Alteration	Potential Cause	Comments
Heart Rate		
Increase	Decreased perfusion (shock) Elevated temperature Pain Respiratory distress (early) Medications (atropine, morphine, epinephrine)	Heart rate may increase to maintain cardiac output.
Decrease	Hypoxia Vagal stimulation Increased intracranial pressure Respiratory distress (late) Medications (neostigmine [Prostigmin Bromide])	Bradycardia is of more concern in young child than tachycardia.
Respiratory Rate		
Increase	Respiratory distress Fluid volume excess Hypothermia Elevated temperature Pain	Body responds to respiratory distress primarily by increasing rate.
Decrease	Anesthetics, opioids Pain	Decreased respiratory rate from opioids may be compensated for by increased depth of respiration.
Blood Pressure		
Increase	Excess intravascular volume Increased intracranial pressure Carbon dioxide retention Pain Medication (ketamine, epinephrine)	This is serious in premature infants because it increases risk of intraventricular hemorrhage.
Decrease	Vasodilating anesthetic agents (halothane, isoflurane, enflurane) Opioids (e.g., morphine)	Decreased blood pressure is late sign of shock because of elasticity and constriction of vessels to maintain cardiac output.
Temperature		
Increase	Shock (late sign) Infection Environmental causes (warm room, excess coverings) Malignant hyperthermia	Fever associated with infection usually occurs later than fever of noninfectious origin. Absence of fever does not rule out infection, especially in infants. Malignant hyperthermia requires immediate treatment.
Decrease	Vasodilating anesthetic agents (halothane, isoflurane, enflurane) Muscle relaxants Environmental causes	Neonates are especially susceptible to hypothermia, with serious or fatal consequences.