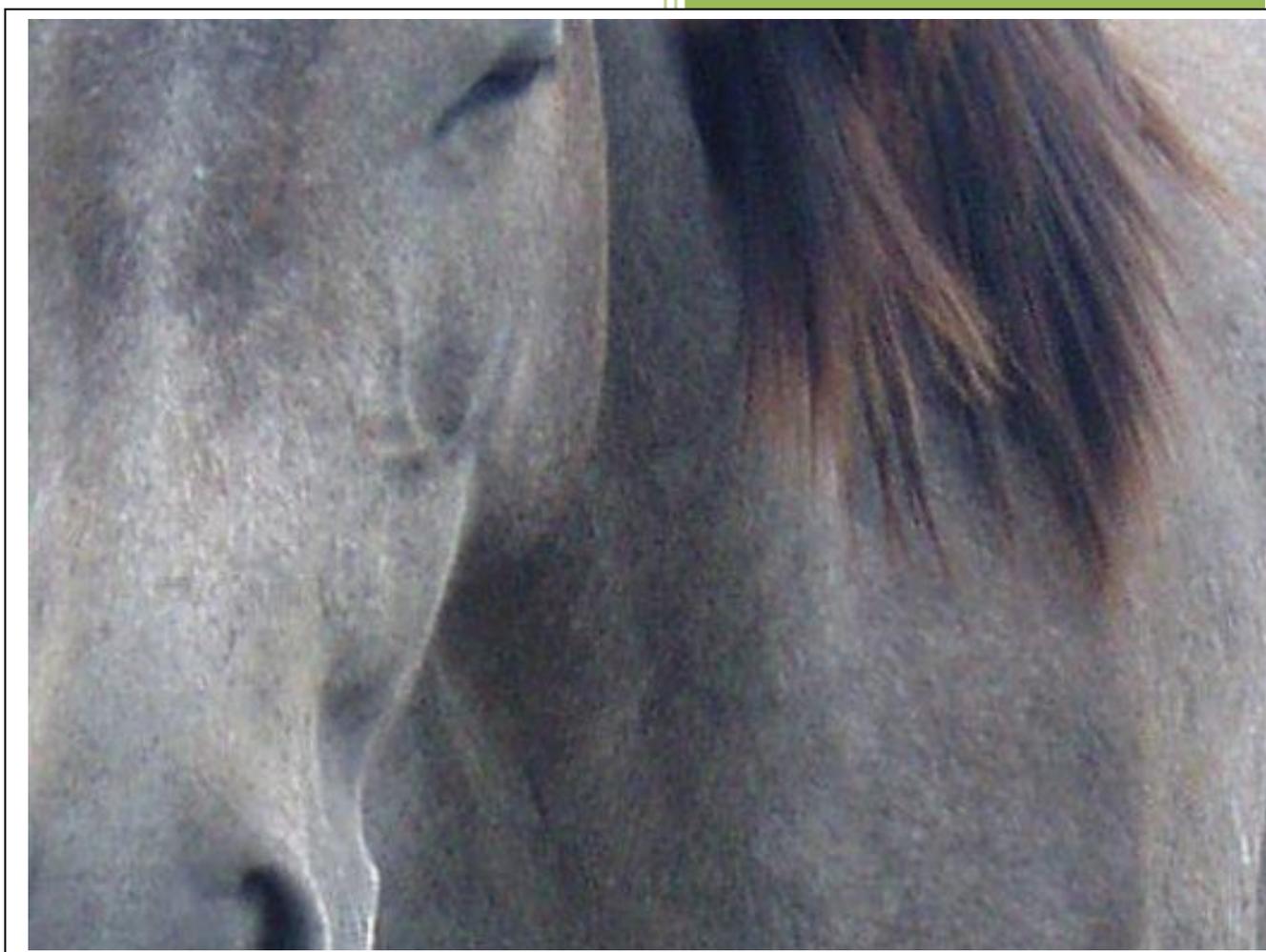


# Diseases Of The Horse

Section 3 of 16



**Methods Of Administering Medicine**  
***By Ch. B. Michener, V. S.***

**SPECIAL REPORT**  
**ON**  
**DISEASES OF THE HORSE**

**BY**

**Drs. PEARSON, MICHENER, LAW, HARBAUGH,  
TRUMBOWER, LIAUTARD, HOLCOMBE,  
HUIDEKOPER, MOHLER, EICHHORN, HALL, AND  
ADAMS**

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# SPECIAL REPORT ON DISEASES OF THE HORSE

## METHODS OF ADMINISTERING MEDICINES.

By CH. B. MICHENER, V. S.

