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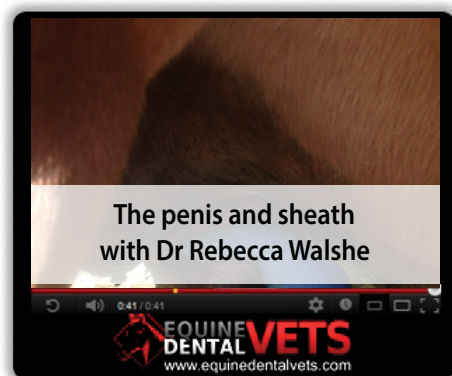
by Dr Natasha Hovanessian, BVSc MS, and
Michelle Keatley, Veterinary Student, Charles Sturt University

Common problems of the penis and sheath

Although not exactly every person's favourite subject, a gelding or stallion's penis and sheath are prone to a number of problems.

As Dr Natasha Hovanessian from the Canberra Equine Hospital explains, being a very sensitive area of a male horse's anatomy that allows the elimination of urine from the bladder, any problem can easily become a major complication. Early recognition by horse owners and veterinary intervention are the best way to ensure a successful outcome.

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The normal anatomy

In order to be able to identify problems with the penis and sheath, it is important to first appreciate what is normal.

The equine penis is composed of three parts - the base (inside the horse), the shaft (the main part) and the glans penis (the round part at the tip).

The urethra (the tube that transports urine from the bladder) and urethral process are inside of the penis and allow the horse to urinate.

The urethral process should be distinctly visible at the center of the glans penis as a small pink opening leading up into the urethra.

Surrounding the urethral process is the urethral fossa, a little cavity where accumulations of secretions called smegma, also known as 'beans', are a common occurrence.

The prepuce is the covering surrounding the penis when it is retracted. It is composed of a double fold of hairless skin and is designed to protect the penis. The external, hair-covered part of the prepuce is also known as the sheath and is the outermost protective layer.

Routine examination

Examination of the penis and sheath is something which should be done on a regular basis. It is important to establish normal skin texture, penis size and sheath size of your horse so you can easily identify when something changes.

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Regular visual examination of the sheath can easily become part of your routine when you are grooming, saddling, feeding or visiting your horse.



Photo by Karen Lyon

Regular visual examination of the sheath can easily become part of your routine when you are grooming, saddling, feeding or visiting your horse.

Proper examination of the penis itself can be difficult as most horses will not appreciate you exteriorising their penis to get a look and may kick. Take the opportunity to visually examine the penis any time your horse is urinating or is very relaxed.

Build ups of secretions and sweat is a common problem in many geldings and stallions, hence cleaning of the penis and sheath is an important part of managing our mates.

Cleaning

Cleaning should be done approximately every six months and it is a good idea to do it at the same time as your regular dental check-up. Not only is your vet there to help and answer any questions, but the horse is likely to be sedated, which makes for a much more cooperative patient! (See Page 16 for a guide to cleaning).

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Normal Anatomy

Base (inside the horse)
Scrotum (containing testes)
Preputial Ring
Shaft
Glans penis

(Note the pink skin, despite the fact this horse is a solid bay)

