

Girls behaving badly

Why is it that some mares are complete angels, while others are a total nightmare? Vet Kerrie Winstanley from XLEquine explains

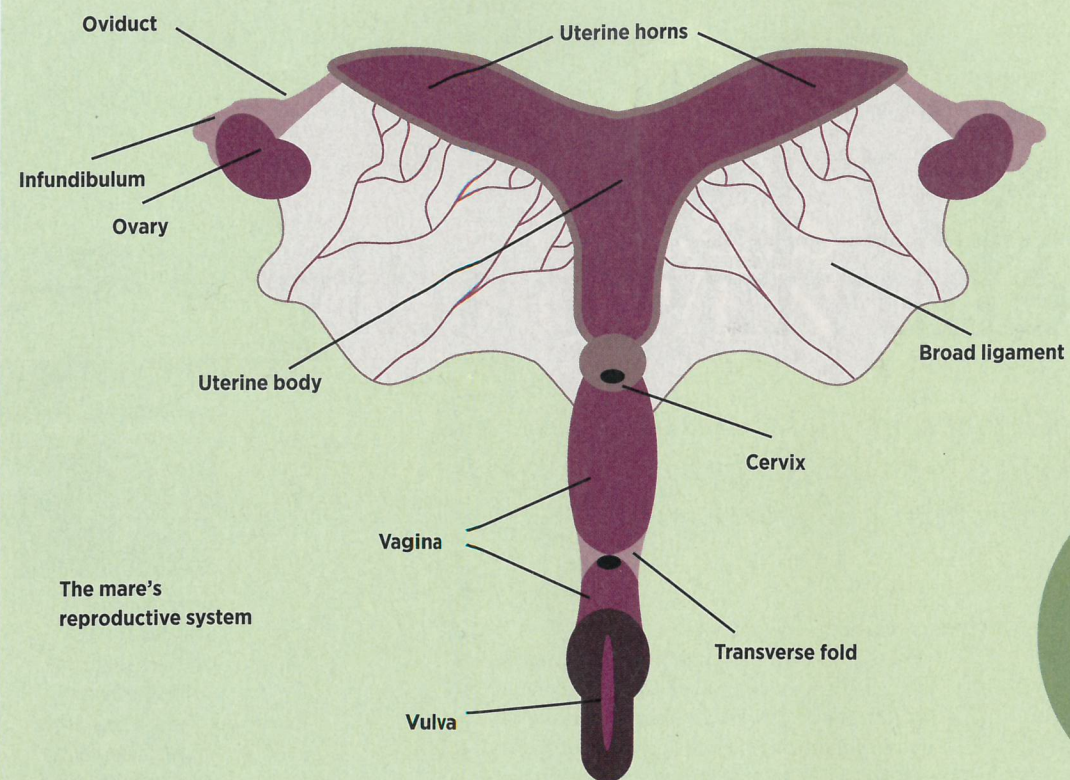
Our expert



Kerrie Winstanley BVetMed MRCVS graduated from the Royal Veterinary College in 2011. She worked as an equine vet in practice for members of XLEquine, before becoming XLEquine Business Support Manager earlier this year.

Just like women, some mares are more affected than others by their reproductive cycle and the hormonal changes associated with it. It's easy to forget that, like stallions, mares are entire and are driven by breeding behaviour. However, in some circumstances their behaviour is extreme and can be caused by a medical problem in the mare's reproductive system. ➤





The mare's reproductive system

Signs a mare is in season

Squealing
Squirting urine
Lifting her tail
Being over-sensitive to touch
Dirty, stained back legs

The breeding cycle

Mares are seasonally polyoestrous, meaning that they come into season during the spring, summer and autumn. Occasionally, mares do cycle all year round without a break over the winter, but this is unusual. This cycle is nature's way of ensuring that foals are not born in poor weather conditions, as an equine pregnancy lasts for approximately 11 months.

Mares come into season every 21 days on average, with each season lasting between five and seven days. It is typically during oestrus (in season) when mares show signs of being hormonal. Many hormones control the oestrus cycle, but there are two main types of hormone...

Oestrogen is the hormone that promotes mares coming into season and causes the signs of 'being in season' that we recognise (see above right). Oestrogen causes mares to ovulate, which is when an egg is released for fertilisation by a male. After ovulation, mares stop showing signs of being in season.

Progesterone is produced after the egg has been released from the corpus luteum – a structure on the ovary that is left after ovulation. The release of progesterone prevents more follicles (eggs) from developing, so the mare doesn't come into season while progesterone is produced. Progesterone continues to be released if an egg is fertilised.

