

I am in the midst of renovating my pastures. While I have found temporary homes for my other pastured horses, two soon-to-be weanlings will remain on the farm. I originally planned for them to spend the majority of their time in stalls with occasional access to a small drylot. By spring, the pastures will be ready to be grazed again. Will a six-month period of stall confinement be detrimental to their growth?

In light of the shrinking acreage available for grazing horses and horse-related activities, this seems like a timely question.

Placing foals in stalls at the time of weaning is a common practice. According to behaviorists, though, stall-housed weanlings spent significantly more time engaged in aberrant behaviors such as licking or chewing stalls, kicking stall walls, pawing, bucking, and rearing. Paddock-housed weanlings spent more time eating and interacting with peers.

Just as stalls may be detrimental—both behaviorally and socially—to the foal during the actual weaning process, their use may be just as unfavorable for long-term confinement.

The primary reason prolonged stall confinement should be avoided centers on lack of exercise. Freedom to move about allows bone—a dynamic tissue that is constantly reshaping itself—the chance to respond to changes in loading, ensuring bone will be capable of withstanding the pressures asked of it as body mass increases.

Equine nutritionists have studied the effects of housing on weanlings. In one study, 17 Arabian weanlings were used to determine the influence of housing on cannon bone mass. Researchers separated the weanlings into three treatment groups: pasture, stall confinement, and partial access to pasture (12 hours per day). X-rays of the left front cannon bone were taken every 28 days to determine radiographic bone aluminum equivalence, a method used to establish bone mineral content. Researchers also collected blood serum every 14 days to analyze for certain bone proteins.

Results indicated that weanlings kept completely and partially on pasture demonstrated greater cannon circumference than stalled weanlings 28 and 56 days after commencement of the study. Complete pasture-rearing or 12 hours of turnout daily seems beneficial to maintaining and increasing bone mineral content in weanlings.

In an earlier study, weanlings were exercised at a trot for 20 minutes per day for five days each week. The study lasted 111 days; weight was measured at 10-day intervals and height and bone circumference every 20 days. Radiographs of specific bones were taken at 147, 218, and 255 days after initiation of the study to determine bone density and to detect bone abnormalities. No differences in weight or height were noted between exercised and unexercised horses, though bone density increased by a greater amount in the exercised group. Exercise training of horses during the weanling to yearling age period was shown to improve the stress-bearing characteristics of the cannon bone without compromising the quantity of body growth.

Periods of stall confinement are unavoidable in some instances such as after an injury or during recovery from surgery. For these times, horse owners should investigate scientifically formulated supplements designed to prevent bone mineral loss. If your weanlings are healthy, as your description suggests, I would allow them to have as much exercise as possible.

If you would like to submit a nutrition question, please contact Eileen Phethean at [ephethean@ker.com](mailto:ephethean@ker.com) or mail to: EQUESTRIAN Nutrition Questions, c/o Kentucky Equine Research, 3910 Delaney Ferry Road, Versailles, KY 40383.