

# Managing Your Pregnant Mare and Her Foal

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## Managing Your Pregnant Mare

Proper mare management is essential to ensure the birth of a live, healthy foal with the greatest probability of survival and success in performance.

To breed efficiently, your mare must be in proper body condition. Thin mares do not become pregnant or maintain pregnancy as readily as moderate or fleshy mares; however, lower milk production and foal growth are observed in very fat mares.

It's advisable to do a follow-up pregnancy check on all bred mares in the fall even if previous checks and pregnancy determinants were done.

### Health care

To provide the best protection for your mare and her foal, follow your veterinarian's recommended vaccination, deworming, and hoof-care program. Deworm your mare every 2 months throughout pregnancy, except in the last 30 days. Do not give your mare unnecessary drugs during the first 60 days, nor during the last 30 days of pregnancy.

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## Feeding

Keep your mare in a consistent body condition rather than allowing her to gain or lose weight. If the mare is in proper body condition and the pasture plentiful, supplementing the ration probably is unnecessary. If the pasture is questionable, adjust your horse's diet according to its individual needs as assessed by body condition. Make sure clean, fresh water and trace mineralized salt are available at all times, and at all ages, weights, and periods of gestation. You can calculate feeding rations by using NRC feeding recommendations.

Mares have only a maintenance nutritional requirement during the first 8 months of gestation. Most fetal growth occurs during the last third of pregnancy, thus the nutritional requirements, especially for proteins, minerals, and vitamins are greatest during this period. Pregnant mares need to be in desired body condition prior to the last trimester, thus the second trimester is the best time to feed them to achieve the desired healthy condition.

The mare's greatest nutritional demands occur during early lactation. Milk production increases during the first 30 to 60 days, then steadily declines.

Your mare should have access to a properly balanced ration that satisfies her increased lactation

requirements. A mare can, however, lactate successfully on pasture alone if her nutrition requirements are being met. If pasture is not available, adjust your horse's complete ration to maintain lactation and body condition according to the NRC feeding guidelines.

## Foaling preparation

Foals are born with a low level of immunity. Colostrum, the first milk, contains immunoglobulins, which provide protection until the foal's immune system becomes functional. About 30 days prior to foaling, move the mare to the stall where she will foal. This allows her to produce protective antibodies against the microorganisms in the environment, and subsequently, to pass these to the foal in the colostrum.

Length of gestation normally is 342 days, plus or minus 20 days. The mare's udder may become noticeably distended about 2 to 6 days before foaling, and the teats enlarge. "Wax beads," which actually are drops of colostrum, appear on the ends of the teats about 2 to 4 days prior to foaling. The mare may be uneasy for several days before her labor starts.

Just before foaling, the mare's croup muscles relax, producing a sunken appearance over the hips, and the point of the buttock becomes very accentuated. The vulva also relaxes and swells. Also, the



mare may become restless, walk the stall (if confined), urinate frequently, and start to sweat. Some mares foal with no visible sign of impending labor. Keeping a record of each mare's pregnancies also may be helpful, as they tend to repeat gestation length each year.

A properly prepared foaling stall reduces the risk of disease and death to newborn foals. You may allow mares to foal outdoors in small, clean, grass paddocks with shelter; however, other horses should not be with the mare when she foals. The preferred box stall size is 14 by 14 ft. Size is important, but cleanliness is critical. Diarrhea, a major health problem of foals, can be greatly reduced by good management practices.

Locate the foaling stall so the mare can be observed inconspicuously. If foaling problems occur, such as a wrong fetal position, time is critical, and assistance is required immediately.

Straw (wheat, rye, or barley) is the preferred bedding material—no shavings or sawdust. Shavings and sawdust cling to the foal and afterbirth, making it difficult to clean the foal and inspect the afterbirth.

Any material used may harbor microorganisms that can infect the foal. This is why it's advisable to thoroughly disinfect the foaling facility prior to foaling, and to use good hygiene in preparing mares for foaling by disinfecting external genitalia and udder, and wrapping the tail.

## Foaling

Labor occurs in three distinct stages. In stage one, the mare is restless. This may continue for 12 to 24 hours. During this period, the fetus is positioned for delivery and the cervix is dilated. This stage ends with the rupture of the chorio-allantoic membrane ("breaking of the water bag"), which lubricates the birth canal and aids in delivery of the foal.

The actual birth or hard labor is stage two. It usually is rapid, with most foals born in 20 to 30 minutes. In a normal presentation, the foal's front feet appear first, with heels pointed down toward the mare's

hocks. If you do not see the foal's front feet and head after 5 to 10 minutes of hard labor, get the mare up and keep her walking until the veterinarian arrives.

In a normal delivery, the foal's nose should be lying on or about the knees. One front leg usually is slightly forward of the other, speeding the foal's movement through the birth canal. After the head exits the vulva, you may see a clear, transparent membrane (amnion), which covers the legs and head. If this membrane does not rupture and free the foal's head, open it and free the head so the foal can breathe.

