

- The amount and general condition of the muscle mass
- The frequency or number of injections to be given during the course of treatment
- The type of medication being given
- Factors that may impede access to or cause contamination of the site
- The child's ability to assume the required position safely

Older children and adolescents usually pose few problems in selecting a suitable site for IM injections, but infants, with their small and underdeveloped muscles, have fewer available sites. It is sometimes difficult to assess the amount of fluid that can be safely injected into a single site. Usually 1 ml is the maximum volume that should be administered in a single site to small children and older infants. The muscles of small infants may not tolerate more than 0.5 ml. As the child approaches adult size, the nurse can use volumes approaching those given to adults. However, the larger the amount of solution, the larger the muscle at the injection site must be.

Injections must be placed in muscles large enough to accommodate the medication, while avoiding major nerves and blood vessels. The IM immunization site recommended by the Centers for Disease Control and Prevention, World Health Organization, and American Academy of Pediatrics for infants is the anterolateral thigh or vastus lateralis (Table 20-6). However, in two studies, immunizations at the ventrogluteal site have been found to have fewer local reactions and fever (Cook and Murtagh, 2003; Junqueira, Tavares, Martins, et al, 2010). Cook and Murtagh (2003) also found fewer systemic reactions (irritability and persistent crying or screaming) and greater parental acceptance for the ventrogluteal site. The ventrogluteal site is relatively free of major nerves and blood vessels, is a relatively large muscle with less subcutaneous tissue than the dorsal site, has well-defined landmarks for safe site location, and is easily accessible in several positions. Distraction and prevention of unexpected movement may be more easily achieved by placing the child supine on a parent's lap for ventrogluteal site use (Cook and Murtagh, 2006).

TABLE 20-6

Intramuscular Injection Sites in Children
