

Laminitis

Laminitis is a painful inflammation in the dermis of the third (distal) phalanx, which occurs in horses and cattle. Laminitis is most commonly seen after episodes of overeating, for instance when horses are kept in pastures with lush spring grass, or after excessive consumption of grain or commercial concentrates. The absorptive capacity of the small intestine may then be overloaded, resulting in decreased pH in the caecum (p. 719). Laminitis is also seen in connection with generalized toxemic conditions, for instance accompanying a metritis and some severe diarrheas. In cattle, diets rich in starch, which markedly reduces rumen pH, have been implicated in the etiology of laminitis. A low pH, causing lesions in the ruminal epithelium, may result in bacterial infections and subsequent release of bacterial endotoxins that induce the clinical symptoms.

Inflammation of the dermis leads to increased blood flow to the feet, as evidenced by strong pulsation in the digital arteries. In horses, edema develops in the dermal laminae of the hoof as a result of increased capillary permeability, and blood flow becomes reduced. If the edema is not controlled through drugs that limit inflammation, for example antihistamines and corticosteroids, the dermal laminae will be damaged. In severe cases, the attachment between the third phalanx and the horn wall will be weakened to the extent that the tip of the phalanx slides away from the horn wall, and ends up pointing downwards against the sole horn, with chronic lameness as a result.