The foal's hind feet usually remain in the mare 5 to 15 minutes after foaling, while the foal and mare lie resting. It's best not to disturb them while the umbilical cord is still connected. Premature breaking of the umbilical cord by the mare, foal, or human may result in a loss of very important fetal blood supply.

In stage three, the uterus shrinks and the placenta (afterbirth) is expelled normally without assistance. Never try to remove the placenta. If the placenta is still attached after 2 to 3 hours, call your veterinarian because it may result in a medical emergency. Save the afterbirth for the veterinarian to examine. Store it in a clean garbage bag.

## After-foaling mare care

It's important to monitor the mare and foal for the first 48 to 72 hours. Even though foaling takes only 20 to 30 minutes, it tires the mare. It's important that the dam and foal bond, so it's best to leave them alone if there is no problem requiring immediate attention.

Some maiden mares try to move away from the foal, especially when it tries to nurse. It's advisable to attend the foaling of all maiden mares to ensure safe delivery and bonding. If the mare does not accept the foal readily, you may need to restrain the mare while the foal nurses its first few times.

Mares usually are thirsty after foaling. Offer your mare slightly warm water; but do not let her drink too much at once. She also may be hungry, and one option is to try feeding a wet-bran mash. The bran

mash may help move material through her digestive system, and keeps her feces soft. This aids in the mare's comfort since her reproductive tract probably will be bruised.

Allow the mare and foal outside for exercise in a small paddock or pasture the day after birth. Exercise may aid the mare in expelling uterine discharge and speeds the return of the uterus to normal condition.

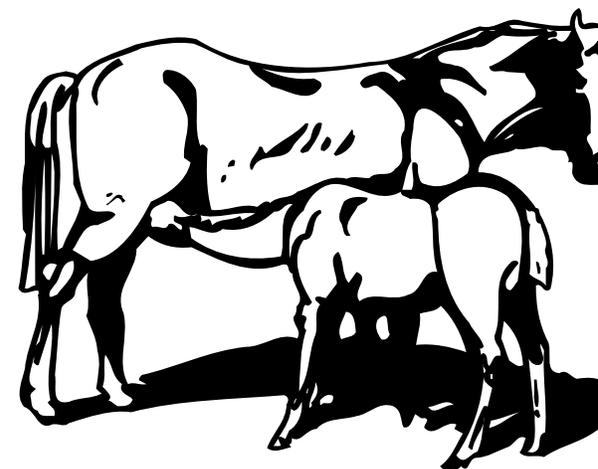
A foul-smelling uterine discharge indicates a uterine infection, which requires medical attention. A swollen, feverish udder is an indication the foal has not nursed or the mare may have mastitis. If the foal has not nursed within the first 24 hours, there probably are problems that require medical attention.

## Conclusion

The mare owner who decides for pleasure or profit to breed a mare and raise a foal will find it a challenging but rewarding experience. A working knowledge of pregnant mare management should help you properly prepare for a safe, healthy delivery for both mare and foal.

## For further reading

- Cheek, R. Peter, *Applied Animal Nutrition*, Macmillan Publishing, NY, NY, 1991.
- Ensminger, E.M., *Horses and Horsemanship*, Interstate Publishing, USA, 1990.
- American Youth Horse Council, *Horse Industry Handbook*, Iron Works, Lexington, KY, 1993.



# Managing Foals

One of the most exciting and rewarding experiences for horse owners is raising a foal. Watching a foal grow and mature into a good youth horse, pleasure mount, or even a world champion can be a thrill, but it does require effort, time, and horsemanship skills. Early management decisions help determine the relative success of the foal's entire life.

## General foal care

### Newborn care

After birth, make sure the foal is breathing. You may need to clear mucus from its nostrils. Also, check the mouth for foreign materials that could choke the foal.

Mares generally foal lying down. Ideally, the mare should lie quietly for 15 to 20 minutes after foaling to allow the blood in the placenta to transfer to the foal. Once this has occurred, the umbilical cord normally breaks 2-3 inches from the abdominal wall. If you need to sever the cord, never cut it or pull against the foal's abdomen.

Bacteria can invade the body through the navel stump. An infection of the navel may lead to neonatal septicemia, a common disease of young foals. To disinfect the navel stump, treat with 2 percent iodine or a 50-50 mixture of strong iodine and glycerine. Be careful; large amounts of iodine can cause severe irritation and burns on the abdominal skin.

If the mare has not had a tetanus immunization before foaling, give the foal a tetanus antitoxin injection. Some veterinarians recommend this injection even if the mare has had her tetanus booster.

In cold or damp weather, dry the foal thoroughly. A brisk rubbing with a towel or clean straw stimulates the muscles, respiratory efforts, and circulation. Consider using heat lamps in the foaling stall in cold weather.

The foal should be able to stand 1-2 hours after foaling and nurse within 2-3 hours after birth. Weak foals may need assistance. If necessary, place some colostrum on the foal's nose and lips, as well as over

the mare's udder. If the foal has not nursed within 4 hours of birth but has a strong suckle reflex, you can strip colostrum from the udder and bottle feed the foal. Do not force feed a foal that lacks a suckle reflex. If the foal will not nurse, call a veterinarian for medical assistance.