[Revised by Leonard Pearson, B. S., V. M. D.]

Medicine may enter the body through any of the following designated channels:

- first, by the mouth;
- second, by the air passages;
- third, by the skin;
- fourth, by the tissue beneath the skin (hypodermic methods);
- fifth, by the rectum;
- sixth, by the genito-urinary passages; and,
- seventh, by the blood (intravenous injections).

**BY THE MOUTH.**—Medicines can be given by the mouth in the form of solids, as powders or pills; liquids, and pastes, or electuaries.

Powders.—Solids administered as powders should be as finely pulverized as possible, in order to obtain rapid solution and absorption.

Their action is in this way facilitated and intensified. Powders must be free from any irritant or caustic action upon the mouth.

Those that are without any disagreeable taste or smell are readily

eaten with the feed or taken in the drinking water.

When placed with the feed they should first be dissolved or suspended in water and thus sprinkled on the feed.

If mixed dry the horse will often leave the medicine in the bottom of his manger.

Non-irritant powders may be given in capsules, as balls are given.

Pills, or "balls" when properly made, are cylindrical in shape, 2 inches in length and about three-fourths of an inch in diameter.

They should be fresh, but if necessary to keep them some time they should be made up with glycerin, or some such agent, to prevent their becoming too hard.

Very old, hard balls are sometimes passed whole with the manure without being acted upon at all.

Paper is sometimes wrapped around balls when given, if they are so sticky as to adhere to the fingers or the balling gun.

Paper used for this purpose should be thin but firm, as the tougher tissue papers.

Balls are preferred to drenches when the medicine is extremely disagreeable

or nauseating; when the dose is not too large; when the horse is difficult to drench; or when the medicine is intended to act slowly.

Certain medicines can not or should not be made into balls, as medicines requiring to be given in large doses, oils, caustic substances, unless in small dose and diluted and thoroughly mixed with the vehicle, deliquescent, or efflorescent salts.

Substances suitable for balls can be made up by the addition of honey, sirup, soap, etc., when required for immediate use.

Gelatin capsules of different sizes are now obtainable and are a convenient means of giving medicines in ball form.

When balls are to be given we should observe the following directions:

- In shape they should be cylindrical, of the size above mentioned, and soft enough to be easily compressed by the fingers.

- If made round or egg-shaped, if too long or too hard, they are liable to become fixed in the gullet and cause choking.

- Balls may be given with the "balling gun" (obtainable at any veterinary instrument maker's) or by the hand.

- If given by the hand a mouth speculum or gag may be used to prevent the animal from biting the hand or crushing the ball.

- Always loosen the horse before attempting to give a ball; if tied he may break his halter and injure himself or the one giving the ball.

- With a little practice it is much easier to give a ball without the mouth gag, as the horse always fights more or less against having his mouth forced open.

- The tongue must be firmly grasped with the left hand and gently pulled forward; the ball, slightly moistened, is then to be placed with the tips of the fingers of the right hand as far back into the mouth as possible;

- as the tongue is loosened it is drawn back into the mouth and carries the ball backward with it.

- The mouth should be kept closed for a minute or two.

- We should always have a pail of water at hand to offer the horse after balling.

- This precaution will often prevent him from coughing out the ball or its becoming lodged in the gullet.

*Pastes or electuaries* are medicines mixed with licorice-root powder, ground flaxseed, molasses, or sirup to the consistency of honey, or a "soft solid."

They are intended, chiefly, to act locally upon the mouth and throat.

They are given by being spread upon the tongue, gums, or teeth with a wooden paddle or strong, long-handled spoon.

