

foreign substances) (see [Aspiration Pneumonia](#), later in chapter). Many organisms can cause pneumonia, and these vary according to the child's age ([Ranganathan and Sonnappa, 2009](#)):

- **Neonates:** Group B streptococci, gram-negative enteric bacteria, cytomegalovirus, *Ureaplasma urealyticum*, *Listeria monocytogenes*, *C. trachomatis*
- **Infants:** RSV, parainfluenza virus, influenza virus, adenovirus, metapneumovirus, *S. pneumoniae*, *H. influenzae*, *M. pneumoniae*, *Mycobacterium tuberculosis*
- **Preschool children:** RSV, parainfluenza virus, influenza virus, adenovirus, metapneumovirus, *S. pneumoniae*, *H. influenzae*, *M. pneumoniae*, *M. tuberculosis*
- **School-age children:** *M. pneumoniae*, *Chlamydia pneumoniae*, *M. tuberculosis*, and respiratory viruses

Histomycosis, coccidioidomycosis, and other fungi also cause pneumonia. **Pneumonitis** is a localized acute inflammation of the lung without the toxemia associated with lobar pneumonia.

The clinical manifestations of pneumonia vary depending on the etiologic agent, the child's age, the child's systemic reaction to the infection, the extent of the lesions, and the degree of bronchial and bronchiolar obstruction. The causative agent is identified from the clinical history, the child's age, the general health history, the physical examination, radiography, and the laboratory examination.

Viral Pneumonia

Viral pneumonias, which occur more frequently than bacterial pneumonias, are seen in children of all ages and are often associated with viral URIs. Viruses that cause pneumonia include RSV in infants and parainfluenza, influenza, human metapneumovirus, enterovirus, and adenovirus in older children. Differentiation among viruses is usually made by clinical features, such as child's age, medical history, season of the year, and radiographic and laboratory examination ([Box 21-9](#)).

Box 21-9

General Signs of Pneumonia