

N-10 Vaccine Protocol

Purpose: To describe the procedures and equipment for injecting vaccines.

The health and safety of AKPH residents require adherence to infection prevention practices by AKPH staff. Use of safe injection practices is critical to prevent microbial contamination of vaccines administered to residents and employees.

AKPH staff must understand, practice, and promote safe injection and vaccine vial procedures. Home administrators support safe injection practices and provide resources to ensure employees have the training and equipment to safely perform the procedures.

Injection devices introduce a vaccine into the body by piercing the skin with a hollow needle and a syringe. The vaccine is injected into the muscle (intramuscular) or into the skin (subcutaneous).

Syringes are labeled in terms of how much liquid they can hold, usually in ml (milliliters).

Needles are labeled with a number, then a G, then another number. The first number indicates the gauge (G) of the needle. The higher the G number, the thinner the needle. The second number indicates the length of the needle. For example, a 22 G 1/2 needle has a gauge of 22 and a length of 1/2 inch. For viscous solutions, use a wider gauge (lower number) needle.

Subcutaneous (SC) injections go into the fatty tissue below the skin and require a smaller, shorter needle. A needle that is 1/2 inch to 5/8 inch long with a gauge of 25 to 30 is usually sufficient to administer the vaccine.

To assure placement of the needle in SC tissue, pinch up the fatty tissue between finger and thumb.

Then insert the needle at a 45° angle, piercing the skin quickly and advancing steadily to minimize the sting. Place the tip of the needle well beneath the skin, in subcutaneous tissue, but not as deep as the muscle.

Inject the vaccine slowly, then withdraw the needle. Massage the injection site.

Intramuscular (IM) injections go into the muscle below the subcutaneous layer, usually the deltoid muscle of the arm. The IM needle must be thicker and longer to ensure that the vaccine is being injected into the proper tissue. 20-24 G needles that are 1 to 1 1/2 inches long are usually appropriate for this type of injection. A person who is thin, with very little fatty tissue uses the 1 inch needle; a heavier person with more fatty tissue uses the 1 1/2 inch needle.

For the IM injection, stretch skin over the muscle between the thumb and forefinger.

Introduce the needle to the muscle at a 90° angle. With a quick thrust, advance the needle deep into the muscle, perhaps to the hub of the needle.

You may pull back slightly on the plunger, to be sure the needle is not placed in a blood vessel. Inject the vaccine slowly, then withdraw the needle. Massage the injection site.

Vaccine provisions:

1. Physician/Nurse Practitioner order for a resident vaccine.
2. Current vaccine with an appropriate syringe and needle.
 - Tdap (tetanus, diphtheria, pertussis), 0.5 ml IM, deltoid muscle.
 - Hepatitis A, 1.0 ml IM, deltoid muscle; 2 vaccine series.
 - Hepatitis B, 1.0 ml IM, deltoid muscle; 3 vaccine series.
 - Influenza, trivalent inactivated (TIV), 0.5 ml IM, deltoid muscle.
 - Pneumococcal polysaccharide, 0.5 ml IM, deltoid, or SC, over triceps.
 - Shingles (herpes zoster), 0.65 ml SC, over triceps.
3. Vaccine Information Sheet (VIS) written by CDC.
4. Opportunity to ask questions about the vaccine and its effects.
5. Consent form signed by the vaccine recipient.
6. Documentation of the vaccine administered or refused (Hep B).

Medical management of vaccine reactions in adults:

- For localized soreness, redness, itching, or swelling at the injection site, apply a cold compress to the injection site. Consider obtaining an order for an analgesic or antipruritic (anti-itch) medication.
- For fright, paleness, sweating, nausea, dizziness, weakness, or visual disturbances, have the person sit or lie down for the vaccine. Loosen tight clothing and maintain an open airway. Apply cool, damp cloths to the person's face and neck.
- Anaphylaxis is the onset of generalized itching, redness, or hives; swelling of the lips, face, or throat; wheezing; shortness of breath; shock; abdominal cramping; or cardiovascular collapse.
- If anaphylaxis symptoms are generalized, activate the EMS/911 and notify the primary physician. This is done by a second person while the nurse assesses the airway, breathing, circulation, and level of consciousness.
- With life-threatening anaphylaxis, administer epinephrine 1:1000 intramuscularly. Adult dose ranges from 0.3 ml to 0.5 ml. If EMS has not arrived and symptoms are still present, repeat dose of epinephrine every 5-15 minutes for up to 3 doses.
- Monitor the anaphylactic person closely until EMS arrives. Perform CPR if needed. Keep person in supine position (flat on back) unless there is difficulty breathing. If blood pressure is low, elevate legs.

Storage of the seasonal influenza (flu) vaccine:

The 5 ml multi-dose flu vaccine vial contains ten (10) 0.5 ml IM doses and is packaged individually in a carton. The multi-dose vial contains thimerosal, a preservative.

The pre-filled Luer-Lok syringe without a needle is packaged in a carton with ten (10) pre-filled syringes containing 0.5 ml doses of flu vaccine. The pre-filled syringe is preservative-free.

Prior to storing, remove the temperature indicator and gel packs, remove the flu vaccines from the shipping box, and store the vaccine in a refrigerator 2°C to 8°C (36°F to 46°F).

DO NOT FREEZE. Discard if the vaccine has been frozen.

Store in the original package to protect from light. Do not use after the expiration date. Between uses, return the vial to the stated storage conditions.

Aseptic technique:

Perform hand hygiene prior to handling supplies and preparing or administering vaccine.

Use aseptic technique in all aspects of vaccine preparation, vial use, and injection.

Store and prepare vaccines and supplies in a clean area on a clean surface. Never store needles and syringes unwrapped because sterility cannot be assured.

Discard all opened vials and prepared or opened syringes that were used in an emergency situation

Syringes:

Remove sterile needle and/or syringe from package just prior to use.

Never use a vaccine in a syringe for more than one person even if the needle is changed between persons. Changing the needle but not the syringe is unacceptable.

Discard used syringes and needles at the point of use in an approved sharps container.

Do not prepare vaccine in one syringe to transfer to another syringe.

Vials:

Follow the manufacturer's instructions for storage and use.

Use a sterile syringe and needle when entering a vial.

Cleanse the access diaphragm of vials using friction and 70% alcohol or other antiseptic. Allow to dry before inserting a device into the vial.

Date multi-dose vials to reflect date opened and/or date of expiration.

Dispose of opened multi-dose vaccine vials 28 days after opening unless indicated by the manufacturer or CDC.

Discard single-dose vials after use.

Inspect vials and discard if sterility has been compromised.

Examine the vial for any particulate matter, discoloration, or turbidity. If present, discard immediately.

Vials used during an emergency should be discarded as sterility cannot be guaranteed.

Never store vials in clothing or pockets.

Use filter needles to withdraw solution from an ampule.

Never combine leftover contents of vials for later use.

Never leave a needle inserted into a vaccine vial rubber stopper because the vial is vulnerable to contamination.

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