

Let us Have a Look ...at Corpora Nigra

with **Dr Paula Williams**
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Paula qualified in the UK in 1993 and has been an equine veterinarian since then. She completed an internship at Rossdale and Partners in Newmarket, UK and has subsequently

worked in equine hospitals both in the UK and Australia. Paula is currently an equine practitioner at WestVETS Animal Hospitals in Queensland.

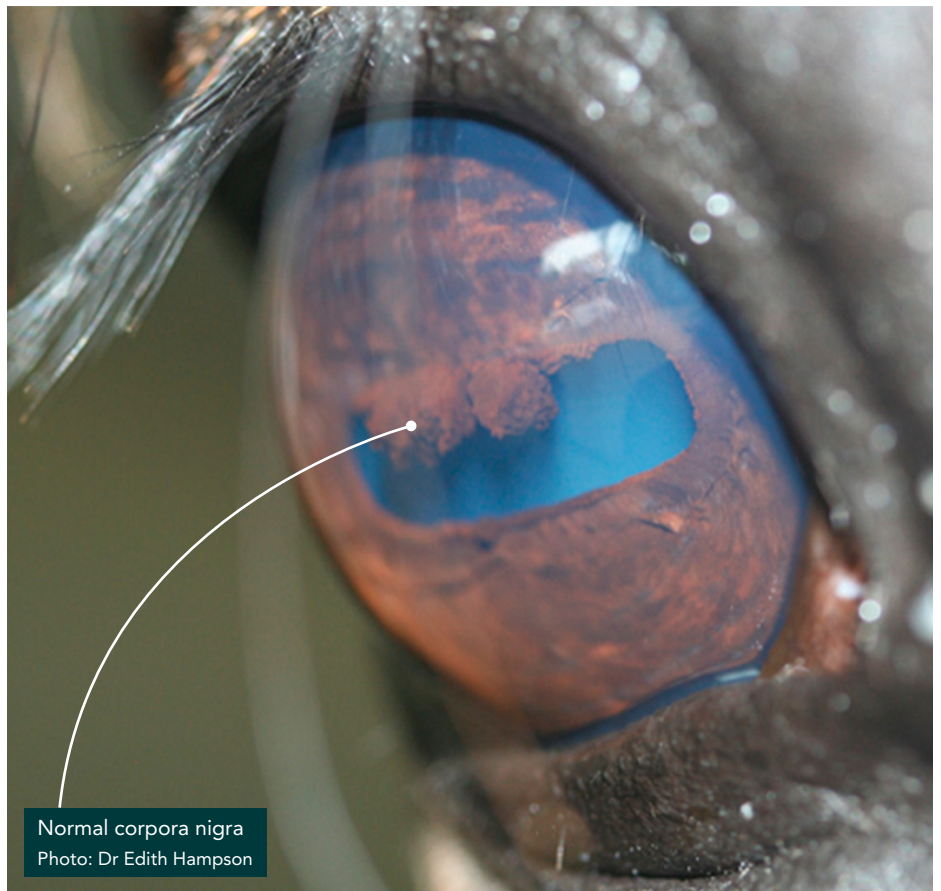
Her clinical interests include diagnostic imaging, the investigation and management of musculoskeletal issues in the equine athlete, the equine foot, neonatology and internal medicine.

The horse's eye is a beautiful and exquisite structure. When looking into your horse's eyes (we all do it!) have you noticed the "brown blobs" that appear to hang from the iris into the pupil and wondered what they are? Are they normal? Does my horse have an issue?

They are **CORPORA NIGRA**, also known as **GRANULA IRIDICA**. Here we are going to check them out.

What are corpora nigra?

They are pigmented irregular and rough extensions of the iris epithelium. They are seen as a small group of roughened brown structures mainly on the top part of the pupil, but are also present but smaller on the bottom part of the pupil.



Normal corpora nigra
Photo: Dr Edith Hampson

The iris is the coloured part of the eye (mainly brown in horses) and can be considered like the shutter of a camera as it modulates the size of the pupil.

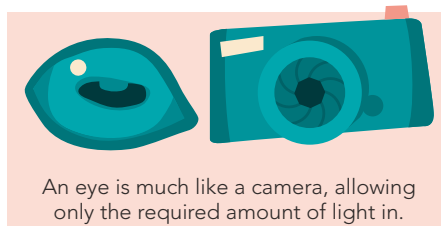
The pupil is the hole within the iris that lets light through to the back of the eye and can be considered like the aperture in a camera.

What are they for?

The corpora nigra are normal anatomical structures in horses that function to improve glare from light (like a shade cloth). The horse is a prey animal so visual acuity is essential.

Are there any issues that can occur in corpora nigra?

Sometimes the corpora nigra can appear enlarged and their integrity becomes abnormal. Causes of these abnormalities are inflammatory conditions, tumours and cysts. The most common one being cysts – corpora nigra cysts or iris cysts.



An eye is much like a camera, allowing only the required amount of light in.



Corpora nigra and a cyst below.

What are iris cysts?

The lining of the corpora nigra consists of cells that can secrete a viscous substance causing enlargement and cyst formation. A cyst is essentially a fluid-filled structure like a water balloon! The normal irregularly shaped corpora nigra develop into large, smooth and rounded cysts that extend over the pupil. They usually develop slowly, but on occasion can progress quickly. The cysts can be single or multiple. Horses are not born with the cysts but develop them over time. They do not appear to be associated with inflammation in the eye or related to other eye issues.

What horses are affected by iris cysts?

Any horse can develop these cysts, but it is more commonly seen in middle-aged to older horses. There is no known age, sex or breed predisposition for iris cysts.

What are the signs of iris cysts?

Most horses with iris cysts are not significantly affected and do not display any clinical signs. Some horses may have large cysts in locations that can reduce their vision and lead to abnormal clinical signs. Horses with large cysts may have impaired vision because the cysts extend over the pupil and obstruct their visual field. Sometimes the movement of the cysts within the eye can also affect the horse too.

Those that have their vision affected may show clinical signs such as headshaking, strange behaviours like shying away or spooking, mistiming jumping or refusing to perform well.

“Horses with large cysts may have impaired vision because the cysts extend over the pupil.”

How are iris cysts diagnosed?

They are usually diagnosed by their classic appearance on examination of the eye both with the gross appearance and with using an ophthalmoscope and bright light to evaluate closely.

Usually, the veterinarian will evaluate them in a bright light and then will use a drug to dilate (open) the pupil to assess the amount of visual field that is affected by the cyst. Sometimes ultrasound may be used to confirm that the structure is a fluid-filled cyst rather than a tumour or inflammation.

How are iris cysts treated?

Most horses do not require any treatment for iris cysts. However, those that have significantly impaired vision may require treatment. Laser therapy with a very specialised laser used by an eye specialist is the most effective and non-invasive treatment for iris cysts.

The procedure is performed under standing sedation and regional local anaesthesia. The laser is focused onto the cysts to “pop” it – to disrupt the cyst wall and prevent further fluid secretion. Postoperatively the horses are managed with anti-inflammatory medications to prevent inflammation within the eye. This procedure is very successful and carries minimal risks. It is, however, not performed by the general equine practitioner and requires a specialist.

In Summary

Corpora nigra are normal structures within the horse’s eye that are seen suspended from the pupil margin. They are believed to be involved in reducing glare from bright light to improve the horse’s vision. Occasionally they can develop into iris cysts which in some cases can impair vision and lead to erratic behaviour and spooking. Those that do cause an issue can be treated by a surgical laser. ↻