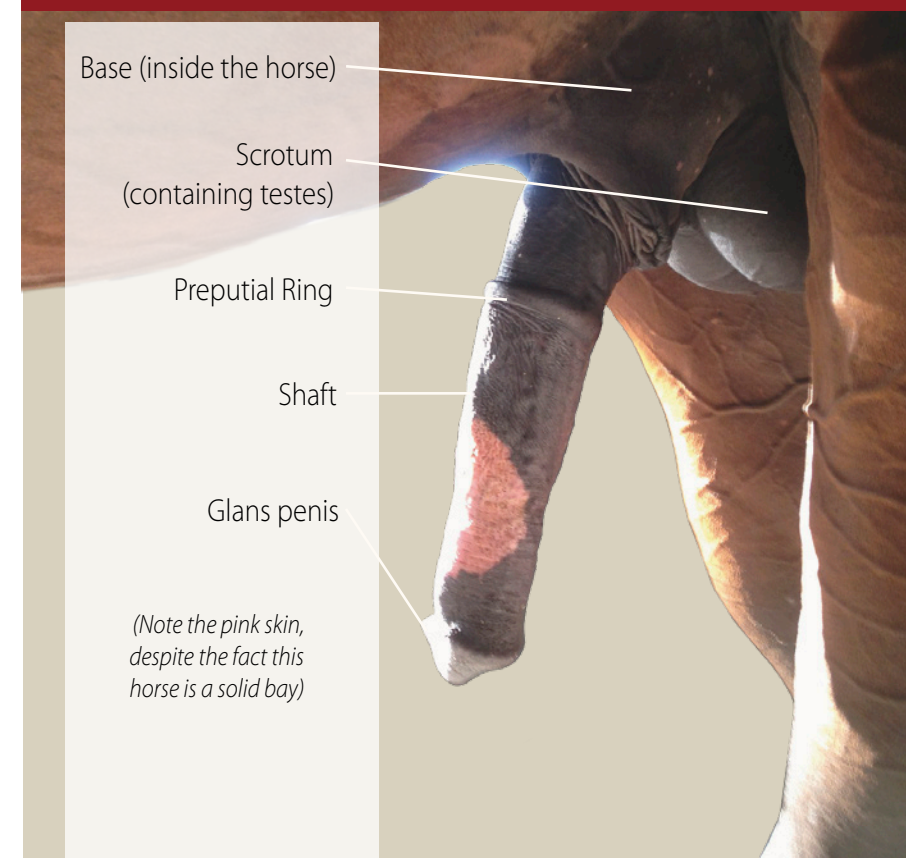


Photo by Karen Lyon

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“ Difficulty urinating including repeated posturing to urinate or dribbling urine is a sign of a problem

Difficulty urinating

Difficulty urinating can occur as a result of a smegma ‘bean’ as mentioned above, however, there are other more sinister causes of difficulty to urinate.

If you notice your horse is having trouble urinating, only urinating in small amounts or posturing to urinate but failing to do so, first check his urethral fossa for a buildup of secretions. If no bean is found, or he is still having difficulty, a more thorough examination by your vet may be required.

Other causes of obstruction to the urethra can include trauma to the urethra or surrounding tissue, bladder stones which have travelled down to the urethra or neoplasia.

Trauma

Trauma to the penis and prepuce can encompass a large range of injuries including kicks, abrasions, lacerations, chemical irritation, contusions (bruising), photosensitization (sun damage) and strangulation.

Regardless of the cause, penile injuries are usually accompanied by heat, pain, severe swelling and can interfere with the function of the penis or prepuce.

Phimosis

This term refers to a condition where the penis is retained within the prepuce and is unable to be exteriorised.

There are a number of potential causes of this condition, therefore, careful examination is required to determine if the failure to exteriorise is due to stricture (narrowing) of the preputial ring internally, from a process such as inflammation, a large bean formation or neoplasia.

Treatment for an inability to drop the penis will depend on the cause, but may involve widening of the preputial ring by surgery.

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Indications of a problem

Once you have identified what is normal for your horse, any changes from normal can be detected.

Penile or sheath problems may present in a number of ways including:

- swelling,
- discharge,
- bad odour,
- penis remaining extended out,
- growths (masses),
- difficulty urinating, including repeated posturing to urinate or dribbling urine, and
- kicking at the abdomen.

Inflammation of the penis and prepuce

Inflammation of the penis is one of the most common signs of disease involving the penis.

Penile inflammation can be identified by redness, swelling (which can become extreme), heat, pain, odour and interference with function. It can be caused by a number of factors including infection, trauma or neoplasia (cancerous growths).

Inflammation of the penis can result in failure to either exteriorise or retract the penis which can cause a host of other complications.

If you notice any abnormal swelling, discharge or growths, it is important that you contact your veterinarian so the cause of the problem can be identified and treated appropriately.

Above: A normal urine stream.

Below: Swollen and inflamed penis unable to be retracted. Image courtesy Dr Shannon Lee.



Did you know?

In a new born foal, the frequency of urination declines from an event that happens hourly a few hours after birth to one that occurs about six times per day in the first week of life.

Tyler SJ. The behaviour and social organisation of the New Forest ponies. Animal Behaviour Monographs.

