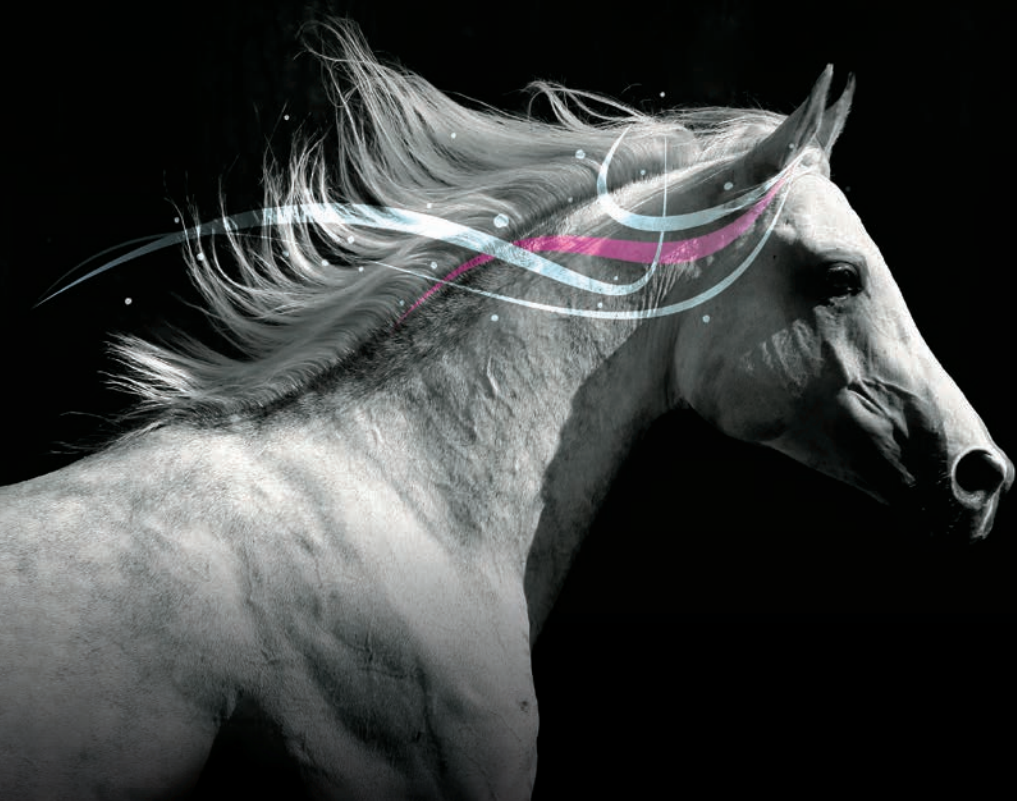
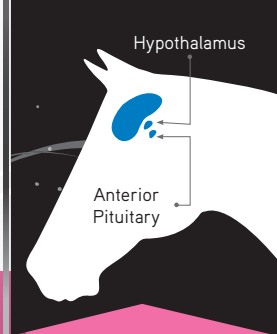


BRING THEM
BACK TO THEIR
FORMER GLORY
BY MANAGING PPID



Prascend[®]
pergolide mesylate
forward thinking in PPID





CUSHING'S DISEASE HAS A NEW NAME

WHAT IS PPID?

PPID (Pituitary Pars Intermedia Dysfunction) (also known as Equine Cushing's Disease) is an endocrine disease. An endocrine disease affects the production of the hormones that regulate your horse's body. Hormones interact with each other and have many effects on the body so disruption to normal hormone production and activity can have many effects. Some of these become more and more noticeable with time.

In the past, some middle-aged horses (15–20 years) were not diagnosed as having PPID because it was assumed the symptoms were simply a consequence of ageing.

Knowledge among owners is now increasing, and more and more horses are being properly diagnosed, treated and are returning to good health. These horses can then have a richer, more productive, and interactive middle age.

PPID IN MORE DETAIL

The hypothalamus and pituitary glands, located at the base of your horse's brain, are the command and control centre for the production of its hormones. These chemical messengers are distributed around your horse's body to all other tissues via the bloodstream. In a normal horse, these hormones exist in a fine balance, and play an important role in maintaining and controlling bodily functions.

In some older horses and ponies, neurons (nerves) in the hypothalamus undergo progressive degeneration, and produce insufficient quantities of a nerve transmitter substance (neurotransmitter) called dopamine. Dopamine is important in controlling the secretions of a part of the pituitary gland called the pars intermedia, which in turn is responsible for controlling the secretion of hormones including the important ACTH hormone.

When the pars intermedia does not receive enough dopamine from the hypothalamus, the ultimate outcome is the production of abnormally high levels of these hormones, resulting in disease symptoms.

WHAT ARE THE TYPICAL PPID DISEASE SYMPTOMS TO LOOK OUT FOR?

The **three** most obvious symptoms are:

1. LAMINITIS

This is a common, painful and potentially devastating condition affecting the hooves of horses and ponies. Growth rings are often visible (as shown here), indicating repeated episodes of laminitis.



