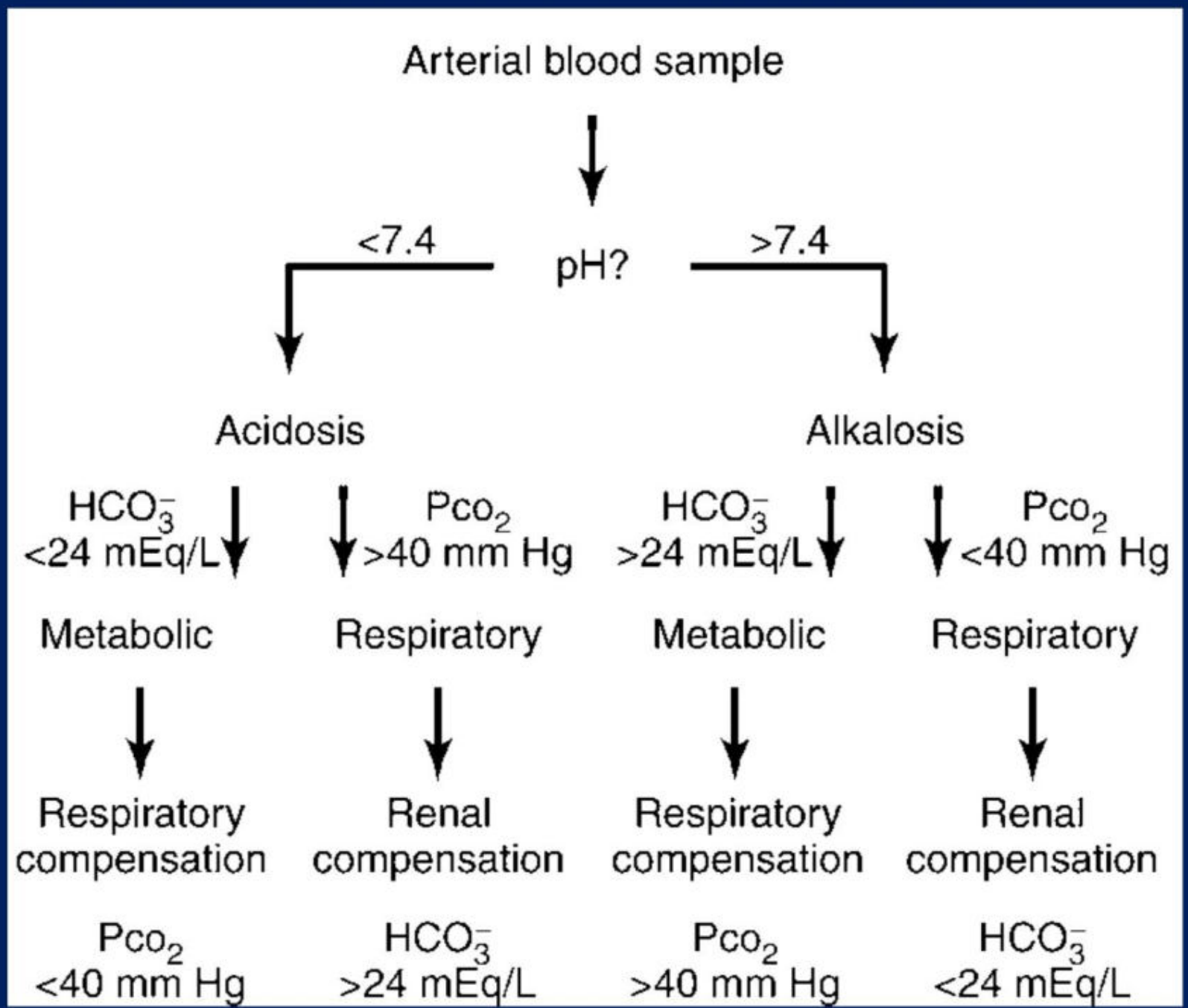






Factors increasing H^+ secretion

- $\uparrow \text{PCO}_2$
- $\uparrow \text{H}^+$; $\downarrow \text{HCO}_3^-$
- $\downarrow$ ECF volume
- $\uparrow$ Angiotensin II
- $\uparrow$ Aldosterone
- Hypokalemia



Acidosis

Respiratory- Acute

- Breath holding
- Acute respiratory tract obstruction
- Barbiturate poisoning
- Respiratory depression

Chronic:

- COPD
- Persistent respiratory obstruction

Metabolic- Acute

- Severe diarrhoea
- Cholera

Chronic:

- Lactic acidosis
- Diabetic ketoacidosis

Alkalosis

Respiratory- Acute

- Voluntary hyperventilation
- High altitude

Chronic:

- CNS disorders
- Psychological
- Persistent hyperventilation

Metabolic- Acute

- Vomiting

Chronic:

- Diuretics

Anion Gap

Increased Anion gap (Normochloremia)

- Diabetes Mellitus
- Lactic acidosis
- Chronic Renal Failure
- Aspirin
- Methanol poisoning
- Ethylenel glycol poisoning
- Starvation

Normal Anion gap (Hyperchloremia)

- Diarrhoea
- Renal tubular acidosis
- Addison's disease
- Carbonic anhydrase inhibitors