



AGENCY FOR HEALTHCARE RESEARCH AND QUALITY



Intramuscular Injections

Best Practices for Safe Vaccine Administration in Nursing Homes

When vaccinating nursing home residents, proper intramuscular (IM) administration is important to make sure the vaccine does its job and to avoid shoulder injury related to vaccine administration (SIRVA). Even experienced vaccinators can benefit from a periodic review of best practices for giving IM injections. This ensures that shots are prepared, given, and disposed of properly. Those who vaccinate nursing home residents must also acknowledge special considerations for older adults, such as muscle wasting, involuntary movement, and confusion. The following best practices align with the Centers for Disease Control and Prevention's (CDC) vaccine administration guidance.

Always follow the "[Rights of Medication Administration](#)," which include the:

- Right resident
- Right vaccine and diluent (when applicable)
- Right time
- Right dosage
- Right route
- Right site
- Right documentation

Special Considerations for Vaccinating Residents with Cognitive and Emotional Challenges¹:

- Plan to spend more time with residents either before, during, or after vaccination to offer emotional support and the most positive experience.
- Choose a familiar and trusted person to explain the vaccine.
- Consider the time of day for talking about and giving vaccines to residents with dementia. They may experience sundowning in the late afternoon or early evening, which can cause confusion, emotional difficulties, and anxiety.
- Use a comforting and familiar space for vaccinations and testing.
- Understand that tone of voice, body posture, quick movements, noise, change in routines, and unfamiliar surroundings can cause challenging behaviors in residents with cognitive and emotional difficulties.

¹ [Aravich PF,* Latimer J** and Bounthisane R. Positive Behavioral Control Checklist for LTC COVID-19 Testing and Vaccination, Recommendations for LTC, National Guard, Medical Reserve Corps and Pharmacy Staffs. Written for the Staff Wellness and Crisis Support Work Group, Virginia COVID-19 Long-Term Care Task Force. December 17, 2020.](#)



Before You Give a Vaccine

Identify Resident and Provide Vaccine Education. Introduce yourself and confirm the identity of the resident using two forms of identification. Confirm the medical order and resident consent. Explain which vaccine you are giving and how it will be given.

Complete Hand Hygiene. Before giving a vaccine, complete proper hand hygiene. The CDC COVID-19 Vaccine Training Best Practices and Occupational Safety and Health Administration (OSHA) regulations do not require you to wear gloves unless you have open wounds or are likely to come into contact with body fluids. If you are wearing gloves, change them and perform hand hygiene between each vaccination. Keep your hands clean from vaccine preparation through administration and disposal.

Prepare the Vaccine and Syringe. Prepare and draw up the vaccine in a clean area away from any items that could contain germs. Follow the manufacturer's instructions because storage, handling, and dilution preparation vary by vaccine type.

Table 1 – Guidelines for selecting appropriate needle length.

Resident Weight	Needle Length
Men and women less than 130 lbs	1 inch
Men and women up to 152 lbs	1 inch
Men 152 – 260 lbs	1 – 1.5 inches
Women 152 – 200 lbs	1 – 1.5 inches
Men 260 lbs. or more	1.5 inches
Women 200 lbs. or more	1.5 inches

Choose the Correct Needle. Always use a new needle and syringe for each injection. A 22-25 gauge needle is recommended for vaccine intramuscular (IM) injections. Use the appropriate needle length based on the resident's weight (Table 1), according to [CDC guidelines](#).

Choose and Identify the Correct Location. The best injection site for IM vaccinations is in the **deltoid muscle** of the arm. That is the large, triangular-shaped muscle on the outside of the arm. Identify different parts of the upper arm to ensure the injection site is in the middle of the thickest part of the deltoid muscle. It is located between the top of the bony point at the end of the shoulder (acromion process) and the armpit (axillary fold) (Figure 1).

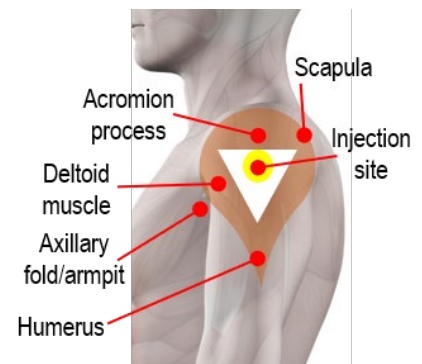


Figure 1 – Injection site for intramuscular vaccine.

Consider Pain Management Techniques. According to the CDC, it is estimated that up to 25 percent of adults have a fear of needles. Dementia and other cognitive conditions can also cause fear or anxiety in relation to any medical procedure. Consider rubbing the skin prior to the vaccination to reduce pain and calm the resident. When possible, use distraction techniques, like playing music.

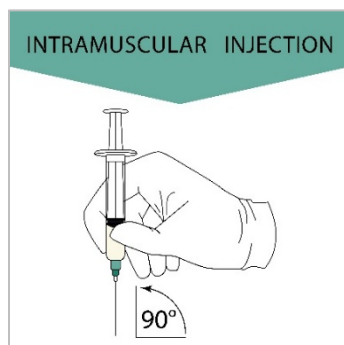


Figure 2 – Intramuscular injection angle.

Vaccine Administration

Immediately before giving the vaccine, clean the injection site with a sterile alcohol swab and allow it to dry. It is important to inject the syringe at a 90-degree angle (Figure 2). In older adults with weak muscle, it is acceptable to squeeze and “bunch up” the muscle before and during injection to give you more area to inject and avoid reaching the arm bone, releasing the bunched up muscle as you withdraw the needle. Insert the needle at a 90-degree angle and inject all of the vaccine into the deltoid muscle tissue.

Remove the needle at the same 90-degree angle and immediately place the entire device in an official biohazard waste sharps container (Figure 3). Do not recap used needles or remove them from the syringes before disposal. Apply gentle pressure to the injection site for several seconds or longer to minimize bleeding using a gauze pad or small bandage. For residents who take anticoagulation medications, gentle pressure may need to be applied longer to minimize bleeding. Perform hand hygiene.



Figure 3 – Example medical sharps container.

After You Give A Vaccine

Sometimes, people have an allergic reaction to the COVID-19 vaccine. These reactions range from itching where the vaccine was given to not being able to breathe. This can be potentially life threatening. For this reason, it is important that you closely watch residents for 15-30 minutes after they have been vaccinated.

In the rare case that a resident has trouble breathing, swelling of the face or tongue, or other symptoms of a severe allergic reaction, you should contact emergency medical services and have the following ready to be used right away:

- Epinephrine pre-filled autoinjector (at least three doses)
- H1 antihistamine (e.g., diphenhydramine/Benadryl)
- Blood pressure monitor
- Timing device to assess pulse
- Oxygen
- Pulse oximeter
- Access to a phone to call 911

If a resident has an adverse reaction after vaccination, nursing home staff should review the Vaccine Adverse Event Reporting System (VAERS) and follow reporting directions as appropriate. More information about when, what, and how to report can be found at: <https://vaers.hhs.gov>.

Fully document vaccine administration in each resident's medical record. Record the following information:

- Date and time of administration
- Vaccine type
- Vaccine manufacturer
- Vaccine lot number
- Diluent lot number (if known)
- Number of vaccine sequence (1 or 2) if vaccine type requires more than one injection
- Name and title of person who administered the vaccine
- Vaccine route and site
- Dosage in mL
- Any adverse events



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