Patent Ductus Arteriosus

Characteristics
■ A persistent open connection beyond 3 months of age between the pulmonary artery and the aorta with blood flow from the aorta to the pulmonary artery.
■ An open ductus may lead to:
  – Congestive heart failure.
  – Pulmonary hypertension.
  – Increased risk of bacterial endocarditis.

Followup
■ A high rate of spontaneous closure occurs during the first 2 years of life.
■ If the ductus is open at the time of hospital discharge, followup with a cardiologist should occur within 2 months of discharge to assess well-being and the presence/absence of congestive heart failure.
  – Earlier followup should occur if poor weight gain, difficulty feeding, and tachypnea develop.
  – Generally do not need a followup echocardiogram, as anatomy is already known.

Management
■ If spontaneous closure does not occur, closure should be performed to:
  – Eliminate pulmonary overcirculation.
  – Eliminate risk of endocarditis.
■ If symptomatic:
  – Initially, try diuretics and maximize caloric intake to 140 kcal/kg/day.
  – If still symptomatic despite optimal medical management and:
    • >2.4 kg, surgical ligation or percutaneous closure should be considered.
    • <2.4 kg, surgical ligation should be considered.
■ If asymptomatic:
  – Wait until patient weighs between 10-12 kg, or is close to 2 years of age, then attempt percutaneous closure with Amplatzer occlude or coils.
  – Surgery if percutaneous attempt is unsuccessful.