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| massive transfusions or in patients with renal problems) | Flaccid paralysis Paresthesia of extremities Bradycardia Apprehension Cardiac arrest | |
| Delayed Reactions | | |
| Transmission of infection Hepatitis HIV infection Malaria Syphilis Other bacterial or viral infection | Signs of infection (e.g., jaundice) Toxic reaction: High fever, severe headache or substernal pain, hypotension, intense flushing, vomiting or diarrhea | Blood is tested for antibodies to HIV, hepatitis C virus, and hepatitis B core antigen; in addition, blood is tested for hepatitis B surface antigen and alanine aminotransferase, and a serologic test is performed for syphilis. Units that test positive are destroyed. Individuals at risk for carrying certain viruses are deterred from donation. Report any sign of infection, and if it occurs during transfusion, stop transfusion immediately, send sample for culture and sensitivity testing, and notify practitioner. |
| Alloimmunization Antibody formation Occurs in patients receiving multiple transfusions | Increased risk of hemolytic, febrile, and allergic reactions | Use limited number of donors. Observe carefully for signs of reactions. |
| Delayed hemolytic reaction | Destruction of RBCs and fever 5 to 10 days after transfusion | Observe for posttransfusion anemia and decreasing benefit from successive transfusion. |

DIC, Disseminated intravascular coagulation; *HIV*, human immunodeficiency virus; *RBC*, red blood cell.

Although hemolytic reactions are rare, ABO incompatibility remains the most common cause of death from blood transfusion, and human error (e.g., administration of the wrong type to the patient or mislabeling of the blood product) is usually responsible (Lavoie, 2011; Tondon, Pandey, Mickey, et al, 2010). Hemolysis can also cause the release of large quantities of phospholipids, which are capable of stimulating DIC. Acute kidney shutdown and eventual renal failure are a result of renal vasoconstriction from antigen–antibody complexes derived from the RBC surface.

Blood is usually administered to children by infusion pump; therefore, the usual precautions and management related to pumps apply. When the blood infusion begins with a standard transfusion set, the filter chamber is filled to allow the total filter to be used. The drip chamber is partially filled with blood to permit counting of the drops. In adjusting the flow rate, it is important to remember that blood administration sets do not use microdrops (60 drops/ml) but