How can we practically manage those obese animals?

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TAKE HOME MESSAGE

The best way to manage an obese horse or pony is to prevent it from becoming obese in the first instance! When managing an animal that has become obese it is obviously key to recognise that it is obese and to put in place a diet and management plan that includes regular monitoring and reviewing. In some obese individuals early weight loss may not be accompanied by an obvious change in the externally assessed body condition score.

Any weight loss programme needs to be targeted to the individual animal and once the target weight has been achieved an ongoing programme of weight maintenance is required.

MANAGEMENT ADVICE

These notes concentrate on the nutritional aspects of weight management but other factors such as strategic use (or non-use) of rugs in the winter etc. and maintaining an appropriate ‘worming’ programme also need to be considered. Consultation with a suitably qualified nutritionist can often be helpful.

Key practical management strategies of obese/overweight animals include: 1) promotion of weight loss and improved insulin sensitivity via dietary restriction and, where possible, an increase in physical activity; 2) avoidance of feeds that may exacerbate insulin resistance and hyperinsulinemia (feeds rich in non-structural carbohydrates [NSC; starch, sugars, fructans] such as grains, high starch containing feeds and ‘lush’ or stressed pasture forages) and, possibly in some cases 3) treatment with levothyroxine sodium (and potentially other medications – although the efficacy of all of these needs to be proven – see talk on Medical aids in Equine Metabolic Syndrome).

Any weight loss programme needs to be targeted to the individual animal but to have a chance to work requires initially:-

- Most importantly, the owner/feeder recognising that the animal is overweight, that it needs to lose weight and that this will take time and effort. It is recommended that all Vets and Owners/keepers of horses learn to use and apply one system of Body Condition Scoring but appreciate the limitations to such systems.
- Understanding exactly what is currently being fed (Scoops and haynets should be weighed etc.) Analysing the forage may be required especially in resistant cases – alternatively the decision can be made to use low energy, low NSC, forage replacers.
- Recognising that potentially up to 40% of the daily dry matter (DM) intake can be ingested during just a few hours of turn out.
- Recognising that some individuals, especially ponies, when allowed free access to grass, preserved forage or forage replacers may ingest up to 5% of their body weight in DM per day (text books tend to work on ~2%).
- Understanding that obese animals often need a lower energy intake to remain obese (compared to a non-obese animal of the same weight).
- Being realistic about the amount and type of work the horse/pony actually does and can do.

First Stage

Look at the overall diet; if the horse/pony is overweight but still being fed a manufactured diet with plenty of hay or other fibre sources, consider the following feeding strategies. The preferred option will depend on the present and desired bodyweight as well as the individual circumstances.

- Replace the manufactured feed with one providing lower energy, i.e. a high-fibre, low-starch and low-sugar feed, preferably one that has been specifically formulated to help promote weight loss yet maximise the time spent chewing.
Check the analysis of the current forage; if necessary, change to one providing lower energy levels, such as late seed-cut hay (avoiding high-energy forages such as alfalfa or haylage as well as highly indigestible forages). A low-calorie hay replacer may be useful at this stage. Soaking hay in clean water (> 8°C: winter tap water and ideally around 16°C: summer tap water) for between 90 mins – 3hrs may help to reduce the water-soluble carbohydrate (WSC: sugar and fructan) content. However, as the results from soaking are variable it is advisable, if concerned, to ensure the original forage has a low NSC content (ideally <12%) or feed an appropriate forage replacer.

Restrict access to grass, especially lush pasture, but maintain turn-out by, for example: carefully using appropriate restrictive but not complete exclusion grazing muzzles, using strip grazing behind other horses or sheep; mowing and removing clippings; putting a deep layer of woodchips over a small paddock; or using dry lots/indoor schools.

The next stage would be to reduce or remove all energy-providing supplementary feed and provide a measured amount of a low energy forage-only diet with minimal intake of grass but the provision of a vitamin-mineral supplement.

Caution is required when feeding restricted forage intakes on sandy soils, for example, as potentially there could be an increased risk of sand colic. Also beware of unwanted/dangerous plants growing in dry lots/bare paddocks e.g. ragwort.

Ideally, a combination of one or more of the above measures, along with an increase in exercise or activity is recommended (any exercise plan should be discussed with the consulting especially in post-laminic cases). This can be achieved by increasing the number, length or intensity of exercise occasions, or changing the type of formal activity (riding/lunging, etc.), as well prolonging free activity in the paddock.

