

water) are found in water supplies, humidifying apparatus, sink drains, suction machines, and most respiratory equipment. Organisms such as *ConS*, which usually colonize the skin, may infect indwelling venous and arterial catheters used for infusions, blood sampling, and monitoring of vital signs. Neonatal sepsis is most common in infants at risk, particularly preterm infants and infants born after a difficult or traumatic labor and delivery, who are least capable of resisting such bacterial invasion. These organisms are often transmitted by personnel from person to person or object to person by poor hand washing, crowded conditions, and inadequate housecleaning.

Diagnostic Evaluation

Diagnosis of sepsis is often based on suspicion of presenting clinical signs and symptoms. Because sepsis is so easily confused with other neonatal disorders, the definitive diagnosis is established by laboratory and radiographic examination. Cultures of blood, urine, and CSF are collected to identify the causative organism. Blood studies may show signs of anemia, leukocytosis, or leukopenia. Leukopenia is usually an ominous sign because of its frequent association with high mortality. An elevated number of immature neutrophils (a **left shift**), decreased or increased total neutrophils, and changes in neutrophil morphology also suggest an infectious process in the neonate. Other diagnostic data may be helpful in the determination of neonatal sepsis and include C-reactive protein and other acute phase reactants, such as serum amyloid A; procalcitonin; and interleukins, specifically interleukin-6 ([Ng and Lam, 2010](#)).

Prevention

Several measures are important in the prevention of both early- and late-onset infection. Programs to screen pregnant women for GBS colonization (culture-based) and treatment of those women in labor have dramatically reduced the incidence of GBS infection in neonates ([Verani, McGee, and Schrag, 2010](#)). Screening programs for other maternal infections, including hepatitis B and HIV, are also recommended. In developed countries, breastfeeding by mothers infected with HIV is not recommended because the virus