

Landmarking Reminder for Deltoid IM Injections

Based on information BCPhA has received on recent incidents in the field, we have been asked to remind injection-certified registrants to review landmarking techniques and adjust their respective practices as needed. Improper technique, especially for intramuscular injections, may lead to improperly administered vaccines, injury, and irreversible harm to the patient.

One of the most reported cause of injury stems from an injection that is administered too high up the patient's upper arm and inadvertently, into the shoulder joint^{1,2}. Termed SIRVA or shoulder injury related to vaccine administration, this leads to inflammation and damage to the bursae, tendons, and ligaments in the area^{1,2}. Patients typically report symptoms such as persistent shoulder pain and limited range of motion within 48 hours of vaccine administration that are not alleviated by over-the-counter analgesics¹. If given too low, the vaccine can be accidentally injected into the radial nerve and if too far to the side, the axillary nerve¹. Both injection misplacements can lead to paralysis, neuropathy, and burning shooting pain during injection¹.

To avoid these injuries, below are some landmarking reminders for intramuscular injections^{1,3}:

1. Do not “eyeball” or approximate the injection site.
2. Define the injection site by forming an imaginary upside-down triangle on the patient's arm by placing 2 to 3 fingers down from the acromion process. This forms the base of the triangle. The bottom point or the peak of the triangle is located at the level of the axilla.

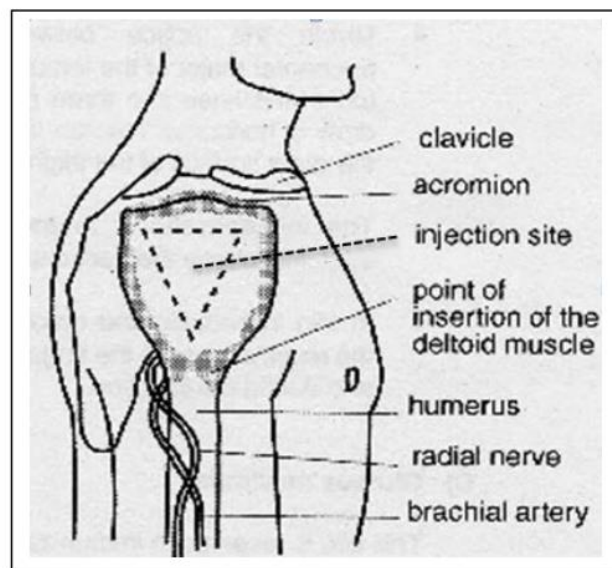
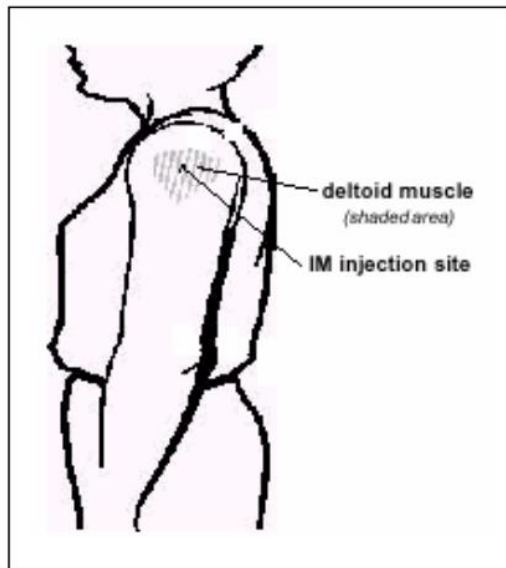


Image adapted from BCCDC

3. The injection site is the centre of this triangle and should be around 4 cm below the acromion for adults and 3 to 5 cm below the acromion for children aged 3 to 18 years old.
4. Assess the injection site and avoid injecting into lumps, bumps, nodules, bruising, wounds, and any new tattoos (newer than 3 months)

Resources:

[Centers for Disease Control and Prevention \(IM Injection Sites\)](#) (starts at 2:24)

[Appendix B: Administration of Biological Products](#)

[SIRVA Infographic](#)

References:

1. Bancsi A, Houle SKD, Grindrod KA. Shoulder injury related to vaccine administration and other injection site events. *Can Fam Physician*. 2019 Jan;65(1):40–2.
2. Cross GB, Moghaddas J, Buttery J, Ayoub S, Korman TM. Don't aim too high: Avoiding shoulder injury related to vaccine administration. *Aust Fam Physician*. 2016 May;45(5):303–6.
3. Communicable Disease Control Manual. Chapter 2: Immunization. Appendix B - Administration of Biological Products. 2019. Available from internet: http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/CD%20Manual/Chapter%202%20-%20Imms/Appendix_B_Administration.pdf