

Angular Limb Deformities

Growth Augmentation



José M. García-López, VMD

KEYWORDS

• Foal • Growth plate • Valgus • Varus • Periosteal transection • Elevation

KEY POINTS

- The most common angular limb deviation seen in the foal include carpal or tarsal valgus and fetlock varus.
- Angular limb deformities (ALDs) or deviations are common in young foals, with most deviations able to self-correct with minimal intervention, including modifications in exercise.
- Trimming of the hoof can be highly effective in cases of mild deviations; for valgus or varus deviations, the lateral or medial aspect of the hoof is trimmed, respectively.
- Hemicircumferential transection and elevation (periosteal stripping procedure) are performed on the concave aspect of the deviation.

ALDs are commonly seen in young foals and are defined as lateral or medial axial deviations of the limb in the frontal plane distal to a particular joint. A carpus valgus deformity refers to a lateral deviation of the limb distal to the carpus in relation to the limb proximal to this joint (Fig. 1). On the other hand, a fetlock varus deformity refers to a medial deviation distal to the fetlock in relation to the rest of the limb proximal to the fetlock (Fig. 2). Foals affected by a valgus deformity commonly exhibit a toed-out conformation and those affected with varus deformity exhibit a toed-in conformation.

RISK FACTORS

Risk factors commonly associated with ALD include perinatal factors, such as premature birth, twin pregnancy, placentitis, perinatal soft tissue trauma, and flaccidity of the soft tissue structures surrounding the joints.¹⁻⁴ These factors can potentially lead to incomplete ossification of the cuboidal bones of the carpi and tarsi (Fig. 3) and excessive laxity of the joints. Normally, most foals are born with some degree of limb deviation, mostly due to ligament laxity and muscle weakness, which usually corrects itself

Disclosure Statement: No conflicts or commercial affiliations to disclose.

Department of Clinical Sciences, Cummings School of Veterinary Medicine, Tufts University, 200 Westboro Road, North Grafton, MA 01536, USA

E-mail address: jose.garcia-lopez@tufts.edu

Vet Clin Equine 33 (2017) 343–351

<http://dx.doi.org/10.1016/j.cveq.2017.03.005>

0749-0739/17/© 2017 Elsevier Inc. All rights reserved.

vetequine.theclinics.com



Fig. 1. Frontal view of a foal with bilateral carpus valgus deformity. (Courtesy of Dr Gustavo Abuja, LV, DACVS, Rhinebeck Equine Hospital, Rhinebeck, NY.)

as the foal matures and exercises.^{1,2,4} If incomplete ossification of the cuboidal bones is present and not adequately recognized, however, affected foals run the risk of having these small bones crushed from exercise and the uneven load that is placed on the joint due to laxity. Once ossification occurs, an ALD results due to the crushing and resulting abnormally shaped cuboidal bones. To minimize this risk, limited and strictly controlled exercise encourages appropriate ossification. If a foal's activity cannot be strictly managed and the foal has moderate strength, sleeve casts are recommended to prevent cuboidal bone crush. Sleeve casts should be changed or removed in 10 days to 14 days in a growing foal. Radiographic re-evaluation every 2 weeks helps determine the length of time a cast is required.² Incomplete ossification is discussed by Michelle C. Coleman and Canaan Whitfield-Cargile's article, "[Orthopedic Conditions of the Premature and Dysmature Foal](#)," in this issue.

In addition, developmental and acquired factors, such as unbalanced nutrition, excessive growth rate, and excessive exercise and/or trauma, can result in ALD in older foals.¹⁻³ Crib feeding of foals may lead to excessive grain intake by the dominant foals, creating an imbalance in their diet, in particular, an excess of carbohydrates and protein intake. Nutritional imbalance may cause disproportionate growth across the growth plate, thus causing the deviation. Exercise is an important element in the proper development and growth of foals. If the amount of exercise is excessive, however, this trauma can lead to microfractures and crushing of the growth plate, which cause the development of ALD.^{1,2}

Download English Version:

<https://daneshyari.com/en/article/5544382>

Download Persian Version:

<https://daneshyari.com/article/5544382>

[Daneshyari.com](https://daneshyari.com)