Constipation frequently is seen in newborns because fecal material (meconium) accumulates in the foal's rectum before birth. Constipated foals flag their tails and strain to defecate. "Milk feces" is a yellow, pasty material that indicates the meconium has been passed. You may give a 4-ounce fleet phosphate enema from the drug store to ease the passage of the meconium.

Observe foals closely for normal urination, as ruptured urinary bladder may occur. Colts are more affected than fillies.

If weather permits, allow the mare and foal to exercise for 1 hour in a small paddock the day after foaling. If the ground is wet or the weather is cold, bring the mare and foal inside as soon as the foal tires and wants to lie down. The foal should not overexert itself, especially if it has crooked legs or weak tendons.

### Colostrum

Colostrum, the first milk, is a concentrated source of nutrients, energy, proteins, minerals, vitamin A, and immunoglobulins. It also has a laxative effect that aids in the elimination of meconium. Colostrum is secreted only during the first 24 to 48 hours.

Although the foal is born immunocompetent, it takes 2 to 4 months for its immune system to produce enough antibodies to guard against disease. At birth, the foal depends upon immunity acquired from colostrum. To optimize the colostrum's antibody concentration, immunize pregnant mares about 1 month before foaling.

You can establish a colostrum bank by milking one teat of a heavily milking mare while the foal nurses the other. Strain the colostrum through clean cheesecloth. You can mix colostrum (6 ounces) from different mares.

Freeze colostrum in a sealable plastic bag for emergency use. Your home freezer is cold enough to

store the colostrum for about 1 year. When needed, thaw at room temperature. Microwaves or hot water can denature the antibodies.

## Foal observation

Most foals are born at night. A veterinary examination the following day is essential to identify foals at high risk for septicemia. At this time, the vet can identify any other potential problems requiring immediate attention.

It is the responsibility of the foal owner or farm manager to continually observe the foal, especially during the first 48 to 72 hours. Foals generally are very active and play with each other. Keep foals of the same age and size together.

Foals sleep about half the day, usually on their sides. A foal with abdominal pain may sit upright, resting on its chest, may curl its legs and neck in unusual positions, or may roll up on its back. A foal standing by itself or close to its dam with its head down and ears drooped needs attention.

Within the first 4 days of life, the normal foal temperature varies between 99 to 102°F. The resting heart rate is between 70 to 100 beats per minute or higher if excited or active. Resting respiration rate in the first weeks is between 20 to 40 breaths per minute. Foals should weigh about 10 percent of the mare at birth.

Knowing foals' normal vital signs helps you recognize disease symptoms. Early identification leads to earlier treatment, which hopefully reduces foal losses.

## Weaning

Foals normally are weaned between 4 to 6 months of age. Weaning is stressful to both the foal and dam. The dam is less affected than the foal and recovers more quickly. The stress of weaning can slow a foal's growth; however, within 30 days it should be gaining normally.

To minimize stress, separate the foal from its dam by a fence. This prevents nursing, but allows them to see, smell, and hear each other. Complete separation can occur after 7 to 9 days of barrier

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separation. Foals used to eating creep feed before weaning suffer less stress than those that must learn to eat grain at weaning.

Begin deworming, vaccinations, and halter training 3 to 4 weeks before weaning to minimize stress yet not compromise the herd health program.

## Supplemental nutrition

### Creep feeding

The mare's milk production declines after 30 to 60 days. By the third month, most mares do not produce enough milk to supply the foal's nutritional needs.

Start creep feeding when foals are 30 to 60 days old. Creep feed is specifically formulated for suckling foals and should contain 1.4 Mcal of energy, 16–18 percent protein, 0.8 percent calcium, and 0.55 percent phosphorus. Creep feeding is especially important if pasture is limited and/or mares are poor milk producers.

Free-choice access to large amounts of creep feed may result in enterotoxemia. Therefore, feed fresh creep daily, and split the ration between two or three feedings.

## Deworming and vaccinations

Foals contend with the same parasites as their dams. A foal's parasite control program includes proper management of facilities and pastures, good sanitation, and proper use of effective drugs.

Treat mares on the day of foaling for threadworms and other parasites. The foal can be treated at 3 weeks for threadworms.

Roundworms are a common parasite found in young horses. Begin deworming the foal no later than 30 days after birth. Deworm foals at 1-month intervals throughout their first year. Treat the foal for bots in late summer or early fall and again after December 1.

Vaccination programs vary from one area to another. The aggressiveness of the program depends on the amount of movement occurring on the farm. Closed herds with minimal movement may require less frequent vaccinations.

The core of the program includes vaccination for tetanus, influenza, herpes, and encephalitis. Other diseases to consider include equine viral arteritis, strangles, potomac horse fever, and botulism.

## For further reading

American Youth Horse Council  
*Horse Industry Handbook*, Iron Works, Lexington, KY, 1993.

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