

Flexural Deformity of the Distal Interphalangeal Joint



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KEYWORDS

- Club foot • Contracted tendon • Flexural deformity
- Accessory ligament of the deep digital flexor desmotomy
- Inferior check ligament desmotomy • Distal interphalangeal joint • Foal

KEY POINTS

- Flexural deformity of the distal interphalangeal joint can be either congenital or acquired, which are commonly managed differently.
- Early recognition and treatment are essential to prevent hoof capsule abnormalities that can lead to poor performance and/or chronic lameness as adults.
- Identification of contributing factors and their appropriate management are important to ensure successful resolution.
- Surgical intervention should be considered in severe cases or those refractory to conservative therapy efforts.



Video content accompanies this article at <http://www.vetequine.theclinics.com>.

INTRODUCTION

Flexural deformity of the distal interphalangeal joint, or “club foot,” in young horses can be caused by a multitude of factors and can have a negative impact on the animal’s future soundness if not recognized early and successfully managed. These cases are commonly presented to equine veterinarians, especially those whose practices include a fairly large broodmare population. Flexural deformities of the distal interphalangeal joint are characterized by a shortening of the deep flexor muscle-tendon unit, which results in flexion of the distal interphalangeal joint due to its close proximity to the insertion of the deep digital flexor tendon (DDFT).¹ The persistent flexion of the distal interphalangeal joint results in a broken forward hoof pastern axis with the foal walking on the toe. Depending on the cause, one or both forelimbs

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can be affected (Fig. 1). Flexural deformities in young horses are erroneously referred to as “contracted tendons,” which implies a pathologic process of the tendon. This is technically not correct in cases other than those involving a primary injury to the tendon, leading to a true contracted state upon healing, which is unusual in foals.^{2,3}

Flexural deformities are classified as either congenital (present at birth) or acquired (occur during a later stage of development). The pathogenesis, clinical presentation, management, and response to treatment can vary depending on the time of onset, but there are similarities in the methodology with how each form is handled.⁴ The approach to these cases depends greatly on when the deformity developed, and the severity, duration, complicating factors, and owner expectations.^{4,5} The prognosis for future athleticism is typically good for mild to moderate cases that are identified early and managed aggressively. Severe cases and those unresponsive to therapy can lead to secondary complications, such as significant hoof capsule distortion, changes in P3, and early onset degenerative joint disease that results in a guarded prognosis for long-term soundness.

CONGENITAL FORM

Pathogenesis

Foals are rarely born perfectly conformed, and most have some degree of flexor tendon laxity, flexural deformity, and/or angular limb deformity. In mild cases, this is considered a normal finding, and the vast majority self-correct over time with exercise.⁶ Medical and/or surgical treatment is usually required in moderate flexural limb deformity cases or mild cases that do not resolve on their own. Foals with severe flexural limb deformities bordering on arthrogryposis warrant euthanasia.



Fig. 1. Foal with bilateral severe (stage II) flexural deformity of the distal interphalangeal joint.

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