



# Giving an Intramuscular (IM) Injection to a Horse

## Safety First

### *Consult Your Veterinarian*

Although giving an intramuscular injection to the horse is a routine procedure, it is not without risk to the horse. Always consult your veterinarian about the type of medication, the dosage, and the route - Intramuscular (IM), intravenous (IV), or subcutaneous (SQ) before giving any drug.

Improper drug handling and injection techniques can result in infections, life threatening drug reactions such as anaphylactic (allergic) shock, and ineffective drugs or vaccines. Have your veterinarian discuss the signs of a drug reaction and how to handle them.

### *Precautions For Handlers*

Giving an injection to a horse can also pose some risk to the human handler. A horse which objects to the injection can easily injure the handler. Also, some drugs used in horses can be absorbed directly through human skin or can produce severe reactions if accidentally injected into humans by needle punctures. Make sure to ask your veterinarian about any safety precautions you should take when handling a drug or giving an injection.

### *Medication Precautions*

Before giving any injection it is a good practice to check the label before you draw the medication out of the bottle and again before you inject the drug into the horse. Check the drug name to ensure it is the one recommended by your veterinarian. Remember, the generic name for a drug and the brand name may differ.

### *Dosage and Route*

Check the recommended dosage and route of injection prescribed by your veterinarian. This may differ from the instructions on the medication vial.

### *Drug Handling and Storage*

Follow the recommended method of drug storage, drug handling procedures, expiration date, and precautions. Do not mix individually packaged drugs in the same injection. Compounds in one drug preparation may inactivate or decrease the efficacy of the other drug. It is better to play it safe and give the horse two separate injections.

### *Horse Handling*

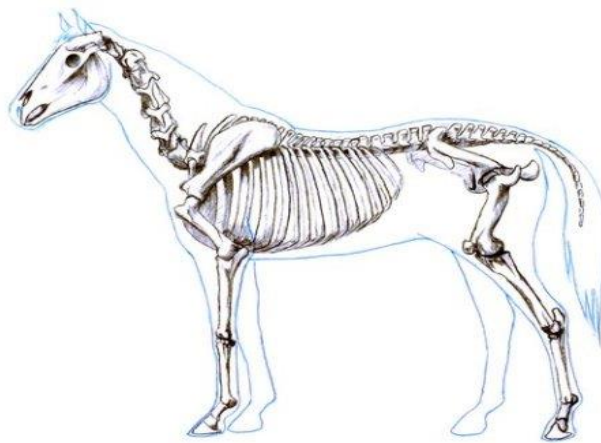
If you are unsure how your horse will react to the injection, it is always best to untie the horse and hold its lead line or have someone else hold it. A tied horse which overreacts to the injection may pull back against the tie rope. The resulting pressure on the horse's head may cause it to panic, injuring the horse or the handler. After untying if the horse does pull back during the injection, simply move with the horse and continue the injection when it calms down. Some seriously needle-shy horses may need to be distracted by a twitch (a restraint device which tightly grips the horse's upper lip and nose) while the injection is given.

## Injection Sites

The site of the IM injection is important for the safety of the horse and the handler. Choose a large muscle mass that is actively used by the horse. This promotes drug absorption and decreases the chance of swelling and pain at the injection site. The site should allow the needle to be placed deep in the muscle without danger of hitting bone, ligaments, nerves, or blood vessels. Also, the injection site should allow the handler to be in a relatively safe position if the horse objects to the injection.

### ***Base of the Neck***

The base of the horse's neck is an injection site favored by many because it allows the handler to remain in a relatively safe area by the horse's shoulder. To locate the appropriate injection area, put the heel of your hand on the base of the horse's neck where it joins the shoulder, about midway between the crest and the bottom of the neck. The area covered by your palm is the injection site. Higher toward the crest you risk hitting the nuchal ligament, and lower toward the bottom of the neck is where the cervical vertebrae and blood vessels are located. Make sure you stay near the base of the neck rather than injecting higher up the neck toward the ears. This again avoids ligaments, bone, and blood vessels and gives a larger muscle mass for the injection.



### ***Top Of The Rump (NOT RECOMMENDED)***

Many horse handlers use the top of the rump (gluteal muscles) as an injection site. This is a large, frequently used muscle mass which allows the handler to stand in a relatively safe area while giving the injection. The disadvantage to this site is that it has very poor drainage if an abscess develops at the injection site. An infection at this site tends to spread up the loin and back and cannot be treated easily.

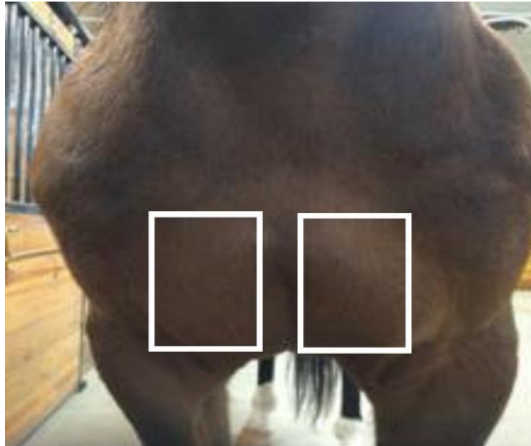
**Therefore it is not a recommended injection site.**



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### ***Pectoral Muscles***

The pectoral muscles in the chest are another possible injection site. This site does put the handler at some risk because the handler must lean over in front of the horse to see the site clearly, putting him in a position where he could be easily bitten, struck with a front foot, or run over by the horse. You should stand to the side of the horse while giving this injection, NEVER stand directly in front of the horse. The pectoral muscles tend to become sore easily and generally are only used when the horse is receiving prolonged treatment and is sore in other injection sites. This is the area of the pectoral muscles on the chest of a horse. Choose either the left or the right pectoral muscle and go in the middle of that muscle group.



