

PROJECT Summary

Foals were scored on five commercial Thoroughbred farms from August 1 through to December 31st 2013 by farm personnel and the Masters students. During the season we lost one farm to follow up, which was not unexpected given how busy farms are during the breeding season and the difficulty to ensure compliance with farm staff. .

Flexural limb deformities

Examination of data captured at birth indicated pre-selection by farm staff of foals presenting with a FLD. At birth data were collected on 203 foals, data recorded included leg(s) affected, site and magnitude of FLD (scores from 1 normal up to 4 severe). Data on foaling, mare history and subsequent management of the form were also recorded.

The majority of foals (67%) presented with FLD bilaterally. Foals presented with laxity (58%) more often than contracture. The FLD data was skewed with most foals presenting with mild (2 IQR 2-2) laxity or contracture (2 IQR 2-3). Within the dataset more colt foals were recorded with FLD (73/92, 79%). This gender effect has limited biological plausibility and may reflect pre-selection due to the greater economic value of colt foals. There was no association with gestation length, time to stand or suckle, or the passing of placenta between control and FLD foals. There was a significant association of mare age and the presence of FLD, mares ≥ 12 years of age 79% FLD vs. 62% ($p=0.024$) from mares < 12 years. The management of the foals with FLD was generally conservative, and utilised restricted exercise for the first few days post-partum, which reflected the mild presentation of most cases. Resolution of FLD at follow-up evaluation (improvement in score) occurred in 93% of cases.

These data indicates that much of the FLD within the commercial Thoroughbred sector is mild and resolves rapidly. The mild nature of the presentation and the rapid resolution suggests that these could be considered as within the spectrum of normal presentation at birth.

Angular limb deformities

Examination of data captured at birth indicated pre-selection by farm staff of foals presenting with a ALD. At birth data were collected on 230 foals, data recorded included leg(s) affected, site and

magnitude of ALD (scores from 1 normal (0 - 6°) to 5 severe ($\geq 20^\circ$)). Data on foaling, mare history and subsequent management of the foal were also recorded.

The majority of foals with data recorded presented with an ALD (78%), indicating pre-selection of foals at the time of recording. Most ALD were recorded as valgus (88%), and this presentation was consistent at both the fetlock and carpus region. If a foal was recorded as having ALD at birth the majority of cases were mild (score 2) and bilateral (88%). There was no significant association of mare age, gestation length or foal gender and the presence of ALD. Similar to the FLD the management of the ALD foals was generally conservative and consisted of confinement and trimming for 87% of cases; hoof extensions were used in 15% of cases. Surgical intervention was uncommon and always occurred after a period of conservative management (38 [IQR 25-64] days post-partum). Periosteal stripping techniques were used with 7% of cases and growth plate restriction surgery in 6% of cases. At weaning only (very) mild carpal valgus was observed (score 2) and this was identified in 12% of foals.

The data collected indicates that in the commercial thoroughbred industry that if an ALD or FLD is identified it is usually mild in presentation and responds rapidly to conservative management.

RESEARCH OUTPUTS (Abstracts, Presentations, Papers, Industry Stories)

Papers

[1] Shotton A, Bolwell CF, Rogers CW, Gee EK, Sells PD, J C, et al. Flexural limb deformities in a cohort of Thoroughbred foals on commercial stud farms. Proc N Z Soc Anim Prod. 2015;75:188-90.

Conference proceedings

[1] Shotton A, Bolwell CF, Rogers CW, Gee EK, Sells PD, J C, et al. Flexural limb deformities in a cohort of Thoroughbred foals on commercial stud farms. Proc N Z Soc Anim Prod, Dunedin, July 2015.

Thesis

MAGriSci Thesis, Ms Amanda Shotton. Flexural deformities in Thoroughbred foals in New Zealand, Massey University, Palmerston North, New Zealand