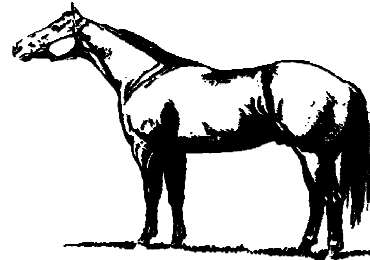


## **Animal Science Horse Information Series**

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### **NEWBORN FOALS NEED TO BE WARM**

**Dr. Frederick Harper  
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**We have experienced some rather cold days this winter, and recently morning temperatures have been rather chilly.**

**Even when spring arrives, we will have “dogwood” or “blackberry” winter with colder temperatures.**

**Spring is also the time of year when foals are born. When foals are born in cold weather, they must regulate their body temperature if the environmental temperature is colder. After all, they are coming from a warm environment. A sudden drop in environmental temperature can affect any newborn foal, but adversely compromises the weak or sick foal.**

**Animals have a “thermoneutral zone” in which they are comfortable. The lower limit in this range is the critical temperature. Below the critical temperature, the animal must**

**increase its heat production to stay warm and comfortable.**

**Heat production is increased in two ways.**

**Animals may shiver, in which involuntary muscular activity produces body heat.**

**Foals have been observed to start shivering within a minute of birth and continue for one to two hours when the temperature is cold.**

**Body heat is also produced by digestion of feed and metabolism of body fat (brown adipose tissue) for energy. Apparently, newborn foals do not have brown adipose tissue and very little body fat reserves.**

**So, shivering is the primary way newborn foals regulate their body temperature.**

**Healthy foals can maintain their body temperature at 32 degrees F for several hours.**

**Hypothermia, or subnormal body temperature, is a threat to newborn foals because of their large surface-area-to-volume ratio, minimal body insulation and thin permeable skin.**

**Signs of hypothermia are shivering, depression, decreased blood pressure, heart rate and respiratory rate. Other signs include pale mucous membranes of the gums and inner nostrils, gasping for air and cool hooves and lower legs.**

**Shivering may not produce enough body heat to overcome the lower air temperature, and available muscle energy can be depleted. Weak, premature or sick foals may not have enough energy to shiver adequately.**

**Newborn foals are wet, so they should be dried with old bath towels or even straw.**

**Keep foals out of drafts. The stall should have thick, dry bedding, preferably straw.**

**Cover the foal with a blanket or place a human sweater on the foal, with its front legs**

**through the arms of the sweater.**

**The stall environment can be warmed by a heat lamp, that is a minimum of 5 to 6 feet above the foal. Hot water bottles, heated blankets and space heaters also can be used with caution. The foal's skin is delicate so do not burn it.**

**These methods will warm a normal foal, but a sick or weak hypothermic foal may require additional care best provided by your veterinarian.**

**Glycogen Branching Enzyme Deficiency (GBED), a new genetic disease in foals of Quarter Horse bloodlines, results in foals' inability to store glycogen, which is an energy source. These foals have a low body temperature at birth. All known foals with GBED have either died or been euthanized.**

**Foals born in a cold environment have a significant decrease in body temperature within three hours.**

**Monitor newborn foals' temperature, which should be between 99.5 - 102.2 degrees F. Healthy foals will grow normally and be less susceptible to infections when the foal's temperature is within this range.**

**Keep a close watch on foals born on cold nights.**

**###**

**4/05**