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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