



*Endell Equine Hospital
Salisbury*

CRYPTORCHIDISM

What you should know about
cryptorchid horses (aka 'rigs')

"A rig is a male horse that has one or more testicles in an abnormal position and are not fully descended into the scrotum"

Cause



In the male foetus, the testicles initially form next to the kidneys inside the abdomen, but as the foal develops, the testicles migrate out of the abdomen via the inguinal canal and into the scrotum. Whether each testis is in an intra-abdominal or extra-abdominal location is decided within the first few weeks of life, after which time it will not change.

If a testis does not reach the scrotum, it can be in one of two locations - completely in the abdomen or in the area of the inguinal canal under the skin (aka high flanker). The failure of one testicle to descend is not uncommon, with an estimated prevalence of 17%. Horses can be unilateral rigs (one descended, one undescended) or bilateral rigs. In cases of unilateral rigs, it is generally agreed between vets that the single descended testicle should not be removed without dealing with the undescended testicle at the same time. However, unfortunately this happens from time to time, which can mean people can purchase a rig thinking they have a gelding.

Testes produce testosterone whether they are retained or not, so these horses display sexual/stallion-like behaviour.

Stallion-like behaviour can either be hormone driven or learned behaviour. If a stallion/rig is castrated and the testosterone source is removed, any hormone driven behaviour should cease rapidly after surgery. There is a small risk that the behaviour has become learned, in which case surgery would have no effect. Generally it is preferable to castrate these horses when they are younger, before their behaviour can become learned.

Horses with normally descended testes but which were incompletely castrated, leaving behind testicular tissue can present in the same way as a rig and are treated in a similar manner.

A suspicion of being a rig can be made by observing that a young colt doesn't appear to have 2 descended testes or when a vet is called out to castrate the horse and can't feel both testes.

Blood testing

Any male horses that are suspected rigs usually get blood tested by the vet to see if they have any residual testicular tissue. A few blood assays can help diagnose a rig including testosterone, testosterone pre- and post-hCG administration, oestrone sulphate and AMH (anti-Müllerian hormone).

Oestrone sulphate is accurate and recommended in horses over 3 years old, whereas in younger horses, an hCG stimulation test is recommended.

AMH is also an accurate test for rigs and should be included in any testing performed.

Ultrasound

Vets experienced in testicular ultrasonography can sometimes locate an undescended testis, and identify whether it is intra-abdominal or just a high flanker.

Clinical Signs



An ultrasound being performed to locate the non-descended testes



Diagnosis

CRYPTORCHIDISM



Treatment

The treatment for rigs is castration - removal of all descended and undescended testes.

There are two surgical procedures depending on the location of the undescended testis and both are performed at the hospital. If it is inguinal (aka high flanker), a normal castration under general anaesthetic can be performed. If it is intra-abdominal, then the testis is removed laparoscopically.

Laparoscopic cryptorchidectomy is the gold-standard procedure for abdominal testicles. Traditionally, abdominal testes were removed under general anaesthesia via larger incisions with minimal visualisation. Laparoscopy uses a camera, so the testes can be directly visualised during identification and removal. Laparoscopy is a minimally-invasive "keyhole" surgery, with only two small 2 cm incisions in the horse's flank and horses can get back to work in just 2 weeks.

The testosterone level decreases rapidly and is down to basal gelding levels well within 24 hours. However, many continue to have unwanted behaviour for 4-6 weeks and after that time it is likely to be learned. We recommend that newly gelded horses are kept away from mares for 4 weeks after the surgery.

There are many good reasons to have a rig castrated, including:

- Testis do not develop properly in an abnormal location such as the abdomen as the sperm-producing cells are heat sensitive, however the testosterone-producing cells are unaffected, causing unwanted stallion-like or unpredictable behaviour
- Unilateral rigs are usually fertile, but have reduced sperm production, which can be a risk of unwanted foals if housed with mares. Bilateral rigs are sterile
- It is not recommended to breed rigs anyway as the condition has some degree of heritability
- Undescended testes can result in neoplasia (testicular cancer)
- Rig surgeries (and castrations) are frequently performed in the spring before there are too many flies



An intra-abdominal testis identified on laparoscopy

Why should I have my rig castrated?



A standing laparoscopic surgery

More questions? Contact us!

01722 710046

CRYPTORCHIDISM