

Investigation into the risk factors for laminitis and how owners manage laminitic horses in the UK.

Introduction

Limited and inadequate feeding and nutrition can impact body systems significantly (Noble, 2023). Laminitis is where lamellar structures separate and the distal phalanx displaces (Wyllie *et al.*, 2011). Veterinary knowledge and understanding is limited impacting management and prevention (Mitchell *et al.*, 2015).

Aims and Objectives

Aims – identify possible trends and themes associated with pre- and post-feeding of laminitic horses through owner survey responses.

Objectives – produce an online survey. Utilise thematic analyses and Chi-Squared for analyses.

Methodology

Qualitative data for feed and management strategies. Quantitative data for laminitis demographics.

Chi-Squared for demographic associations. Voyant tools for theme identification.

Results

Online questionnaire distributed on social media
121 responses.

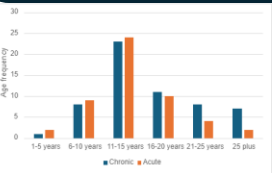


Figure 2: Age frequency of horses with chronic or acute laminitis.



Figure 11: Word bubble to show the frequencies of grassland management and turnout strategies before laminitis diagnosis.

Table 2: Table to show the percentages of frequent themes when feeding and managing horses before and after laminitis diagnosis.

	Pre-diagnosis themes	Post-diagnosis themes
Concentrated feeds	Sugar-8.62% No hard feed-16.28%	Starch-10.34% Sugar-16.38%
Forages	Hay-80.17% Ad-lib-19.83%	Hay-100% Soaked-65.22%
Supplements	Salt-10.34% None-40.52%	Salt-12.28% None-15.79%
Grassland and management	Turnout-26.09%	Muzzle-10.34% Track-17.24%
Exercise	Hacking-34.21%	Retired-9.48%

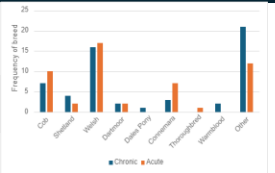


Figure 5: Breed frequency of horses with chronic or acute laminitis.



Figure 16: Word bubble to show the frequencies of grassland management and turnout strategies after laminitis diagnosis.

Discussion

No significant associations between age, height, breed and sex with owner-reported laminitis type. Previous research from Polzer and Slater (1997) stated no association in risk factors. Concentrated feed strategies had a significant theme in NSC reduction. High NSC influences overfermentation onsetting the inflammatory response (Suagee *et al.*, 2015). Increased muzzle usage on equines after laminitis diagnosis. Muzzles aid weight loss with no physiological strain (Davis *et al.*, 2020). Track grazing had increased after diagnosis.

Limitations

- ☐ Small sample.
- ☐ No pilot study.
- ☐ Closed social group distribution.
- ☐ Voyant technical issues.

Future Recommendations

- ☐ Fisher's Exact small sample validity.
- ☐ NVivo coding accuracy.



Conclusion

- ☐ Laminitis causes large irreversible hoof capsule damage.
- ☐ Multiple etiologies and gaps in research.
- ☐ The questionnaire aimed to identify research gap.
- ☐ Technical issues with analyses impacted the validity.

References

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Literature Review

1 in 10 horses affected (Blue Cross, 2023). Chronic laminitis is distal phalanx displacement from rotation or sinking (O'Grady, 2007). Acute laminitis has a fast onset and decreases the lamellae (O'Grady, 2007).

Non-structural carbohydrates (NSC) overload can increase caecal Gram-positive bacterial proliferation, increasing the pH acidity (Katz and Bailey, 2012). Hyperinsulinaemia can be increased from ingestion of high NSC pastures (de Laat *et al.*, 2010). Native pony breeds showed a high significance in hyperinsulinaemia development (Barnabé *et al.*, 2023).

