

Feeds for horses with big head

By Dr. Timothy Kempton

What is Big Head?

Big Head's correct name is Nutritional Secondary Hyperparathyroidism and it occurs when a horse is not receiving enough dietary calcium. During periods of dietary calcium deficiency, calcium is mobilized from the bone to keep blood calcium levels 'normal'.

When a dietary calcium deficiency occurs for prolonged periods of time the calcium mobilized from the bone is replaced by fibrous tissue, resulting in weak bones and a 'Big Head' appearance. The disease is also characterized by an 'insidious shifting lameness' that moves from one leg to another. Unfortunately for the horse, the entire skeleton is affected and weakened by the disease.

What causes Big Head?

Prolonged periods of dietary calcium deficiency cause Big Head. Calcium deficiency occurs most commonly when:

The horse grazes pastures that contain a compound called oxalate. Oxalate is found in large amounts in the sub-tropical pasture species like buffel grass, setaria, kikuyu, green panic, para grass, pangola grass, guinea grass, signal grass and purple pigeon grass [all these grasses are native to Australia]. The oxalate in the pasture attaches to calcium in the horse's gut and prevents the horse from absorbing it, thus causing a calcium deficiency.

The horse eats moderate to large amounts of high phosphorous feeds like cereal grains and grain by-products. The phosphorous in these feeds can also block the absorption of calcium in the gut, again causing a calcium deficiency.

Big Head risk factors: does your horse..

- Live in a northern Australian or coastal area and graze sub-tropical pasture like kikuyu, buffel, or setaria? [may apply to coastal regions of the US as well]
- Eat large amounts of grain or grain by-products?
- Have any signs of enlarged facial bones or a slightly changed facial structure?
- Have any unexplained lameness that seems to shift from one leg to another?

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What can you do to prevent Big Head?

To prevent Big Head disease you need to make sure you put enough calcium in your horse's diet to overpower the oxalate or phosphorous' ability to bind the calcium in your horses gut. Feeding a high calcium feed specially designed for horses grazing tropical pasture (such as **GoStance** from Stance Equine), or adding calcium supplements like limestone and dicalcium phosphate to your horses feed will ensure your horse receives enough calcium to assist in avoiding Big Head.

It is important to carefully balance your horse's diet to ensure you are maintaining a good balance of all nutrients in the diet. For performance horses like endurance horses it is also extremely important that you don't overfeed calcium. To be sure you are giving your horse enough calcium to prevent Big Head without unbalancing the diet you may choose to have your diet professionally balanced.

What should you do if you think your horse has Big Head?

If you suspect your horse may have Big Head it is possible to reverse some of the effects of the disease by making the following adjustments to your horses diet:

- Add 30 g of limestone and 30 g of dicalcium phosphate per 100 kg of your horse's to the diet/day.
- Where possible add a high calcium forage like alfalfa to your horses diet.
- If your horse is severely affected take him/her off all tropical pasture and grain or grain by-products and supplement with limestone/dicalcium phosphate and a high calcium, low oxalate forage like alfalfa and temperate grass hay until the severe symptoms have subsided.

Big Head Myth Busters

There are lots of myths surrounding Big Head and its prevention or treatment including:

- Feeding some alfalfa each day will prevent Big Head - this is incorrect. Lucerne does not contain enough calcium to prevent bighead in horses grazing tropical pastures. It will however help balance the diet where horses are eating a small amount of grain or grain by-products.
- Injecting with vitamin D will prevent or cure Big Head - this is also incorrect. While the absorption of calcium relies on vitamin D being present, Big Head is caused by a calcium deficiency, so no matter how much vitamin D you give them it won't help unless the horse also has calcium available to absorb.
- Dolomite is the best source of calcium for horses - wrong! Extensive monogastric studies have shown that dolomite has a much lower calcium availability than limestone and dicalcium phosphate.
- Injecting with calcium is the best way to cure Big Head - if your horse has severe symptoms (such as complete lack of muscle control) that are associated with life threateningly low levels of blood calcium, calcium injections may be needed to temporarily restore blood calcium levels and prevent the horse from dying. However, in the longer term, dietary calcium supplementation is the only way you will provide the horse with enough calcium to restore bone calcium levels. Injections should only be used by your vet as a short term emergency measure when they are needed.

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In summary

Remember that Big Head is a preventable disease. Correct feeding practices and a balanced diet, will help prevent your horse from getting Big Head.

However, if you think your horse may be at risk or is already suffering with Big Head contact us Stance Equine for a full complimentary diet analysis.

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