

drug can induce bronchospasm, sudden deterioration of respiratory function (especially in infants), and rash and can precipitate in ventilators, interfering with their function. Ribavirin is mutagenic and teratogenic in animals; accordingly, it is not recommended for use in pregnant women, and the exposure of health care workers should be minimized with personal protective equipment. In early studies, ribavirin reduced the shedding of RSV and the severity of symptoms in hospitalized infants with lower respiratory tract disease who were not on mechanical ventilation, the duration of oxygen supplementation, and the duration of time on mechanical ventilation in infants. More recent analyses of the literature suggest that the efficacy of the drug in these settings is much less certain, and the drug is not recommended for routine use by the American Academy of Pediatrics. In retrospective studies, ribavirin has been reported to reduce the risk of progression of RSV from upper to lower respiratory tract disease in stem cell transplant recipients and to reduce mortality rates in these patients. In a retrospective study, the outcome of treatment with oral ribavirin was similar to that obtained with the aerosolized drug in hematopoietic stem cell transplant recipients with RSV disease. Ribavirin has not been shown to affect the clinical course of patients with parainfluenza and is not recommended for their treatment. Ribavirin costs more than \$25,000 per day.

Palivizumab Palivizumab, a humanized monoclonal antibody to RSV F protein, is approved for prevention of lower respiratory tract disease due to RSV in pediatric patients at high risk of RSV disease, including premature infants and children with bronchopulmonary dysplasia.

■ **SARS-COV-2 (see Chap. 199)**

Remdesivir is converted in cells to an adenosine triphosphate analogue that inhibits the RNA-dependent RNA polymerase of several viruses. The drug is approved by the FDA for treatment of persons ≥ 12 years of age with SARS-CoV-2 requiring hospitalization; it shortens the duration of hospitalization in persons with lower respiratory tract disease. While the results of studies with the drug