



Extension

UNIVERSITY OF WISCONSIN-MADISON



Beef Injection Site Practices

Your Choices Matter

The practices you choose to follow when administering injections matter. Whether it is a cow, bull, steer, or calf, your animal is most likely headed for the food supply chain. The management decisions you make at all stages of growth have an impact on the quality of a food product. Not following, the label or veterinary directions may result in chemical residues. Injections can result in meat damage, and not using the correct size/gauge of needle or infrequently changing them can result in muscle damage, infection, or broken needles. Not only does your decision influence the product supplied to the consumer, but it can also change the effectiveness of the injectable animal health product, or cause illness to the animal.

Best Practices

Read and follow label instructions -

Pharmaceutical product labels include all the information you need to follow when choosing, storing, and giving injections. Here are a few of the important pieces to look for:

- Active Ingredient
- Approved Species and Animal Class(es)
- Approved Use for treatment of
- Route of Administration
- Withdrawal Time
- Cautions and Warnings
- Storage Requirements
- Date of Expiration

Product handling and storage -

The highest quality vaccines and antibiotics are useless if not handled and administered properly. This starts with storage. Vaccines should be stored in a dependable refrigeration unit which maintains a temperature as directed by the product label, typically 35-45° F. It is also good practice to keep a thermometer in the refrigerator and monitor temperatures. This should also be taken into consideration even when working cattle chute side. Processing of animals takes time, and injections which are heat and light sensitive lose effectiveness if not handled properly. One way to store your injections chute side is by investing in or making your own chute side cooler. See the **Chute Side Cooler Factsheet** a complete guide to making your own.



Additionally, modified live vaccines (MLV) and chemically altered (CA) vaccines require reconstituting with a sterile diluent prior to administration. Follow label directions on timeliness of usage. Beef Quality Assurance guidelines recommend only mixing the amount of product to be used in one hour.

Syringe and needle guidelines -

Using the proper needle length and gauge, and maintaining cleanliness of the needle and syringe results in the product working as intended with fewer injection site defects or lesions. Develop a syringe disinfection protocol with your veterinarian. The following guidelines can help keep your animals healthy.

Change needles

- If the needle bends, or the point is damaged, and before it becomes dull
- If the needle becomes contaminated with feces, blood, dirt or chemicals
- Between cattle with known blood-borne infectious disease
- Every time before entering an animal medical bottle, or refilling a multi-dose gun

Needle care and disposal

- Protect needles from contamination
- Store unused needles in a protected area
- Follow local, state, and federal guidelines for disposal of used needles and other sharps

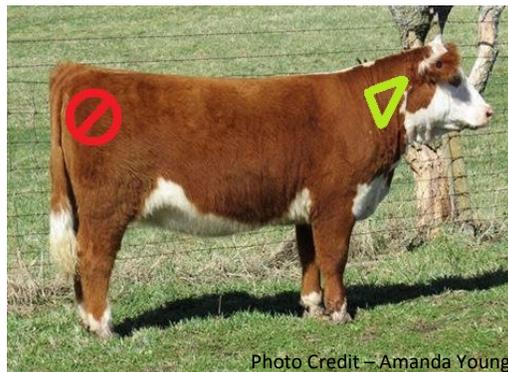
Always use include proper cattle restraint when giving injections. Selection of high quality needles that are sized, in both gauge and length to fit the appropriate weight, injection type, and viscosity of the product being administered. Use needles no larger than necessary to complete the injection, but large enough to prevent needle damage. Consult table 1 for Beef Quality Assurance recommendations on needle selection.

Route of Administration	Cattle Weight	Injection Velocity	
		Thin	Thick
SQ ½ - ¾ inch needles	<300	18 ga.	18-14 ga.
	300 - 700	18-16 ga.	18-14 ga.
	>700	16 ga.	16-14 ga.
IM ¾ - 1 inch needles	<300	20-18 ga.	18-16 ga.
	300 - 700	18-16 ga.	18-16 ga.
	>700	18-16 ga.	16 ga.
IV 1 - 1 ½ inch needles	<300	18-16 ga.	18-16 ga.
	300 - 700	18-16 ga.	18-16 ga.
	>700	16-14 ga.	16-14 ga.

Source: Beef Quality Assurance Manual

Injection Placement -

Select the appropriate injection site based on the route of injection you are using. Regardless of the animal's age, injections should be given in the injection site triangle. The injection site triangle is the area in front of an animal's shoulder, above the neck vertebra, and below the nuchal ligament (approximately 3 inches below the top of the neck).



The injection site triangle located on the animals' neck is shown in green; avoid giving SQ and IM injections outside of this area.

Photo Credit – Amanda Young

Injection Guidelines

- Give preference to subcutaneous (SQ), intravenous (IV), intranasal (IN) or oral administration when available
- Give injections in front of the shoulder unless directed by a veterinarian
- Never exceed more than 10 cc per SQ or IM injection site
- Space each injection 2 to 4 inches apart

Keep Records -

Maintain treatment records for all administered animal health products. Records should include animal or group identification, date of treatment, product administered, withdrawal time (date), dose given, route and location of administration, and name of person who administered the treatment. Records should be kept for a minimum of two years. Transfer records as ownership of the animal changes, but retain your own copy.

References -

Beef Quality Assurance National Manual:
<https://www.bqa.org/resources/manuals>