

In brief, Cushing's is an overproduction of cortisol from the adrenal glands which in horses, is primarily pituitary (tumor) in origin, not adrenal. The pituitary secretes too much ACTH (adrenocortico-trophic hormone) and thus stimulates the adrenal glands to overproduce cortisol. It can be diagnosed with a blood test as there are characteristic abnormalities seen on the blood counts and serum chemistry. If an elevation in ACTH is detected it is a definitive diagnosis. Apparently it is most common in middle-aged Arabs (especially the Morfic line) and Morgans although it occurs in all breeds.

Some, but not all, of the symptoms are: cresty necks, hollows above eyes, long coats, recurrent founder, fatty deposits over tail, ataxia, etc., and is frequently evinced in "easy keepers." Dopamine, a neuro-transmitter, is apparently lacking in Cushing's Disease horses. Normally it is metabolized by the horse from amino acids L-tyrosine and phenylalanine. Also, most Cushing's (or Cushing's-like) horses have insulin resistance, a precursor to diabetes. While most DVM's suggest various medications to halt or slow down progression of this disease, we have found that a nutritional approach utilizing **DYNAMITE®** products and common sense can produce satisfying results with a majority of horses.

GRASS HAY

It is very important to keep up with good grass hay feeding free choice since Cushing's horses still need roughage flowing through their intestines 24/7. Some people, in order to control weight gain, choose to feed a lesser quality (almost a clean straw) in order to effect this without taking a chance on over-feeding. Be aware that grass hay cut during spring when there are wide swings of temperature can contain an over-abundance of *fructan* for an insulin-resistant horse. Same with pastures: restrict/eliminate grazing on *fructan*-rich spring grass or any grass which has been stressed by draught or over-grazing as it will be storing up *fructan* for survival. Absolutely NO alfalfa/ clover/oat or wheat hay should be fed to Cushing's horses.

GRAIN

Because of their insulin-resistance, Cushing's horses should receive little to no grain. However, we have had some horses do very well on small amounts (½ - 1 cup per day) of **PGR** where they cannot tolerate standard grain. For horses who cannot tolerate even the **PGR**, we suggest giving some (½ - 1 cup per day) **HES** in lieu of grain as there are no sugars present in it.

NUTRIENTS

In addition to the 4 free choice minerals of **NTM Salt, 1 to 1, 2 to 1, & Izmine**, we also suggest at least 1 oz. of regular (yellow label) **DYNAMITE® Vitamin/Mineral** supplements per day. The amino acids L-tyrosine and phenylalanine necessary for Cushing's horses are contained in plentiful amounts so there is no need for additional amino acid supplementation.

According to *The Horse Journal* (Jan 2001), there is a direct correlation between horses prone to founder (insulin-resistance) and low magnesium. In general, well-muscled horses need more magnesium and laminitic horses even more so. While they suggest Epsom Salts, we prefer forcing 1 oz daily **Izmine** which is high in magnesium with added **Easy Boy** if necessary (follow label directions).

Some owners also like to add **Yucca** because its *saponins* stimulate natural steroid production. Others add **His-corbadyne** daily at maintenance levels cycling in quarterly **SOD** for its immune system enhancing factors which aid the body in resisting the Cushing's pituitary tumors.

HORMONES

Because of the pituitary connection, horses with Cushing's tend to need hormone support. All the afore-mentioned minerals encourage balanced production of hormones by the body, but some horses require even more. We have found that adding **Breeder Pac** (at recommended levels) to those horses' supplement program, seems to supply the needed hormonal support for most. Or try human **Manganese+** if that is still not enough. Also increasing their fat intake via **HES** (see above) seems to help natural hormone production.

Just as you would for a mare you want to cycle early, hanging a 200 watt bulb in your horse's stall and turning it on during winter months from about dusk until 10 p.m. can also stimulate hormone production.

Some individuals have chosen supplementing with chasteberry (*Vitex Agnus*) in a liquid form called *Hormonize* [*Emerald Valley Botanicals/www.emeraldvalleybotanical.com/888-638-8262*]. We have found the **DYNAMITE®** support to be more effective for the long term, although the addition of some GTF (Glucose Tolerant Factor) Chromium from the health food store can aid carbohydrate metabolism. Generally it is suggested to start with 200 mcg. or so, many just hand-feed it, building up to approximately 1000+ mcg. before heading back down again; amounts will depend on the individual horse/pony. Most require this life-long.

PARASITES

Because Cushing's horses are physically challenged, they tend to be a little more acidic thus attracting more parasites. While daily **DynaPro** is important for digestion, it is also wise to add ½ teaspoon per day of **Excel** into their feed for extra support. Doing a quarterly cleanse with **Herbal Tonic** can also be quite helpful. While cleansing, all other supplements are deleted; hay and free choice minerals are fine as is **HES** if the horse requires the calories. Some horses also respond very well to the addition of **Herbal Green** when pasture is not available; it also helps alkalize the body.

CONCLUSION

An easy way to feed many of the suggested nutrients, aside from the free choice hay and minerals, is with **DYNAMITE® TNT** which contains **Easy Boy, Excel, Free and Easy, HES, Izmine**, and **Regular**. Obviously amounts are adjusted for weight and exercise level and **Breeder Pac** can still be added if necessary. We have seen horses shed their long "yak" coats (typical in Cushing's horses) even on just the basic **DYNAMITE®** program, but with trying out some of the other suggestions presented here, they have been able to reduce medications and appear symptom-free. And remember that Cushing's horses are already health challenged so, according to AVMA policy and vaccine inserts, should NOT be vaccinated! ■

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