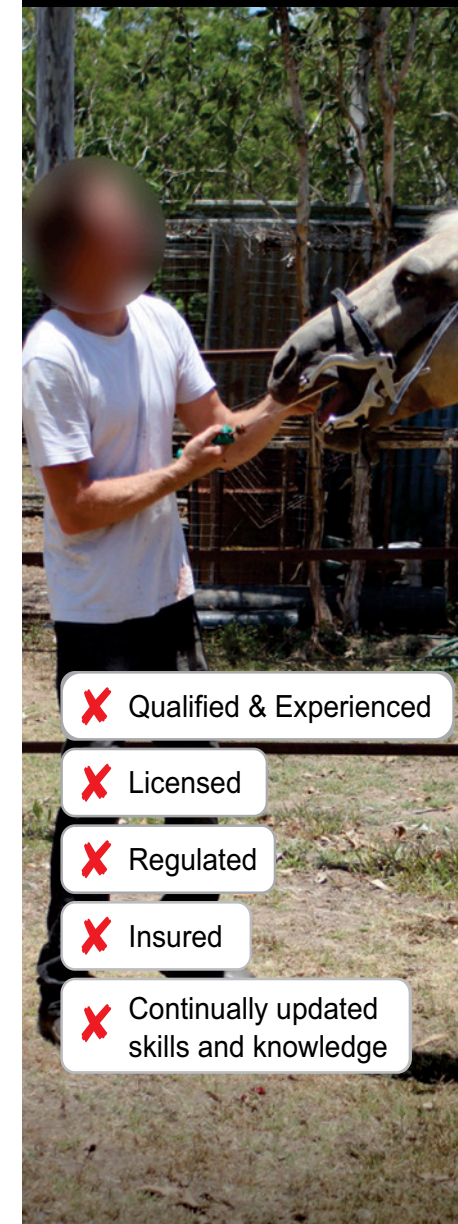


Above: Three smegma beans removed from around the urethra of a horse during a routine clean by an equine dental vet. ‘Beans’ can lead to difficulty urinating. Image courtesy Dr Shannon Lee.

Below: Paraphimosis refers to the condition where the penis is constantly exteriorised and the penile tissue is limp and unable to be returned to the sheath due to swelling of the penis, narrowed preputial ring and weakness of the muscles which would normally retract the penis. Image courtesy Dr Natasha Hovanessian.



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Penile pampering...

by Katelyn McNicol BVSc (Hons)
West VETS Animal Hospitals and Equine Reproduction Centre

This is a guide for geldings only, as a stallion's cleaning regime will vary depending on their breeding management.

Do I really need to clean his penis?

There are two main reasons for maintaining a pretty penis. The first relates to the amount of smegma that accumulates in the sheath and around the urethral opening. Large accumulations of smegma have been associated with infections of the penis. The smegma bean that develops in the urethral sinus can become very large (e.g. 5cm x 3cm) and could cause discomfort during urination.

The second reason to clean the penis is to identify any potential problems such as those discussed by Dr Natasha Hovanessian in this feature.

How often do I need to clean his penis?

Your horse's penis will typically need to be cleaned only once or twice a year. This can very easily be done in combination with their dental check, at which point your veterinarian can examine the penis and identify any potential problems.

If you do decide to take on this task by yourself on an unsedated horse, be careful! Not many horses appreciate this intrusion. Some habituation and desensitisation training to having this area handled may be necessary.

What should I use?

This is a sensitive area for your horse, so the safest product to use is simply warm water. You should avoid over-cleaning and using any product which could disrupt the natural bacterial flora in the sheath, as it could allow an overgrowth of pathogenic, resistant organisms, resulting in infection.



Above: Sheets of smegma on a penis and glans. Note the pink skin, even though this horse is a bay.

If your horse will allow you to safely handle his sheath, a time when he is relaxed and has 'let down' his penis is a good moment to put a pair of gloves on for hygiene, and carefully clean the sheets of smegma using warm water.



Recess above urethra with a small smegma bean

Other two recesses with small amount of smegma

Urethral Process

Left: The image shows three smegma 'beans' around the urethral process.



Paraphimosis

As well as priapism (See below), paraphimosis is a condition that refers to a state where the penis is stuck outside of the prepuce and sheath.

Paraphimosis refers to the condition where the penis is constantly exteriorised and the penile tissue is limp. Paraphimosis is generally a result of inflammation, swelling and fluid retention of the prepuce. The weight of the swollen prepuce pulls it downward along with the penis, which swells and can no longer be retracted.

Alternatively, trauma to the penis itself can result in swelling of the penis and the subsequent increase in weight pulls it down.

A haematoma (blood clot) resulting from trauma is another potential cause of paraphimosis where the weight of the increased blood in the tissues causes a downward pull.

