

# Effects of Late Gestation on Conformation and Movement in Mares

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Mares typically gain approximately 10% of their body weight during pregnancy, with the majority of the weight gain occurring during the last 3 months of gestation. The objective of this study was to evaluate the effects of weight gain during late gestation on conformation and movement in mares. Five Quarter Horse mares were videotaped at the walk and trot tracking both directions on a flat surface on days 270, 285, 300, 315 and 330 of gestation, within 12 hours of foaling, and on days 15 and 30 post-partum. Each horse was also photographed from the left and right lateral view along with a plantar view of the left front and rear hoof. Videos and photographs were analyzed using OnTrack Equine software for hoof width, shoulder and hip angle, maximum knee and hock angle at the walk and trot, and stride length at the walk and trot. Body weight increased with gestation length and decreased significantly after the birth of the foal and passage of the placenta ( $P < 0.05$ ). There were no differences in hip or shoulder angle due to increased body weight. As gestation length increased, both the front and rear hoof width decreased. The maximum knee angle recorded at the walk and trot decreased on day 330 of gestation but increased shortly after foaling. The maximum hock angle recorded at the walk and trot also decreased on day 330 of gestation; however, increases in this measurement were not observed until 15 days post-partum. Stride length at the walk decreased at day 330 of gestation but increased shortly after foaling. There were no differences in stride length at the trot. Overall, the results of this study indicate that increased body weight due to pregnancy influences hoof shape and movement during late gestation in mares.