

## Fit and fat; a horse carer's perspective

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**Introduction** Obesity in horses and ponies, is according to many equine related charities (Blue Cross, BHS) becoming an increasing welfare problem. Recent studies have linked equine obesity and insulin resistance with development of debilitating laminitis (Vick *et al.*, 2007). Poor nutritional management and sedentary lifestyles are to blame for the growing proportion of obese horses (Buff *et al.*, 2005). The horse carer is responsible for the health and welfare of the horse and as such should monitor the weight, condition and exercise regime to ensure appropriate fitness levels to maintain health and performance. Indeed, Johnson (2002) reports that certain management practices tend to promote the development of obesity in mature horses as they enter their teenage years. Horse owners must therefore consider management practices throughout the horse's life, as the provision of starch-rich and fat-supplemented rations to healthy horses that are relatively inactive may promote the development of obesity increasing the risk of laminitis (Johnson, 2002). The aims of this research were to ascertain the condition score and fitness levels of horses and ponies when diagnosed with laminitis, as reported by the horse carer and to gain insight into how these factors may influence the health and welfare of the domestic horse.

**Materials and methods** An online questionnaire was open for completion for a one month period and received over 600 responses, of which 569 completed the responses concerned. Respondents were asked to complete the survey only if they were familiar with an animal resident in the UK that had been diagnosed (not necessarily by a veterinary surgeon) with laminitis during the previous twelve months. A wide range of questions to gather equine demographic and management related data were included within the online survey. Condition score was assessed (by the respondent) using the Carroll and Huntingdon (1988) 0 to 5 method, with diagrams and written descriptions. Respondents were asked to categorise the animals' fitness levels and work (use) at the time of diagnosis using detailed given descriptions to assist them. The data were categorical and analysed using chi squared tests.

**Results** In relation to the condition score 60.3% of subjects were categorised as moderate or good, however 34.4% were fat or very fat, a significantly non uniform distribution ( $X^2$ ,  $df=5$ ,  $p<0.001$ ). The modal fitness category was 'hacking fit' with 40.5% of subjects and whilst 28.9% of subject were unfit, 13.9% were categorised as very fit, a significantly non uniform distribution ( $X^2$ ,  $df=3$ ,  $p<0.001$ ). The association between condition score and fitness level is shown in table 1, and was statistically significant (with very poor and poor combined to satisfy test requirements) ( $X^2$ ,  $df=12$ ,  $p<0.001$ ). Fitness levels were compared against the work that the subject was undertaking at the time of diagnosis and 29% of subjects did not appear to have an appropriate level of fitness for the work being undertaken. 10% of subjects were reported as having greater fitness levels than their work would suggest e.g. a retired unriden companion categorised as very fit. 19% of subjects were undertaking work that would require a greater level of fitness than was reported e.g. hunting whilst hacking fit.

**Table 1** Frequency of responses

Condition score	Unfit	Hacking fit	Fit for light competition	Very fit	Total
0 = very poor	2	1	0	2	5
1 = poor	5	5	4	3	17
2 = moderate	28	31	13	13	85
3 = good	57	116	54	35	262
4 = fat	62	72	16	14	164
5 = very fat	13	7	2	14	36
Total	167	232	89	81	569

**Conclusion** It is not surprising that a large proportion of horses and ponies when diagnosed with laminitis are reported to be fat or very fat, in fact this figure may have been expected to have been even higher. What was surprising was that only 28.9% of these horses were unfit and some were very fit. However of most concern was the categorising, of horses as very fat and very fit. A horse with a condition score of 5 is at severe risk of health complications and categorising this animal as very fit shows a complete lack of understanding of 'fitness levels' and/or the condition scoring. Whilst condition scoring has a recognised and repeatable method that a horse carer can apply, an equivalent fitness assessment is not currently available. There are serious health and welfare concerns relating to the owner's expectation to be able to use these animals to complete high intensity activities. The mismatch between use and fitness levels across the sample, combined with the over-representation of fat animals, underline the challenge to the equine industry of increasing the education of horse carers.

## References

- Buff, P.R., Morrison, C.D., Ganjam, V.K. and Keisler, D.H. 2005. *Journal of Animal Science*. 83, 1023-1032.  
 Carroll C.L. and Huntingdon P.J. 1988. *Equine Veterinary Journal*. 20, 41-45.  
 Johnson, P.J. 2002. *Veterinary Clinics of North America: Equine Practice*. 18(2), 271-293.  
 Vick, M.M., Adams, A.A., Murphy, B.A., Sessions, D.R., Horohov, D.W., Cook, R.F., Shelton, B.J. and Fitzgerald, B.P. 2007. *Journal of Animal Science*. 85, 1144-1155.