Priapism

Priapism refers to a condition where the penis is constantly exteriorised and erect, or engorged with blood. It has been reported that this condition is mainly associated with an overactive libido, however, spinal cord injuries and a complication of castration are other potential causes.

Both paraphimosis and priapism, have also been reported in association with neoplasia (abnormal growths on the penis), parasitism, debilitation from ageing or illness, as well as the use of phenothiazine-derivative tranquilisers (such as acepromazine or ACP).

If caught early, gravitational oedema, (fluid collecting in the tissues) can be managed through the use of cold hosing, massage, exercise and application of an elastic bandage. Exercise should be carried out carefully as the exteriorised penis is at risk of further trauma if the horse moves around too much. Your veterinarian can direct early treatment for paraphimosis or priapism, but it is important to institute therapy early.

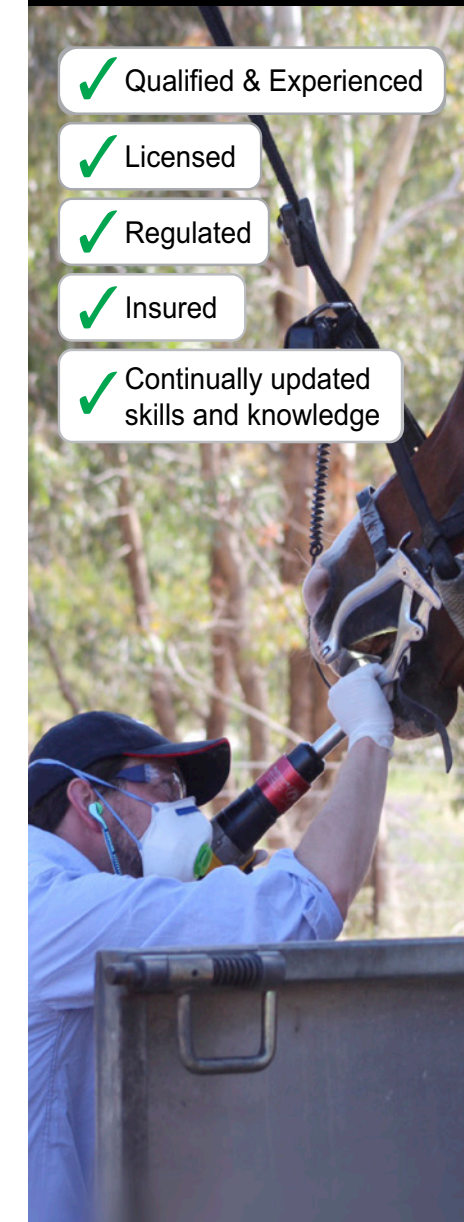
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Above: A cut bottle can be easily secured with stockings around the horse's back and provides support to the exteriorised penis to reduce further oedema formation until it is able to be retracted. It also reduces exposure and damage to the penis itself, which quickly becomes dry and abraded when not within the sheath. Image courtesy of Natasha Hovanessian.

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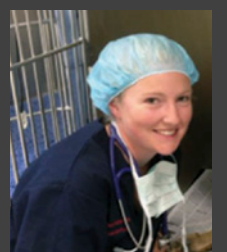
Natasha Hovanessian BVSc, MS



Natasha graduated from the University of Sydney in 2007, completed an internship in at Goulburn

Valley Equine Hospital in Victoria, and has spent three years in the US for her Residency in Large Animal Internal Medicine and Master's Degree at the Virginia-Maryland Regional College of Veterinary Medicine. Here she did specialist training in Equine Internal Medicine and research into anti-inflammatories for foals. Currently, she enjoys working with Canberra Equine Hospital.

Michelle Keatley, Vet Student, Charles Sturt University



Michelle grew up on a sheep property in the Southern Tablelands of NSW before moving west to pursue a career in Veterinary

Medicine. She is currently in her fifth year of Vet Science at CSU in Wagga Wagga, due to graduate in 2015. Michelle is a qualified EA coach and competitor, currently competing her horse Solero in Advanced Dressage. She is also working at the Animal Emergency Centre in Canberra as a casual vet nurse. Upon graduating, Michelle hopes to gain more experience in all levels of veterinary medicine and animal health with a particular interest in equine medicine.

"I enjoy being able to combine my coaching and university knowledge to provide my students with assistance in all aspects of equine management, health and training."



