

# Anemia and Oxygen Delivery



Stuart Bliss, DVM, PhD

## KEYWORDS

- Anemia • Hematocrit • Hemoglobin • Perfusion • Viscosity

## KEY POINTS

- Tissue oxygenation requires both adequate oxygen delivery and effective microvascular perfusion.
- The effects of perioperative anemia cannot be accurately assessed until normovolemia is established.
- The oxygen debt that occurs in severe anemia is caused in part by compromised microvascular blood flow associated with reductions in blood viscosity.
- Blood transfusion can improve tissue oxygenation by normalizing blood viscosity and restoring capillary perfusion as well as by augmenting oxygen carrying capacity.

# Perioperative Acid-Base and Electrolyte Disturbances



Kari Santoro Beer, DVM, Lori S. Waddell, DVM\*

## KEYWORDS

• Acidosis • Alkalosis • Electrolytes • Oxygenation • Ventilation

## KEY POINTS

- Acid-base and electrolyte abnormalities are common in perioperative patients, and appropriate recognition and treatment is essential to optimize outcome.
- Fluid therapy provides treatment of most metabolic acid-base disturbances.
- Respiratory support, including supplemental oxygen and occasionally mechanical ventilation, may be necessary to correct respiratory disturbances.
- Electrolyte disturbances may be corrected by fluid therapy or a variety of pharmacologic agents.
- Correction of these disorders preoperatively and intraoperatively results in a more stable anesthetic candidate.

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