

Primary Disorder**Appropriate Acid-base Compensation**

Metabolic acidosis

$$PaCO_2 = 1.5 [HCO_3^-] + 8 \pm 2$$

Metabolic alkalosis

$$\uparrow PaCO_2 = 0.7 \cdot \Delta HCO_3^-$$

Resp acidosis (acute)

$$\uparrow HCO_3^- = 0.1 \cdot \Delta PaCO_2$$

Resp alkalosis (acute)

$$\downarrow HCO_3^- = 0.2 \cdot \Delta PaCO_2$$

Resp acidosis (chronic)

$$\uparrow HCO_3^- = 0.3 \cdot \Delta PaCO_2$$

Resp alkalosis (chronic)

$$\downarrow HCO_3^- = 0.4 \cdot \Delta PaCO_2$$