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Squamous cell carcinomas, the most common neoplasm affecting the equine penis, prepuce and sheath, tend to be more common on light-coloured horses including Appaloosas, greys, palominos and any horse with pink tissue on the penis or sheath, which many solid coloured horses can have.



Images above: Squamous Cell Carcinoma or SCC affecting the penis.
Image source: <http://michaelporterdm.blogspot.com.au>

The basis of veterinary treatment is to reduce the oedema to the point where the prolapsed structures can be replaced into the retracted position. Replacing the prolapsed structures allows for more protection and better healing of the mechanism which holds the penis and prepuce in place. Slings made of a water permeable material so that urine can still pass through, such as stockings, can be used to hold the penis/prepuce in the retracted position until the animal is able to do so themselves. Alternatively, a bottle fashioned into a sling also works well.

If complications such as further inflammation occur, the resulting damage to the penis may mean that it can never be retracted again. In these cases, surgery to re-open the prepuce may be successful, however, complete penile amputation may be the only cure.

Parasitism and infection

There is a large and varied range of parasites and bacteria which can cause problems with the penis and/or prepuce below, are a few of the more common ones.

Habronemiasis, also known as 'summer sores' is a parasitic infection of the skin caused by the larvae of the *Draschia spp.* and *Habronema spp.* of flies. The larvae invade the skin causing inflammation which is accompanied by intense itching. The irritation leads to self-trauma and large inflamed/reddened areas. If the infection is around the urethral opening, it may cause an obstruction which will require surgical intervention and local treatment of the parasitic infection with topical anti-parasitides.

Staphylococcus infection commonly occurs secondary to other problems which have caused a break in the skin. Treatment is much the same as for any other infection and involves exposure of the bacteria to the environment through thorough cleaning and debridement of wounds as well as use of antiseptics and possibly antibiotics.

Equine Coital Exanthema is a disease caused by one of the Equine Herpes Viruses (EHV-3), and is transmitted during breeding activity. The virus causes papules (small pimples or swelling on the skin), pustules (small blisters or pus-filled pimples) and ulcers on the penis of the affected male. The appropriate management is to treat the symptoms until all lesions have healed, and to isolate the infected animal to prevent spread of the infection.

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Regular cleaning and observation, as well as check ups from your veterinarian, will help alert you, as horse owner, to problems early on to allow for a successful outcome.

Tumours (Neoplasia)

Squamous Cell Carcinoma

Neoplasia refers to abnormal growths or lumps of tissue. The most common neoplasm affecting the equine penis, prepuce and sheath is squamous cell carcinoma, (SCC).

SCC's tend to be more common on light-coloured horses including Appaloosas, greys, palominos and any horse with pink tissue on the penis or sheath, which many solid coloured horses can have.

SCC's can present in a number of ways so it is important that if you notice any kind of lump on your gelding or stallion's penis or prepuce that you get it checked out by your vet before it enlarges.

It can be difficult to determine the extent of the SCC's, as what looks like a small nodule on the penis can extend quite deeply into the rest of the tissue and be present in local lymph nodes. A deep invasion such as this can cause a host of other problems including oedema, abscesses and multiple draining tracts which can subsequently make the diagnosis difficult.

While SCC's do tend to spread, they do so relatively slowly, which means that surgical management of the penile lesions is often very rewarding. Extensive lesions involving the glans penis (or tip), may require phallectomy, or removal of the penis, especially if urine flow is affected.

Sarcoid

Sarcoids are the second most common neoplasm of the skin (and thus potentially affecting the penile/preputal skin).

A sarcoid tumour tends to invade quite deeply, making successful removal difficult and recurrence common. There are a variety of treatment options used including chemical applications, cryotherapy (freezing areas of the skin), surgical excision, as well as local chemotherapy, radiation and laser surgery. Your veterinarian will best advise on an appropriate course of therapy for sarcoids on the penis or sheath.

Melanomas

Melanomas are a common skin cancer of horses, and mainly occur in grey horses.

Essentially melanomas are benign tumours and grow slowly, however 70% of horses with external melanomas have them internally as well and if the melanoma has the potential to obstruct the normal function of urination or retraction of the penis, it should be removed early.

The long and short of it...

Although the horse's penis and sheath are prone to a number of problems, regular cleaning and observation, as well as check ups from your veterinarian, will help alert you, as horse owner, to problems early on to allow for a successful outcome.