Image courtesy of D. Rendle

In the foot of the normal horse or pony, the hoof wall and the coffin bone (the lowest bone in the foot) are joined together by finely structured tissues called the laminae. Despite the large weights being borne by the laminae, they are relatively delicate, and easily damaged. In laminitis, the laminae become inflamed and extremely painful, making weight-bearing very difficult for affected horses.

Horses and ponies with laminitis will find it difficult to put their feet down, and will often adopt a 'rocked back' stance to take weight away from the painful tissues. If the condition goes on for some time, or there are repeated occurrences in a horse, the damage can become irreversible, leading to rotation of the coffin bone and permanent foot pain. In many cases of this severity, euthanasia becomes the only option.

Laminitis is a key warning sign, especially if it is recurrent, chronic, or of insidious onset; up to 70% of mature horses seen for laminitis have been found to have PPID.¹

2. CHANGES IN HAIRCOAT (HIRSUTISM)

This ranges from mild changes in coat shedding, right through to a full, long, curly, overgrown coat ('hirsutism'). The presence of hirsutism is thought by some experts to be the most reliable single indicator of underlying PPID, although not all horses with PPID develop this symptom, especially in the early stages of PPID.



Image courtesy of N. Frank

Late stage hirsutism



Image courtesy of N. Frank

Patches of longer coats are early signs of PPID

3. CHANGES IN BODY CONFORMATION



Image courtesy of I. Hoppe

Muscle wasting leading to 'pot belly' appearance

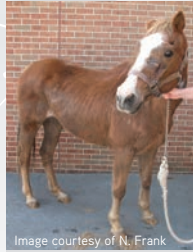


Image courtesy of N. Frank

Muscle wasting and persistent sinusitis



Image courtesy of D. Reidle

Fatty deposits above the eyes

OTHER 'CLASSIC' INDICATORS OF PPID INCLUDE:

- Lethargy, poor performance
- Recurring infections (e.g. sinusitis) and impaired immune system
- Abnormal sweating
- Changes in appetite
- Increased drinking and urination

OVERALL, A HORSE WITH PPID CAN BECOME INACTIVE AND RELUCTANT TO EXERCISE WHICH ARE OFTEN THE FIRST SIGNS OF THE DISEASE.

SUPPORT GENERAL GOOD HEALTH

Most horses and ponies with PPID are older than 15 years, and so may have other conditions associated with middle age, as well as symptoms directly associated with the disease. With this in mind, a good program of routine preventative healthcare can be a great help in managing a horse with PPID.

This should include:

1. Regular deworming, dentistry, and routine foot care (especially if your horse has laminitis).
2. A high quality, balanced, diet. Ask your veterinarian for advice.



CONFIRMING PPID

IS THERE A TEST TO CONFIRM PPID?

Often veterinarians will make a diagnosis and recommend treatment based on clinical signs and the medical history of the horse or pony.

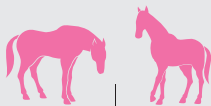
There are blood tests that can be carried out by your veterinarian that will determine whether or not your horse or pony has PPID. It usually takes a few days to get the result.

In these cases, your veterinarian will want to take one or more **blood samples** from your horse in order to measure blood levels of various hormones or markers. The results of these tests can then be compared to 'normal' ranges for the horse population, to confirm the presence or absence of the disease.

HOW COMMON IS PPID?

Very common. Although PPID is usually only seen in middle-aged and older horses (horses over 15 years of age), some studies of horse populations suggest that 21% of horses and ponies in this age group are affected by the condition to some degree.

An estimated 1 in 5 horses over 15 years of age has PPID.²



The prevalence could rise to almost 40% with increasing age.²





TREATING PPID



WHAT DO I DO IF MY HORSE IS DIAGNOSED WITH PPID?

Although horses with PPID cannot be cured, the disease is treatable and the prognosis in most cases is good, so you should stay positive.

Early identification of horses and ponies with PPID helps to arrest the disease early in its course.

Appropriate medical treatment and good, routine healthcare can help keep your horse healthy and fit.

HOW CAN YOU TREAT PPID?

PRASCEND® can help your horse look and feel healthy and happy again. Effectiveness studies showed improvement of signs within 3 months. And results were even better at 6 months of treatment.

The treatment acts directly on the dopamine-producing neurons in the hypothalamus, helping to bring ACTH concentrations in the bloodstream back to normal levels. The medication is given once daily, and can be mixed with a small volume of molasses or food to ease administration; alternatively it can be dissolved in a small volume of water and administered directly into the mouth. Tablets should not be crushed.

Usually there is a short lag between the beginning of treatment, and seeing your horse return to normal in terms of clinical signs. Those will improve generally within 6–12 weeks after initiation of the treatment. However, it can take up to a year to see the full benefit of treatment.



At PPID diagnosis



After 6 months treatment with Prascend®



Improve your horses' quality of life by
treating equine PPID symptoms with
PRASCEND®.

REFERENCES:

1. Donaldson MT, "Evaluation of Suspected Pituitary Pars Intermedia Dysfunction in Horses with Laminitis," *J Am Vet Medical Assoc.*, 2004; 224(7): 1123-1127.
2. Ireland et al. Epidemiology of pituitary pars intermedia dysfunction: A systematic literature review of clinical presentation, disease prevalence and risk factors. *Vet J* 2018.