*Liquids*.—It is, very often, impossible to get balls properly made, or to induce owners or attendants to attempt to give them, and for these reasons medicines by the mouth are mostly given in the form of liquids.

Liquids may be given as drenches when the dose is large, or they may, when but a small quantity is administered, be injected into the mouth with a hard-rubber syringe or be poured upon the tongue from a small vial.

When medicine is to be given as a drench we must be careful to use water or oil enough to dissolve or dilute it thoroughly; more than this Wakes the drench bulky and is unnecessary.

Insoluble medicines, if not irritant or corrosive, may be given simply suspended in water, the bottle to be well shaken immediately before giving the drench.

The bottle used for drenching purposes should be clean, strong, and smooth about its neck; it should be without shoulders, tapering, and of a size to suit the amount to be given.

A horn or tin bottle may be better, because it is not so easily broken by the teeth.

If the dose is a small one the horse's head may be held up by the left hand, while the medicine is poured into the mouth by the right.

The left thumb is to be placed in the angle of the lower jaw, and the fingers spread out in such manner as to support the lower lip.

Should the dose be large, the horse ugly, or the attendant unable to support the head as directed above, the head is then to be held up by running the tines of a long-handled wooden fork under the noseband of the halter or the halter strap or a rope may be fastened to the noseband and thrown over a limb, beam, or through a pulley suspended from the ceiling.

Another way of supporting the head is to place a loop in the end of a rope, and introduce this loop into the mouth just behind the upper front teeth or tusks of the upper jaw, the free end to be run through a pulley, as before described, and held by an assistant.

It is never to be fastened, as the horse might in that case do himself serious injury.

The head is to be elevated just enough to prevent the horse from throwing the liquid out of his mouth.

The line of the face should be horizontal, or only the least bit higher. If the head is drawn too high the animal can not swallow with ease or even with safety. (If this is doubted, just fill your mouth with water, throw-back the head as far as possible, and then try to swallow.)

The person giving the drench should stand on some object in order to reach the horse's mouth—on a level, or a little above it.

The bottle or horn is then to be introduced at the side of the mouth, in front of the molar teeth, in an upward direction.

This will cause the horse to open his mouth, when the base of the bottle is to be elevated, and about 4 ounces of the liquid allowed to escape on the tongue as far back as possible, care being taken not to get the neck of the bottle between the back teeth.

The bottle is to be immediately removed, and if the horse does not swallow this can be encouraged by rubbing the fingers or neck of the bottle against the roof of the mouth, occasionally removing them.

As soon as this is swallowed repeat the operation until he has taken all the drench.

If coughing occurs, or if, by any mishap, the bottle should be crushed in the mouth, lower the head immediately.

Do not rub, pinch, or pound the throat nor draw out the tongue when giving a drench.

These processes in no way aid the horse to swallow and oftener do harm than good.

In drenching, swallowing may be hastened by pouring into the nose of the horse, while the head is high, a few teaspoonfuls of clean water, but *drenches must never be given through the nose.*

Large quantities of medicine given by pouring into the nose are liable to strangle the animal, or, if the medicine is irritating, it sets up an inflammation of the nose, fauces, windpipe, and sometimes the lungs.

**BY THE AIR PASSAGES.**—Medicines are administered to the lungs and upper air passages by insufflation, inhalation, injection, and nasal douche.

Insufflation consists in blowing an impalpable powder directly into the nose. It is but rarely resorted to. [Pg 47]

Inhalation.—Gaseous and volatile medicines are given by inhalation, as is also medicated steam or vapor.

Of the gases used there may be mentioned, as the chief ones, sulphurous acid gas and, occasionally, chlorin.

The animal or animals are to be placed in a tight room, where these gases are generated until the atmosphere is sufficiently impregnated with them.

Volatile medicines—as the anesthetics (ether, chloroform, etc.)—are to be given by the attending surgeon only.

Medicated vapors are to be inhaled by placing a bucket containing hot water, vinegar and water, scalded hay or bran, to which carbolic acid, iodine, compound tincture of benzoin, or other medicines have been added, in the bottom of a long grain bag.

The horse's nose is to be inserted into the top of the bag, and he thus inhales the "medicated steam."

