
INFOSheet

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Horse Medications - Their Use and Contraindications

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Veterinarians are very influential in the decision making and activities related to horse health. We have to remember the following facts when dispensing medications (*indicated in italics*):

People remember only 20% of what they are told.

When a veterinarian is called in to diagnose a problem with an owner's horse, it is a very stressful time. Owners often focus on their animal's problem, especially if it is colic or a major injury. When veterinarians are dispensing a medication, it is time consuming, but necessary, that owners focus on hearing and understanding the instructions. It is the veterinarian's responsibility to ensure that owners understand what the medication is, how often it should be used and the route of administration. Some medications may need to be given 2 or 3 times daily. Is the owner or barn manager available to give the medication every 8 or 12 hours for 5 or 7 days in a row?

One third (1/3) of horse owners are new to the horse industry.

Since many of our horse owners are new to the industry, veterinarians need to show the owner how to load a syringe, where and how a needle should be placed and ensure that the owner can give the medication without endangering the health of the horse or themselves. The neck bones run just above the jugular furrow, not just under the mane. The landmarks for injection sites should be clearly recognized. The injection triangle in the neck is easily identified as illustrated in **Figure 1**.

Young people, especially teenage women, are the main workforce of the industry.

Women of all ages, but particularly teenage women, are very active in all levels and disciplines of the equine industry. Some medications that are commonly used in and around the stable can affect the menstrual cycle of women or impact on their health, including pregnancy.

Products such as Regu-Mate® can be absorbed after skin contact and especially if wearing latex gloves. The manufacturer warns that the following people **should not** handle this drug: pregnant women, those with thrombophlebitis, coronary disease, women with breast cancer, estrogen dependant neoplasia or undiagnosed vaginal bleeding⁽¹⁾. Veterinarians should provide owners with a written protocol for the proper handling of medicines. This protocol can be hung in the barn for future reference. For further information, refer to the factsheet, *Human Health Concerns when Working with Medications around Horses*.

Bringing the Resources of the World to Rural Ontario

The Most Common Intramuscular Injection Points of the Horse

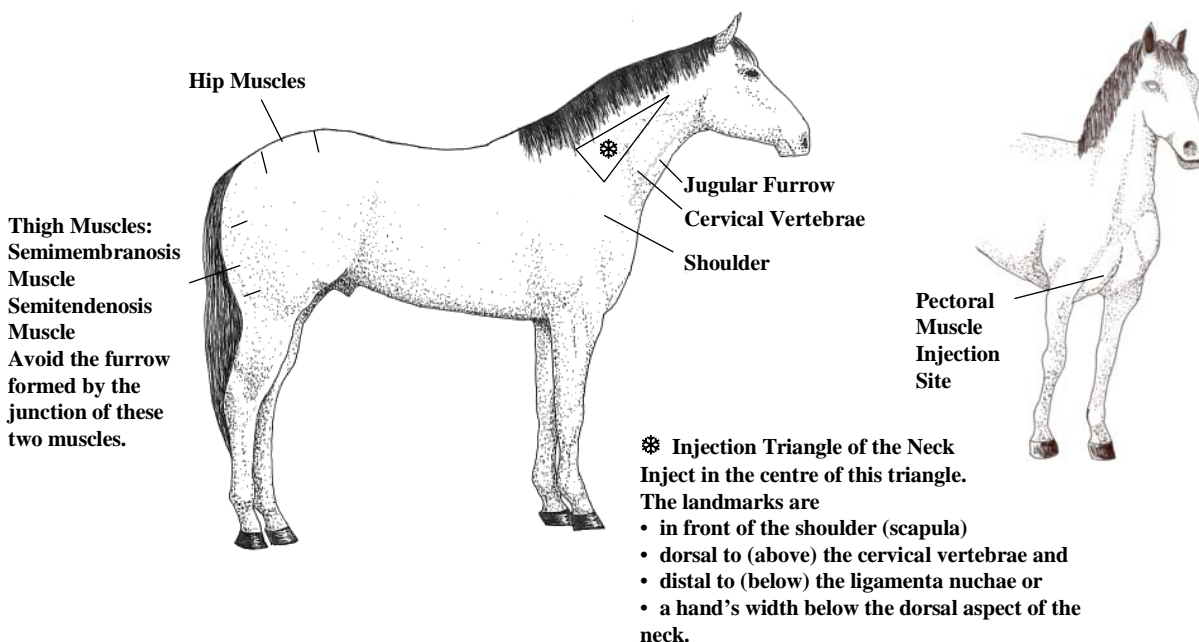


Figure 1

People have achieved a level of information overload.

The internet has dramatically increased peoples' access to information. At the touch of a fingertip, one can obtain information on virtually every disease. Unfortunately, this leads to self-diagnosis, misuse of medications, use of homeopathic products of variable and often unknown effects and a blur of what are proper and recognized treatment regimens. Penicillin G procaine and similar penicillin products are available in two strengths, 200,000 and 300,000 IU per mL. The recommended dose ranges from 10,000 - 20,000 IU/kg intramuscularly every 6 hours to 22,000 - 40,000 IU/kg every 12 hours ⁽¹⁾. For the owner, the calculation of the correct dosage can be a major obstacle. *The following is an example.* When using the 300,000 IU/mL penicillin and when recommended to use the 22,000 units per kg dosage, divide the strength (300,000 IU per mL) by the dosage per unit of weight (22,000 IU per kg) to get the dosage of 1 mL per 13.6 kg ($300,000/22,000 = 13.6$). Many owners have difficulty understanding that a milliliter (mL) is the same as a cubic centimeter (cc).

