

Understanding Mare and Foal Behavior (AAEP 2012)

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Raising a child takes a village, notes one African proverb; the collective experiences of a community forming the individual person. Similarly, a growing foal takes its cues from his dam, surrounding herd, and handlers, and care approaches become particularly important when the foal is orphaned. One of the key aspects handlers must consider when raising a foal is how decisions they make in the beginning will shape that horse's behavior for life.

Sue McDonnell, PhD, Cert. AAB, adjunct professor at the University of Pennsylvania's New Bolton Center and the founding head of the Center's Equine Behavior Program, described mare and foal behavior and how to avoid perpetuating undesirable orphan foal behavior at the 2012 American Association of Equine Practitioners' Convention, held Dec. 1-5 in Anaheim, Calif.

Mare and Foal Bonding

During and after birth a mare generally investigates the fetal fluids and membranes she expels, as well as inspecting and interacting with the foal. A foal generally mimics his dam's behavior, she added.

"In its first coordinated movements immediately after birth, even before standing, the foal appears to orient toward the dam, reaching for her head and appearing to seek nose-to-nose contact," she relayed.

In domestic settings, McDonnell said, the mare is generally the only animal that cares for the foal. (Conversely, in wild or feral settings the harem stallion, other mares, and even older foals all appear to watch out for the youngest herd members). Mares don't usually show aggressive or negative behaviors toward other mares and foals in turnout situations, and geldings often become tolerant and protective of foals.

During the presentation, McDonnell explained that there are a number mare and foal bonding problems, the worst of which could result in orphan foals:

- **Simple ambivalence**—First-time mothers, weak mares, or painful mares commonly display a lack of interest in or response to the foal. This can resolve over time, McDonnell said, and in some cases it can take as long as 18 to 36 hours for the mare to accept the foal. McDonnell recommended keeping the foal close to the ambivalent mare and providing nutritional support or facilitating supervised nursing. Generally, these mares develop excellent maternal behavior and bond well with their foals in two to five days.
- **Fear of the foal**—McDonnell explained that in some cases—particularly with first-time mothers--mares display fear of their foals similar to a fear of a species they might not have encountered before, such as pigs or camelids. When handlers use positive reinforcement to acclimatize mares to having foals by their side, the prognosis for eventual acceptance generally is good.
- **Misunderstood maternal protectiveness**—In these cases mares act appropriately to protect their foals, but handlers might misconstrue this innate protectiveness as aggressiveness towards the foals. "Very often, a good mother is trying to protect the foal, but injures the baby in the process," McDonnell said. For these cases she recommended providing mares and foals with enough space to minimize the need for protective behavior until protectiveness diminishes slightly. This can take three days to two weeks, she said.
- **Nursing aggression**—Mares might appear aggressive when their foals try to nurse, especially if they are in pain or have udder discomfort, McDonnell said. In these cases she recommended treating any underlying causes of pain or discomfort that could prompt aggression. She also suggested using positive reinforcement-based training to help mares become accustomed to having their udders or flanks touched. Owners might need to bottle feed foals until mares accept them to nurse.
- **Savage attack**—Finally, McDonnell explained that some mares, even those who have previously exhibited good mothering instincts, have attacked their foals. The cause of attack is unknown in many cases, but she believes some attacks could be provoked by mares' food aggression. Mares that attack their foals can return to being good mothers; however, she said, they often will attack again. Thus, if foals survive such attacks it's important to remove them from their dams immediately. "It can be expected that the mare may repeat with subsequent foals," McDonnell cautioned.

"It's often very difficult to sort it all out," McDonnell said of bonding problems. If veterinarians and horse owners spot a bonding issue but aren't sure which type, she recommended turning the mare and foal out in a pasture and observing them.

"If (the mare) is afraid of the foal, she'll run away from it; if she's overprotective, you'll clearly see she's a very protective horse," she explained.

Raising Orphans

In some cases, whether due to maternal death or unresolved bonding problems, foals are orphaned early in life. These youngsters can develop a number of undesirable behaviors if owners don't raise them carefully. McDonnell provided insight on steps to take to prevent behavioral problems in orphans.

The best option, and the one that typically yields the fewest behavioral problems, is providing the foal with a foster mare, McDonnell said. Foster mares include mares that have recently (ideally within 24 hours) lost their own foals, purpose-bred nurse mares, open mares treated with hormones to induce lactation, or mares with foals by their side (this option doesn't usually work out well, but it can be successful in some cases, McDonnell said: "If you have nothing else, it'd be worth trying.").

McDonnell noted the topic of purpose-bred nurse mares remains controversial, but she explained that some farms have extensive experience in raising nurse mare foals in a "kindergarten" setting, in which they're raised as a herd and experience normal social interaction with other foals.

If a foster mare isn't available, McDonnell suggested considering a nanny goat. She said goats often can be trained to accept foals and can provide some behavioral education.

If the previous options aren't feasible, owners can hand-rear the foal. McDonnell recommended providing hand-reared foals with as much social interaction with other equids as possible and minimizing human contact, especially at feeding time. Training the orphan to drink from a bucket without extensive human interaction is "far superior" to bottle-feeding, she added.

Abnormal Behavior

Finally, McDonnell described some of the behavioral problems hand-reared foals can develop and ways handlers can minimize or eliminate these issues.

Hand-reared foals often exhibit abnormal human bonds (seeming to prefer humans over horses), display excessive oral behaviors, and develop stereotypies, she said. Hand-reared foals frequently sport behaviors they normally would toward their dams—such as following, nibbling on, and play mounting—with humans. Additionally, foals raised solely by humans might have trouble commingling with other horses; sometimes they act fearful of other horses, and other times they don't seem to understand typical equine behavior.

As hand-reared horses grow, some handlers have reported they can be disrespectful or difficult to train. Some have been reported to have "Jekyll and Hyde" characteristics, such as unexpected overreactions to cues or corrections, McDonnell said. Handlers have also reported hand-reared horses to have short attention spans, she said.

But it's not all bad for hand-reared foals, McDonnell said. She cited research in which scientists showed these foals appear less stressed than conventionally raised foals when faced with novel people and environments.

To reduce the potential for undesirable behaviors developing in hand-reared foals McDonnell offered the following recommendations:

- Provide as much equine companionship as possible, starting from birth, to familiarize foals with normal horse behavior. McDonnell noted that any animals of any sex will work, including stallions. "Typically, they're extremely protective of foals," she said. Introduce any companions slowly and in a controlled environment to ensure the animals get along before turning them loose.
- If possible, provide contact with other foals. She noted that in kindergarten situations foal playgroups can provide social support; older foals—even those as young as 2 weeks old—have been observed to look after younger foals in herd situations, she noted.
- If equine companionship isn't an option, consider introducing another animal, such as a goat, cow, or even chickens.
- Disconnect feeding time from human interaction, and associate hand-reared foals' meal times with other horses.
- Even though it might be tempting, avoid "mothering" or playing with the foal (which can cause some of the aforementioned undesirable behaviors). Rather, focus interactions on training activities, such as lifting feet, yielding to pressure, leading, loading, and other tasks that could relate to the foal's future expected use.

Above all, she stressed, remember to reinforce desirable behaviors and ignore undesirable ones.

Take-Home Message

Under normal circumstances, mares are responsible for teaching their foals the ins and outs of horse behavior. Unfortunately, when a dam isn't available to raise the foal, that task falls on the humans caring for the young horse. There are many ways to help prevent potentially undesirable behaviors from developing, so consider all options when raising an orphan.

Disclaimer: Seek the advice of a qualified veterinarian before proceeding with any diagnosis, treatment, or therapy.