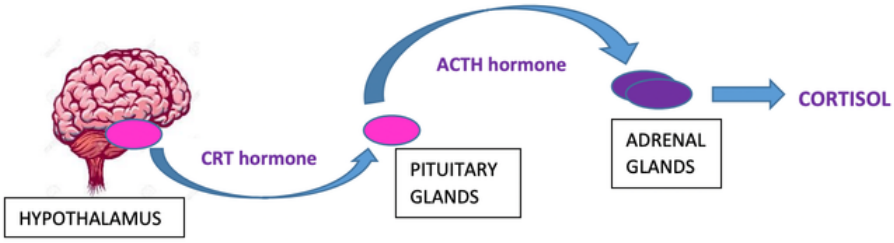
EQUINE CUSHING'S DISEASE

ELITE EQUINE VETERINARIANS

WHAT IS CUSHING'S DISEASE?

Cushing's disease is a common term describing a common **endocrine illness** that affects middle aged to older horses we now correctly refer to as **Pituitary Pars Intermedia Dysfunction** (or PPID). PPID involves the degeneration of neurons within the hypothalamus that directly affect hormone production of special cells (melanotropes) within the pituitary gland in the brain. This results in a **reduction of dopamine** (a "feel good" hormone), which in turn allows melanotropes to grow in size and produce **increased** amounts of **Adrenocorticotropic Hormone** (ACTH) along with other hormones. This increased ACTH production acts to increase **systemic cortisol levels**, which then places the horse in a chronically "**stressed**" state and increases their risk of concurrent illness. A recent Australian study found that the prevalence of PPID in horses **15 years or older** was **21.2%**, with the incidence increasing each year thereafter.



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CLINICAL SIGNS

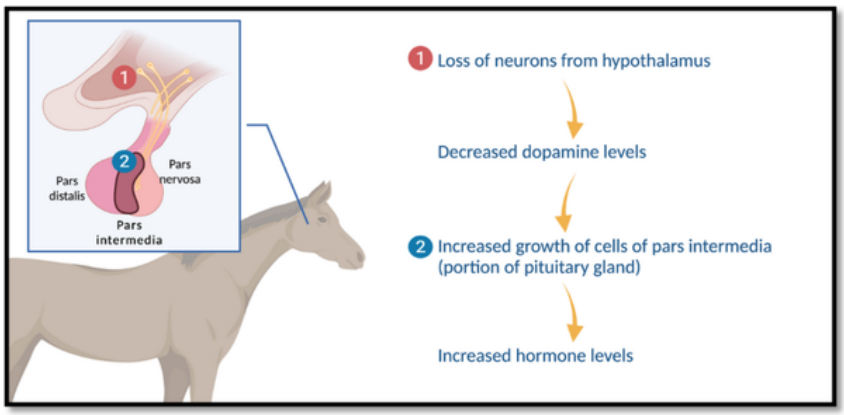
The clinical signs of horses with PPID include:

- Long/curly coat (hirsutism)
- Abnormal hair shedding
- Excessive or inappropriate sweating
- Pot-bellied appearance
- Loss of muscle mass
- Abnormal fat deposits- above eyes, crest of neck, behind the shoulders and base of the tail
- Increased thirst and urination
- Increased appetite
- Lethargy
- Repeat laminitic episodes +/- hoof abscesses
- Chronic skin infections

It can also cause non-cycling and abnormal mammary gland development and lactation in mares.
Due to **prolonged** elevations of cortisol, many PPID horse can become **immunosuppressed** which then increases their risk of developing chronic infections that won't resolve. Elevated cortisol may also increase insulin levels and be a factor in the development of insulin resistance and **Equine Metabolic Syndrome**.

DIAGNOSIS

There are a variety of ways to diagnose PPID in horses, the simplest being a **single blood sample** that measures circulating ACTH levels. If ACTH is greater than known 'normal' limits at that time of year, then a diagnosis of PPID can be made. Note that 'normal' ACTH levels can be elevated in **Autumn** due to seasonal effects on the pituitary gland, however PPID horses generally have elevated ACTH results well above normal ranges due to this effect.



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TREATMENT

Treatment of PPID is managed very well **medically**. The most common used is Pergolide mesylate which is a daily oral medication (**Prascend**). Pergolide acts to **increase dopamine levels** within the body which **reduces ACTH** production and therefore cortisol levels. Other medications (Cabergoline and Cyproheptadine) have been used to control PPID that work similarly to reduce ACTH production by the pituitary gland. They are generally considered less effective than pergolide, however, can be used with Pergolide to effectively treat horses where pergolide alone is not enough. Due to the progressive nature of PPID the amount of drug required to manage this condition will likely need to increase over time. **Repeated ACTH testing** is recommended to monitor effectiveness of treatment and assist your veterinarian in determining the need for increased doses. Clinical improvement is generally seen within 6-8 weeks of initiating treatment.

Case Example

This 34-year-old pony was diagnosed with PPID after his owner noticed signs of hirsutism (long, curly coat). The image on the left shows him before starting treatment, while the image on the right shows his remarkable improvement a few months after treatment began. With proper management and regular veterinary care, horses and ponies with PPID can continue to live happy, healthy lives well into their senior years.

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OTHER FACTORS

Good husbandry practices are crucial when caring for a horse with PPID. Annual **dental examinations** are important as older patients already have increased risk of dental disease and associated illnesses. Good dental health is crucial for older horses to make the best use of their feed. Diet should ideally consist of **low glycemic** index feeds and poor quality grass hay. These provide the necessary fibre for adequate gut function without additional sugars, which may contribute to the development of laminitis (Founder).

If induced by PPID, **Laminitis** is generally slow in onset, extremely painful and is considered the most damaging consequence of PPID. **Regular foot trimming** will allow owners/farriers to closely monitor changes in hoof growth and shape as well as pain. Veterinary attention should be sought if laminitis is suspected. Not only to provide pain relief but to work in conjunction with owners and farriers to reduce recurrent laminitic episodes. **We DO NOT recommend prolonged use of anti-inflammatories for management of laminitis.** Determining the cause of the laminitis is best path to benefit both the horse and owner.

PPID is a **lifelong condition** that is poorly recognised in our aged equine patients, however it can be easily diagnosed and managed. **We strongly recommend annual testing** for PPID in older horses as early recognition and regular appropriate veterinary care are imperative to maintain and improve their quality of life as they age.

If you have any questions or concerns please contact us on 0412 619 740.