Care must be taken not to have it hot enough to scald the animal.

The vapor from scalding bran or hay is often thus inhaled to favor discharges in sore throat or "distemper."

*Injections* are made into the trachea by means of a hypodermic syringe.

This method of medication is used for the purpose of treating local diseases of the trachea and upper bronchial tubes.

It has also been used as a mode of administering remedies for their constitutional effect, but is now rarely used for this purpose.

*The nasal douche* is employed by the veterinarian in treating some local diseases of the nasal chambers.

Special appliances and professional knowledge are necessary when using liquid medicines by this method.

It is not often resorted to, even by veterinary surgeons, since, as a rule, the horse objects very strongly to this mode of medication.

**BY THE SKIN.**—Medicines are often administered to our hair-covered animals by the skin.

Care must be taken in applying some medicines—as tobacco water, carbolic-acid solutions, strong creolin solutions, mercurial ointment, etc.—over the entire body, as poisoning and death follow in some instances from absorption through the skin.

For the same reasons care must also be exercised and poisonous medicines not applied over very large raw or abraded surfaces.

With domestic animals medicines are only to be applied by the skin to allay local pain or cure local disease.

**BY THE TISSUE BENEATH THE SKIN (HYPODERMATIC METHOD).**—Medicines are frequently given by the hypodermic syringe under the skin.

It is not safe for any but medical or veterinary practitioners to use this form of medication, since the medicines thus given are powerful poisons.

There are many precautions to be observed, and a knowledge of anatomy is indispensable.

One of the chief precautions has to do with the sterilization of the syringe.

If it is not sterile an abscess may be produced.

**BY THE RECTUM.**—Medicines may be given by the rectum when they can not be given by the mouth, or when they are not retained in the stomach; when we want a local action on the last gut; when it is desired to destroy the small

worms infesting the large bowels or to stimulate the peristaltic motion of the intestines and cause evacuation.

Medicines are in such cases given in the form of suppositories or as liquid injections (enemas.) Foods may also be given in this way.

Suppositories are conical bodies made up of oil of theobroma and opium (or whatever medicine is indicated in special cases), and are introduced into the rectum or vagina to allay irritation and pain of these parts.

They are not much used in treating horses.

Enemas, when given for absorption, should be small in quantity, neutral or slightly acid in reaction, and of a temperature of from 90° to 100° F.

These, like feeds given by the rectum, should be introduced only after the last bowel has been emptied by the hand or by copious injections of tepid water.

Enemas, or clysters, if to aid the action of physics, should be in quantities sufficient to distend the bowel and cause the animal to eject them.

Simple water, salt and water, or soap and water, in quantities of a gallon or more, may be given every half hour.

It is best that the horse retain them for some little time, as the liquid serves to moisten the dung and favors a passage.

Stimulating enemas, as glycerin, should be administered after those already mentioned have emptied the last bowel, with the purpose of still further increasing the natural motion of

the intestines and aiding the purging medicine.

Liquids may be thrown into the rectum by the means of a large syringe or a pump.

A very good "irrigator" can be bought of any tinsmith at a trifling cost, and should be constantly at hand on every stock farm.

It consists of a funnel about 6 inches deep and 7 inches in diameter, which is to be furnished with a prolongation to which a piece of rubber hose, such as small garden hose, 4 feet long may be attached.

The hose, well oiled, is to be inserted gently into the rectum about 2 feet.

The liquid to be injected may then be poured in the funnel and the pressure of the atmosphere will force it into the bowels.

This appliance is better than the more complicated and expensive ones.

Ordinary cold water or even ice-cold water is highly recommended by many as a rectal injection for horses overcome by the excessive heat of summer, and may be given by this simple pipe.

#### **BY THE GENITO-URINARY PASSAGES.—**

This method of medication is especially useful in treating local diseases of the genito-urinary organs.

It finds its chief application in the injection and cleansing of the uterus and vagina.

For this purpose a large syringe or the irrigator described above may be used.

**BY THE BLOOD.**—Injections directly into veins are to be practiced by medical or veterinary practitioners only, as are probably some other means of giving medicines—intratracheal injections, etc.

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