Where appropriate, the diet can be made up to near appetite levels by adding low-energy forages, but be careful of feeding poorly digested, high lignin/silicated, forages (especially in significant amounts) which may increase the risk of impaction and gastric ulcers. Consider the use of meal extenders and techniques such as small-holed haynets/double haylage nets to ensure the horse takes as long as possible to eat the feed provided.

Compound manufactured feeds are formulated to be fed at certain levels. If the amount of feed needed, to enable maintenance of a desirable body condition for the horse and preferred type of ride for the rider, is less than the manufacturer’s recommendation for that workload, an appropriate vitamin and mineral supplement may be necessary. Alternatively, a diet which is less energy-dense should be fed, with appropriate vitamin and mineral fortification.

More severe restrictions

Establishing a programme to promote weight loss may just require restricting grazing, increasing the exercise load, changing the type of forage fed or using a low energy forage replacer and/or reducing the amount, or change the type, of complementary feed provided as described above – whilst maintaining vitamin and mineral intake to support health.

For some individuals however, more severe restrictions may be required As a general guide, for the more obese animals, those obese animals prone to laminitis or for those where appropriate changes in the ration as outlined above have not been successful, consider:-

- Providing low energy hay (~8MJ/kg as fed – ideally with an NSC <12%) or forage substitutes initially at ~ 1.5% of current BW daily (on a Dry-matter intake basis - DMI) with subsequent further reductions if required but we recommend not to decrease to less than 1.0% BW (DMI) and animals should not be fed at 1 or 1.25% BW DM without Veterinary advice and monitoring; feeding reduced amounts of fibre may increase the risk for hindgut dysfunction, stereotypical behaviours, gastric ulcers, coprophagy etc.
- Straws generally have lower energy contents than good quality horse hays and good hygienic quality oat or barley straw may be of value to help calorie dilute the ration of some obese animals (advise never more than 50% of the diet other than for donkeys). But it is important to select clean, carefully harvested straw with minimal cereal heads (also shake thoroughly to remove any loose cereal grains). Straw needs to be introduced into the diet very slowly which helps to reduce the risk of impaction –
although this remains a significant risk with certain breeds (e.g. thoroughbreds) and individuals. The risk of gastric ulceration also may increase when straw is the main forage.

- The ration should be divided throughout the day and strategies to prolong feed intake time should be considered, (e.g. haynets with multiple small holes). If necessary measures should be taken to avoid the consumption of bedding materials, even wood shavings.
- It is very important to maintain an appropriate vitamin and mineral intake.
- It is also thought to be important to maintain a good quality protein intake to help prevent unwanted muscle loss during more severe weight restriction programmes. The inclusion of exercise in such programmes may be of value.

**IMPORTANCE OF EXERCISE**

A program of regular exercise is likely to be beneficial in the management of obese, insulin resistant (but sound) horses and ponies. In the author’s experience, weight reduction and subsequent control are improved when dietary restriction is combined with a program of riding or lunging. For those already in work this may involve just increasing the number, length or intensity of the exercise. For those not in work any exercise programme needs to be developed in conjunction with the horse/ponies’ veterinarian and introduced slowly.

**TIME SCALE and MONITORING**

- Do not attempt to make rapid changes to the horse’s weight – the absolute maximum amount we would recommend you aim to achieve is 1% body weight per week after the first week, when any weight loss may be due to reduced gut fill. A more realistic (but often still difficult to achieve in the more resistant cases) target is a weekly weight loss of 0.5% (again after the first week) i.e. 20kg for a 500kg horse over ~ 8 -10 weeks
- Set realistic targets and monitor (under identical conditions) the horse’s weight and condition on a regular basis i.e. every 2 – 4 weeks. Weigh tapes only provide an approximation of actual body weight and can be significantly inaccurate for some individual animals. The same handler, using them at the same time of day under identical conditions may provide useful information for monitoring purposes. (NOTE that appropriate levels of weight loss may not always be accompanied by significant change in body condition score in the first few months especially in obese ponies).
- Make all dietary changes gradually and avoid prolonged periods of feed withholding. Abrupt starvation especially in obese ponies, donkeys, and miniature horses (especially pregnant animals) carries the risk for hyperlipemia (a potentially fatal condition).

**WEIGHT MAINTENANCE PROGRAMME**

Finally develop, and continually update, an appropriate weight maintenance programme once the target weight and body condition have been achieved to avoid a return to weight gain. This will include monthly assessment of body weight and condition to ensure that the feeding program is appropriate to the current level of physical activity and other environmental influences on energy requirements (e.g. ambient conditions).