

Administration Technique

- Follow standard medication administration guidelines for site assessment/selection and site preparation.
- To avoid injection into subcutaneous tissue, spread the skin of the selected vaccine administration site taut between the thumb and forefinger, isolating the muscle. Another technique, acceptable mostly for pediatric and geriatric patients, is to grasp the tissue and "bunch up" the muscle.
- Insert the needle fully into the muscle at a 90° angle and inject the vaccine into the tissue.
- Withdraw the needle and apply light pressure to the injection site for several seconds with a dry cotton ball or gauze.



Intramuscular Administration Techniques

- **Aspiration** - Aspiration is the process of pulling back on the plunger of the syringe prior to injection to ensure that the medication is not injected into a blood vessel. Although this practice is advocated by some experts, the procedure is not required because no large blood vessels exist at the recommended injection sites.

- **Multiple Vaccinations** - When administering multiple vaccines, NEVER mix vaccines in the same syringe unless approved for mixing by the Food and Drug Administration (FDA). If more than one vaccine must be administered in the same limb, the injection sites should be separated by 1-2 inches so that any local reactions can be differentiated. Vaccine doses range from 0.2 mL to 1 mL. The recommended maximum volume of medication for an IM site, varies among references and depends on the muscle mass of the individual. However, administering two IM vaccines into the same muscle would not exceed any suggested volume ranges for either the vastus lateralis or the deltoid muscle in any age group. The option to also administer a subcutaneous vaccine into the same limb, if necessary, is acceptable since a different tissue site is involved. If a vaccine and an immune globulin preparation are administered simultaneously (e.g., Td/Tdap and tetanus immune globulin [TIG] or hepatitis B vaccine and hepatitis B immune globulin [HBIG]), a separate anatomic site should be used for each injection. The location of each injection should be documented in the patient's medical record.

- **Nonstandard Administration** - Deviation from the recommended route, site and dosage of vaccine is strongly discouraged and can result in inadequate protection. In situations where nonstandard administration has occurred, refer to the ACIP General Recommendation on Immunization, *MMWR* 2006; 55 (RR-15), for specific guidance. Intramuscular Administration Techniques

Special Situations

Bleeding Disorders - Individuals with a bleeding disorder or who are receiving anticoagulant therapy may develop hematomas in IM injection sites. Prior to administration of IM vaccines the patient or family should be instructed about the risk of hematoma formation from the injection. Additionally, a physician familiar with the patient's bleeding disorder or therapy should be consulted regarding the safety of administration by this route. If the patient periodically receives hemophilia replacement factor or other similar therapy, IM vaccine administration should ideally be scheduled shortly after replacement therapy. A 23-gauge or finer needle should be used and firm pressure applied to the site for at least 2 minutes. The site should not be rubbed or massaged.

Latex Allergy - Administration of a vaccine supplied in a vial or syringe that contains natural rubber (refer to product information) should not be administered to an individual with a history of a severe (anaphylactic) allergy to latex, unless

the benefit of vaccination clearly outweighs the risk of an allergic reaction. These situations are rare. Medical consultation and direction should be sought regarding vaccination. A local or contact sensitivity to latex is not a contraindication to vaccination.

Syncopal or Vasovagal Response ("fainting") may occur during vaccine administration, especially with adolescents and adults. Because individuals may fall and sustain injury as a result, the provider should have the patient sit during injection(s). A syncopal or vasovagal response is not common and is not an allergic reaction. However, if syncope develops, the provider should observe and administer supportive care until the patient is recovered.

Anaphylaxis (a life-threatening acute allergic reaction) - Each facility that administers vaccines should have a protocol, procedures and equipment to provide initial care for suspected anaphylaxis. Facility staff should be prepared to recognize and respond appropriately to this type of emergency situation. All staff should maintain current CPR certification. Emergency protocols, procedures and equipment/supplies should be reviewed periodically. Although both fainting and allergic reactions are rare, vaccine providers should strongly consider observing patients for 15 minutes after they are vaccinated.