We have all heard the term “dummy foal,” that most endearing of names given to foals who are just, well, special. Dummy foal syndrome has a long list of alternative labels—neonatal maladjustment syndrome, hypoxic-ischemic encephalopathy, neonatal encephalopathy or perinatal asphyxia syndrome—all big words that basically clue you in that we as veterinarians do not completely understand this complex syndrome. For the accuracy of the term, they will be referred to as dummy foals for the remainder of this article.

Having a basic knowledge of causes and early signs of dummy foal syndrome is a fundamental skill that can help you to recognize a problem and alert your veterinarian in the early stages when initiation of treatment can play a major role in recovery.

What causes dummy foal syndrome?

Practitioners have long believed that an episode of oxygen deprivation and/or systemic inflammation during the perinatal period, meaning before, during or shortly after foaling, causes this syndrome. These result in varying degrees of tissue damage to multiple organ systems that manifests most commonly as signs of central nervous system damage, which will be discussed below. Therefore, being able to recognize the conditions that may predispose the foal to any such episode during this period will put you ahead of the game.

Maternal sources of increased risk to the fetus include any cause of decreased blood flow or oxygen delivery to the uterus, such as anemia, cardiovascular or pulmonary disease, low blood pressure, general anesthesia, premature separation of the placenta, placentitis or other placental dysfunction, among others. During foaling, dystocia (difficulty foaling due to abnormal fetal size or position), prematurity, red bag deliveries (due to increased thickness of the placenta), uterine inertia and cesarean section births are additional causes of oxygen deprivation that increase foals’ susceptibility to “going dummy.”
As if that isn’t enough, even after a normal gestation and foaling, a number of conditions make neonates vulnerable to dummy foal syndrome, including failure of passive transfer, anemia (due to neonatal isoerythrolysis—when the mother has antibodies against the blood type of the newborn—excess umbilical hemorrhage, etc.), sepsis, cardiovascular or pulmonary disease or prolonged periods of recumbency due to musculoskeletal disorders.

**How can I tell if my foal is a “dummy”?**

Unfortunately, early diagnosis is complicated by the fact that dummy foals often appear completely normal during the first few hours and even up to two days after birth but then begin to show signs of central nervous system dysfunction. These signs are variable and depend on the degree and duration of inflammation and oxygen deprivation suffered. They include an inability to locate the udder and nurse (i.e., “forgetting” how to nurse), aimless wandering, head-pressing, weakness, loss of coordination, hyper-sensitivity to sounds or touch, depression, chewing or licking stall walls and other changes in demeanor. In severe cases, the foal may progress to recumbency and localized or generalized seizures. Furthermore, redirection of blood away from the "less vital" organs in order to provide the brain, heart and lungs with optimal perfusion leaves the kidneys and gastrointestinal tract susceptible to insult that may have lasting consequences.

If you notice any of the signs listed above, discuss them with your veterinarian so that early diagnosis and treatment can be instituted. Treatment of maternal disorders leading up to parturition may decrease the foal’s risk, although he/she should still be closely monitored and examined by a veterinarian shortly after foaling. Scheduling an examination of an at-risk foal earlier than the routine foal exam at 6-8 hours of age may allow your veterinarian to identify subtle changes indicating the need for therapy.
Is there treatment?

Early treatment can include administration of a “dummy jug” (an intravenous cocktail of neuroprotective agents), intravenous fluids to maintain perfusion, broad-spectrum antibiotics, intranasal oxygen and medical control of seizures. Providing nutrition through bottle or nasogastric tube feedings as well as an abundance of tender loving care are also very important components of treating these foals. In mild and some severe cases, a farm with adequate staff and time can manage the medical care for a dummy foal but in many cases the foal will need to be referred to an equine hospital with qualified veterinary staff that can monitor and care for your foal around the clock.

Now that you are thoroughly informed...and terrified...let’s look on the bright side: If identified quickly and with appropriate treatment, dummy foals have an excellent prognosis for return to normal function. Studies show that up to 80 percent of foals affected with dummy foal syndrome, even severe cases, make full recoveries and mature into normal adults with careers as high-performing athletes. Remaining vigilant and watchful for the above predisposing conditions and involving your veterinarian quickly to initiate early diagnosis and therapy will greatly increase your foal’s chance of making a full recovery.

Good luck this breeding season!
Recent research at the University of California, Davis, suggests that abnormal levels of neurosteroids—naturally occurring chemicals that keep the foal quiet in the womb—may be a potential cause of dummy foal syndrome. UC Davis researchers John Madigan, DVM, Isaac N. Pessah, PhD, and Monica Aleman found that these sedative neurosteroids persist and are often elevated in the bloodstream of dummy foals. They believe that stress experienced by the foal during normal parturition, which includes the pressure of passing through the pelvic canal, signals the decrease in these neurosteroids. When this stress is not present, as with cesarean sections or when a foal travels abnormally through the birth canal, the neurosteroids remain activated, keeping the foal in a quiescent “dummy” state.

Interestingly, the researchers found that by mimicking the pressure experienced during normal parturition using a simple rope harness, dummy symptoms in foals can be reduced or even alleviated. When gentle pressure is applied with the rope, the foal lies down and appears to fall asleep. Approximately 20 minutes later, the rope pressure is released. The results in some cases have been immediate and dramatic, with foals standing and nursing within minutes.

Director of Hagyard Equine Medical Institute’s McGee Medicine Center Nathan M. Slovis, DVM, DACVIM, CHT, cautions that this treatment is not a silver bullet for all dummy foals: “This is strictly an option for neurologic dummy foal cases. If your foal has kidney issues, is septic or his condition resulted from any non-neurologic cause, this treatment will not work.”

Another option for neurologic cases of dummy foal syndrome may be a drug used to treat prostate cancer in people. The McGee Medicine Center, a leader in equine neonatology, currently is studying whether this drug does indeed offer hope for neurologic cases of dummy foal syndrome.—Allison Rogers