Chapter 37:

LEARNING OBJECTIVES

On completion of this chapter, the reader will be able to:

1. State the mechanisms by which the kidney participates in the maintenance of acid–base homeostasis.
2. Determine the likely cause of an acid–base disorder given the patient history, arterial blood gases, and medication history.
3. Differentiate the likely type of metabolic acidosis that is present on the basis of the serum anion gap.
4. Propose an initial treatment plan for the management of patients with acute severe metabolic acidosis.
5. Select the optimal oral alkali therapeutic agent and regimen for a patient with chronic metabolic acidosis secondary to proximal renal tubular acidosis.
6. Contrast the common causes of sodium chloride-responsive with those associated with sodium chloride-resistant metabolic alkalosis.
7. Develop a therapeutic plan for a patient with sodium chloride-responsive metabolic alkalosis based on patient-specific data.
8. Formulate a monitoring plan for a patient with severe metabolic alkalosis who has received hydrochloric acid intravenous.
9. Recommend the appropriate therapy for the chronic management of a patient with metabolic alkalosis secondary to mineralocorticoid excess.
10. List three mechanisms that are responsible for the development of respiratory alkalosis and chronic respiratory acidosis.
11. Propose a treatment regimen and monitoring plan for a patient with acute respiratory acidosis given patient-specific data.