Don't settle for anything less than Ideal: Consequences of being Too Fat



Obesity is a rising health concern

23% - 51% of horses are reported to be overweight or obese¹⁻⁵. Since owners can sometimes underestimate a horse's body condition score^{4,5}, obesity rates may be even higher. Obesity is associated with many negative health consequences. Take a preventive stance against obesity by reviewing the Henneke Body Condition Score⁶ (BCS) system, and using it on a regular basis. Equine Guelph has developed a barn poster to help horse owners keep accurate track of their horses BCS.

What is an overweight or obese horse?

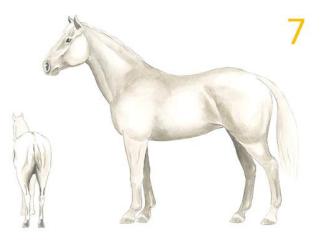
- Overweight and obese horses are those with body condition scores of greater than 7 on the Henneke BCS system
- A score of 7 may be too high for some horses (e.g. athletic horses), but acceptable for others (e.g. a broodmare going into winter)

Risk factors

- Certain breeds, such as pony breeds⁵
- Overfeeding
- Primary use⁷
 - Pleasure riding or non-ridden horses are more likely to be obese than competition horses
- Easy keepers⁷
- Summer season⁸
- Dominant position in the herd⁹
- Blanketing

Consequences¹⁰

- Exercise intolerance
 - Longer post-exercise recovery time
 - Less effective at thermoregulation
- Decreased reproductive performance
 - Altered estrous cycles
 - o Changes to the follicle and oocyte¹¹
 - o Problems with follicle development and oocyte release
- Benign lipomas, which can cause obstructions in the digestive tract
- Increased production of inflammatory molecules in the body



INFOSHEET FOR HORSE OWNERS

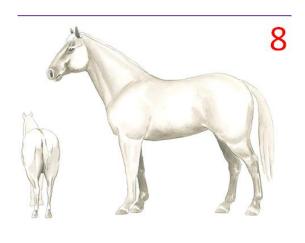
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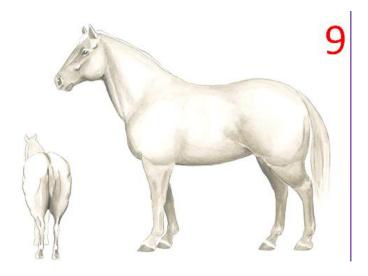


- Altered metabolism¹² (e.g. insulin resistance), resulting in increased risk of:
 - o Equine Metabolic Syndrome
 - o Laminitis
 - o Pituitary Pars Intermedia Dysfunction
 - o Osteoarthritis and osteochondrosis
 - Hyperlipidemia and hepatic lipidosis
 - o Diabetes mellitus
 - o Systemic inflammation

Management tips

- Schedule a veterinary visit to address any underlying causes
- Consult with veterinarian and/or equine nutritionist to develop a weight loss plan, which may involve restricting feed intake (especially through pasture) and/or eliminating concentrate feed the horse is receiving
- Reducing weight by starvation is not viable or lawful. Consequences are dire.
- Provide free access to water and loose salt. A good quality forage balancer is essential when restricting feed.
- Increase the amount of exercise
- Prevent boredom between meals by:
 - o Hay nets and slow feeders to increase time spent foraging
 - o Divide forage in piles to encourage movement
 - Provide a play ball with a small handful of high-fibre pellets between feedings. This feed should be included as part of the horse's calculated feed allowance for the day.





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Sources

- 1. Christie, J. L., Hewson, C. J., Riley, C. B., McNiven, M. A., Dohoo, I. R., & Bate, L. A. (2004). Demographics, management, and welfare of nonracing horses in Prince Edward Island. *The Canadian Veterinary Journal*, 45(12), 1004.
- 2. Thatcher, C. D., Pleasant, R. S., Geor, R. J., & Elvinger, F. (2012). Prevalence of overconditioning in mature horses in Southwest Virginia during the summer. *Journal of veterinary internal medicine*, *26*(6), 1413-1418.
- 3. Robin, C. A., Ireland, J. L., Wylie, C. E., Collins, S. N., Verheyen, K. L. P., & Newton, J. R. (2015). Prevalence of and risk factors for equine obesity in Great Britain based on owner-reported body condition scores. *Equine veterinary journal*, 47(2), 196-201.
- 4. Jensen, R. B., Danielsen, S. H., & Tauson, A. H. (2016). Body condition score, morphometric measurements and estimation of body weight in mature Icelandic horses in Denmark. *Acta Veterinaria Scandinavica*, *58*(1), 59.
- 5. Potter, S. J., Bamford, N. J., Harris, P. A., & Bailey, S. R. (2016). Prevalence of obesity and owners' perceptions of body condition in pleasure horses and ponies in south-eastern Australia. *Australian veterinary journal*, *94*(11), 427-432.
- 6. Henneke, D. R., Potter, G. D., Kreider, J. L., & Yeates, B. F. (1983). Relationship between condition score, physical measurements and body fat percentage in mares. *Equine veterinary journal*, 15(4), 371-372.
- 7. Robin, C. A., Ireland, J. L., Wylie, C. E., Collins, S. N., Verheyen, K. L. P., & Newton, J. R. (2015). Prevalence of and risk factors for equine obesity in Great Britain based on owner-reported body condition scores. *Equine veterinary journal*, 47(2), 196-201.
- 8. Giles, S. L., Rands, S. A., Nicol, C. J., & Harris, P. A. (2014). Obesity prevalence and associated risk factors in outdoor living domestic horses and ponies. *PeerJ*, 2, e299.
- 9. Giles, S. L., Nicol, C. J., Harris, P. A., & Rands, S. A. (2015). Dominance rank is associated with body condition in outdoor-living domestic horses (Equus caballus). *Applied animal behaviour science*, 166, 71-79.

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- 10. Johnson, P. J., Wiedmeyer, C. E., Messer, N. T., & Ganjam, V. K. (2009). Medical implications of obesity in horses—lessons for human obesity. *Journal of diabetes science and technology*, *3*(1), 163-174.
- 11. Sessions-Bresnahan, D. R., Schauer, K. L., Heuberger, A. L., & Carnevale, E. M. (2016). Effect of obesity on the preovulatory follicle and lipid fingerprint of equine oocytes. *Biology of reproduction*, *94*(1), 15-1.
- 12. Hoffman, R. M., Boston, R. C., Stefanovski, D., Kronfeld, D. S., & Harris, P. A. (2003). Obesity and diet affect glucose dynamics and insulin sensitivity in Thoroughbred geldings. *Journal of animal science*, *81*(9), 2333-2342.