

as children grow older.

Some viral or bacterial agents produce a mild illness in older children but severe lower respiratory tract illness or croup in infants. For example, pertussis causes a relatively harmless tracheobronchitis in childhood but is a serious disease in infancy.

Size

Anatomic differences influence the response to respiratory tract infections. The diameter of the airways is smaller in young children and subject to considerable narrowing from edematous mucous membranes and increased production of secretions. Organisms may move rapidly down the shorter respiratory tract of younger children, causing more extensive involvement. The relatively short and open eustachian tube in infants and young children allows pathogens easy access to the middle ear.

Resistance

The ability to resist pathogens depends on several factors. Deficiencies of the immune system place the child at risk for infection. Other conditions that decrease resistance are malnutrition, anemia, and fatigue. Conditions that weaken defenses of the respiratory tract and predispose children to infection also include allergies (e.g., allergic rhinitis), preterm birth, bronchopulmonary dysplasia (BPD), asthma, history of RSV infection, cardiac anomalies that cause pulmonary congestion, and cystic fibrosis (CF). Daycare attendance and exposure to secondhand smoke increase the likelihood of infection.

Seasonal Variations

The most common respiratory pathogens appear in epidemics during the winter and spring months, but mycoplasmal infections occur more often in autumn and early winter. Whereas infection-related asthma occurs more frequently during cold weather, winter and early spring are typically RSV season.

Clinical Manifestations

Infants and young children, especially those between 6 months and