Instructions should be given, clearly indicating the dosage (e.g., 10 mL), how the medication is to be given (e.g., by the intramuscular or subcutaneous route) and the frequency and length of usage (e.g., every 12 hours for "X" number of days). The number of days will depend on the response of the bacteria causing the infection to the medication. This is determined by the resolution of clinical signs (e.g., a return to a normal rate and depth of breathing) and a return to normal core body temperature ($38 \pm 0.5^\circ\text{C}$).

People are more conscientious about their own health and the health of the environment.

Over the past ten years, society in general and, more specifically, horse owners are more conscious of the impact of improper antibiotic use, the ground water and environmental impact of manure run-off. The avermectin products, such as Eqvalan® and Quest™, are excreted from the horse and are reported to be quickly bonded to the soil. Approximately one million doses of these dewormers are used in Ontario each year and, since residues may adversely affect fish and water-borne organisms, safe disposal of residual materials, such as syringes, is important.

As we get older, the print on medication bottles is getting smaller and harder to read, especially if we are not carrying our glasses to the barn.

The size of print used on bottles of medications seems to be getting smaller and smaller. Those of us that are over forty and having a struggle with the “length of the arm” when reading and/or are too proud to carry or wear reading glasses or, heaven forbid, bifocals to the barn, have great difficulty deciphering “Is that 1 cc per mL or 2?”. Reading beyond the dose to the fine print is out of the question. Warnings on the package inserts for the avermectin products, Eqvalan® and Quest™, caution the user to “Wash hands after use.” “Dispose of by burial or incineration.” “Avoid direct contact with skin and eyes.” These are rarely read or followed. Veterinarians should provide readable instructions for every medicine dispensed.

The barn is not a suitable storage area for medications, unless medications are protected from freezing and/or overheating.

Medications should be stored according to the manufacturer’s recommendations. Some will require refrigeration but are not able to withstand freezing. The barn window or bright shelf in the tack room may not be a suitable storage location for medications that may be sensitive to light.

Recommendations for the Proper Use of Horse Medicines

1. Develop a client-patient relationship with a veterinarian.
2. Listen to the instructions being given. Ask for written instructions if the treatment regimen is complicated or being administered by more than one person.
3. On an annual basis, in consultation with your veterinarian, complete a **Horse - Medication Inventory Form**, which lists and gives instructions for all of the medications that are stored on your farm. A sample form is included in this information sheet. Blank forms are available on the livestock/horse section of our web site at www.ontario.ca/livestock
4. When new medicines are being dispensed, veterinarians should provide the owner with complete instructions for the medication(s). The easiest way to do this is to have an instruction sheet made up (similar to the Medication Inventory Form) for a number of the commonly dispensed medications. The animal to be treated would be included in the “Treated Animal” column. A copy of these completed forms should be included in the animal-owner’s record.

Reference

Plumb DC. Veterinary Drug Handbook, 4th ed. Iowa State Press, 2002.

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HORSE - MEDICATION INVENTORY FORM

Owner Name: _____

Farm Name: _____

Refrigerator temperature: ____°C or ____°F

Legend			
I.M. - In the muscle	I.V. - In the vein	I.F. - In the feed	T - Topical
S.Q. - Under the skin	O.R. - Oral	I.W. - In the water	* - Vet script/off-label use

Name of Medication	Manufacturer	Treated Animal(s) (e.g., Foal)	Dosage (e.g., 2 mL/45 kg, 1 cc/10 lb, 2x/day or 200 g/t)	Route (see legend)	Significant Contraindications, Cautions or Warnings	Storage on Farm (e.g., fridge, cupboard, etc.)	Withdrawal (days)
DMSO	Fort Dodge	for use in horses in training to reduce acute swelling due to trauma	use 3 times daily; total daily dosage should not exceed 100 mL of liquid and therapy should not exceed 30 days.	T	Wear rubber gloves; apply topically to clean, dry areas to avoid carrying chemicals into systemic system. Avoid inhaling or contact with eyes.	Protect from light. Store in original closed container.	not for use in horses intended for food purposes
PEN G PROCAINE	P.V.U.	for treating bacterial infections	for a 1,000-lb horse 10 mL once daily	IM	300,000 IU/mL Observe caution when used by penicillin-sensitive persons. Shake well before use.	2 - 8°C, avoid freezing	5 days
EQVALAN®	Merial	all ages greater than 4 months	liquid 1 mL/50 kg paste 600 mg for 600 kg	OR	Refrain from smoking or eating when handling. Avoid contact with eyes. Wash hands after use. Ivermectin can adversely affect fish.	15 - 30°C	not for use in horses intended for food purposes
Butasone 400 (Phenylbutazone powder)	Jaapharm	cautious use in foals and ponies	4.4 - 8.8 mg/kg q24h. Do not exceed 8.8 mg/kg/day. Administer q8h. (Comes in 1 g active ingredient in 10 g of powder).	OR	Doses greater than recommended have resulted in intestinal ulcerative lesions. Necrotizing phlebitis of the portal vein has been observed in horses receiving higher doses for extended periods of time	Store between 8 - 15°C or in a refrigerator.	not for use in horses intended for food purposes
Butazone Injectable	Rogar/STB		200 kg/mL IV only, 1 - 2 g/454 kg	IV	Do not use IM or SQ; it is very irritating.	15 - 30°C	
REGU-MATE® (altrenogest)	Hoechst	to suppress heat in mares	1 mL/110 lbs. for 15 days	OR	Those that should not handle this drug include: pregnant women, those with thrombophlebitis, coronary disease, women with carcinoma of the breast, estrogen dependant neoplasia or undiagnosed vaginal bleeding. Can be absorbed after skin contact, especially if wearing latex gloves.	Room temperature	not for use in horses intended for food purposes

Additional information: _____

Reviewed and approved by (print) _____ on _____ (print) and _____ on _____
 (sign) _____ Date (sign) and _____ Date
Owner/Employee Veterinarian