### ***Hind Leg Injection Site***

The proper location of this injection site is the intersection of a line between the tail head and point of hip and a line between the top of the croup and the point of the buttocks.



The major drawback to this injection site is that it puts the handler within kicking range of the horse and should be used only by experienced horse handlers. Horse handlers should remember that horses will kick at the person inflicting pain rather than at the painful area. You are not safe from being kicked if you stand on the left side of the horse and reach across the horse to inject its right buttock. The horse will kick at you with its left hind leg rather than kick at the site of the injection with its right hind leg.

To find this injection site simply locate the bony protrusion which makes up the point of the buttocks (tuber ischii). Drop about 1 inch below the tuber ischii and inject in the large muscle mass along the back of the leg. Either use the semimembranosus or semitendinosus muscle, NOT in the middle (where a large nerve is present).

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## Injection Techniques

There are several methods of giving the horse an IM injection. The method you use will depend on your experience, the injection site, and the horse's attitude. There are a few basic rules to follow no matter which injection method you use.

\*\* Always take your horses temperature before administering any medications.

- 1.** Insert the needle perpendicular to the skin (do not slant the needle upward or downward) and sink the needle into the muscle all the way to the hub (the place where it attaches to the syringe). This ensures that the needle will not shift during the injection and that it is deep into the muscle mass.
- 2.** Always aspirate (pull back on the plunger) before injecting the drug to ensure that you are not in a blood vessel. Some commonly used drugs can be fatal to a horse if accidentally injected into the blood stream. If blood collects at the hub of the needle when you place it into the horse or you draw blood when you aspirate the syringe, then you must pull the needle out and redirect it before giving the injection. It is safest to pull the needle out completely and start over in a different area with a clean needle. However if you have a needle shy horse, you can pull the needle partially out of the skin, change the injection angle, and push it back into the muscle. Many needle shy horses object to the needle going through the skin, which is the painful part of the injection, and will be relatively quiet once the needle is through the skin. Remember to aspirate again when using a clean needle or redirecting a needle to make sure you are not in a blood vessel.
- 3.** Insert the needle quickly and decisively. A fast stab is easier for you and less painful to the horse than inserting the needle slowly into the skin.
- 4.** Be prepared for an adverse drug reaction. Observe the horse for any signs of allergic reaction for about 30 minutes after giving the injection. Usual signs of allergic reactions such as swelling around the injection site, hives, increased respiratory rate, depression, or agitation indicate that the horse may be allergic to the medication. Discontinue its use and consult your veterinarian immediately.
- 5.** If you are giving large, repeated doses of a medication, rotate injection sites (such as left neck, right neck, left buttock, right buttock) to reduce soreness in any one area of the horse's body. Extremely large doses (more than 15 to 20 cc) of a thick or irritating substance such as penicillin should be split into more than one injection to reduce soreness. It is also a good practice to use more than one injection site (for example, the neck and the buttocks) when giving several separate medications or vaccines at once. Then if the horse has a drug reaction it may be easier to identify the drug that caused the problem.

If the horse needs a little distraction there are several methods of easing the needle stick.

\*One good method is to pinch up the horse's skin next to the injection site for a few seconds prior to inserting the needle. While holding the pinched skin, insert the needle next to the pinched area.

\*Another method is to hold the needle between the thumb and forefinger. Tap the horse vigorously 2 to 3 times with the side of your palm in the injection site and without breaking your rhythm, rotate your hand and insert the needle. However, some horses may learn to associate the taps with the following needle stick, and leave the area prior to the needle stick.

\*A similar method is rubbing against the direction of horse's hair growth several times while holding the needle between the thumb and forefinger. Insert the needle on the last rub.

## **A summary of the IM injection procedure follows:**

**\*\*Always take your horses temperature before administering any medications.**

1. Consult your veterinarian about the type of drug needed, route of administration, dosage, drug handling precautions, and adverse drug reactions.
2. Read the drug label.
3. Use only sterile needles and syringes.
4. Always untie the horse.
5. Insert the needle straight into the muscle and up to the hub.
6. Attach the syringe to the needle.
7. Aspirate (pull back) on the plunger. If blood appears in the syringe, remove the needle and try again with a clean one.
8. Inject the medication.
9. Observe the horse for signs of adverse drug reaction.
10. Properly dispose of your needle and syringe in a medical waste container.

\*It is worthwhile to have a patient that is tolerant of injections. If your horse is not, now is the time to work on it. Seek help from a professional trainer if necessary. If your horse is injured it will likely need injections to treat it. It will lower stress for your horse and yourself if it has been trained to accept injections. If you would like to work on training and desensitization yourself we would recommend watching a video called “Don’t Break Your Vet – Easy Injections” on Youtube. It is the owner’s responsibility to ensure that their horse is able to receive the veterinary care it needs.

Always consult with a veterinarian before giving injections. For some injections your veterinarian may not want them given in a specific area. For example; in foals we never recommend injections in the neck because if their neck becomes sore, their nursing activity can be decreased.