

The most serious cardiovascular disorders of newborns are the congenital heart defects. Other conditions that occur in the newborn period are usually related to prematurity (e.g., anemia, patent ductus arteriosus) or other diseases (e.g., respiratory distress). Some of these disorders are outlined in [Table 8-9](#).

TABLE 8-9

Cardiovascular and Hematologic Complications

Description	Clinical Manifestations	Therapeutic Management	Nursing Care Management
Patent Ductus Arteriosus			
Failure of ductus arteriosus to close at birth, resulting in shunting of oxygenated blood from aorta through open ductus arteriosus into pulmonary artery, increasing workload on left side of heart and increasing pulmonary vascular congestion (see Chapter 23)	Decreased PaO ₂ Increased PCO ₂ Recurrent apnea Bounding peripheral pulses Systolic or continuous murmur	Regulate parenteral fluids. Provide respiratory support. Administer course of indomethacin or ibuprofen or perform surgical ductal ligation.	See Nursing Care of the High-Risk Newborn and Family earlier in the chapter.
Anemia			
Hemoglobin (<14 mg/dl) inadequate to carry oxygenated blood to tissues Anemia commonly occurs in ill preterm infants as a result of increased blood sampling and deficient erythropoiesis	Pallor Apnea Tachycardia Diminished activity Poor feeder Poor weight gain Respiratory distress—grunting, nasal flaring, intercostal retractions Respiratory difficulty	Administer volume expanders for acute hypovolemia at birth (e.g., normal saline). Transfuse with packed RBCs or administer recombinant human erythropoietin.	Use microsamples for blood tests. Monitor amount of blood drawn for tests. Administer recombinant human erythropoietin as prescribed. Administer iron supplements as prescribed.
Polycythemia or Hyperviscosity Syndrome			
Venous hematocrit ≥65% results in venous stasis in vital organs and risk for microthrombus development	High incidence of: Cardiovascular symptoms (PPHN, cyanosis, apnea) Seizures Hyperbilirubinemia Gastrointestinal abnormalities	Implement partial exchange transfusion with blood product or appropriate volume expander. Provide appropriate therapy for	See Nursing Care of the High-Risk Newborn and Family and Hyperbilirubinemia earlier in the chapter.