Is it a hormonal problem?

Hormonal problems are fairly common in mares, but they are not particularly well understood. All mares are different and some will only show hormonal symptoms when in season, while others will be moody all year round. Hormonal mares can show many different signs depending on the extent of the problem, including...

- aggressive or grumpy behaviour
- resenting being groomed and tacked up
- oversensitive about being touched
- squealing
- biting
- kicking
- poor performance
- low-grade colic
- repeated urination
- running milk

Hormonal problems show similar symptoms to many other medical conditions, including low-grade lameness, dental pain, back pain or gastric ulcers. And sometimes the signs seen are psychological and caused by a behavioural issue. It can be useful to write a diary of your mare's behaviour and look for patterns to determine whether her behaviour is linked to her reproductive cycle. It is likely that your mare has a hormonal problem if...

- signs only occur between spring and autumn
- her behavioural changes are on a three-weekly cycle
- her seasons are not regular

If pain is suspected, but is not obvious on clinical examination, a short period of painkillers can be administered in order to see if she shows an improvement – this is often referred to as a bute trial.

Occasionally, mares show more hormonal signs during the transitional period. This is when mares are ceasing to come into season in the autumn or when they are starting to come back into season in the spring. During the transitional period, the mare's hormones are changing, which can cause erratic behaviour within the breeding cycle and this may be reflected in her behaviour. The behaviour normally settles down once the transitional period is over.



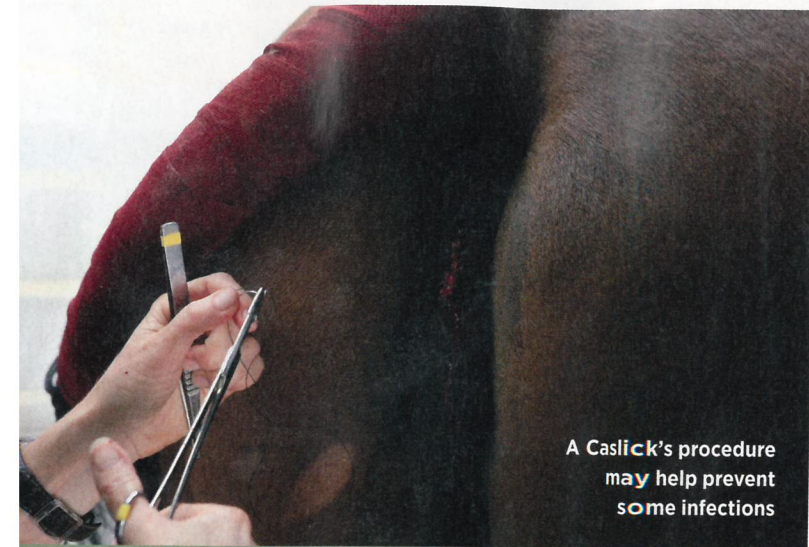
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Achieving a diagnosis

Diagnosing a hormonal problem is not always simple and often involves diagnosis by elimination of other possible conditions. If you think your mare may have a hormonal problem, the first step towards a diagnosis is a thorough examination by your vet. This may include...

- taking a full reproductive history
- ultrasound scan of the uterus and ovaries
- examination of the vulva and vagina
- blood tests to assess hormone levels



A Caslick's procedure may help prevent some infections

Could the cause be medical?

Sometimes difficult behaviour isn't just down to normal hormonal changes. Various medical conditions can cause hormones to go awry and inflict pain. Here are some of the common conditions affecting mares...

Low-grade infections can affect the regularity of a mare's seasons, meaning that they may last longer or her behaviour may be worse than normal. Often mares with a uterine infection will have a shorter oestrous cycle. Poor vulval conformation can allow mares to suck in air – a condition known as pneumovagina – which can predispose them to uterine infections.

Infections can be diagnosed by taking a swab of the lining of the uterus, which is sent to the laboratory for examination. Infections can be treated easily by flushing the uterus with sterile saline and administering appropriate antibiotics based on the bacteria that the laboratory detects on the swab.

If pneumovagina is thought to be playing a part in causing uterine infections, a Caslick's procedure can be performed, which involves stitching up the top part of the vulva under local anaesthetic.

Persistent follicles occur occasionally when a follicle doesn't ovulate as it should. A follicle remaining present affects the hormonal control of the cycle and, therefore, can also affect the mare's behaviour.

Ovarian tumours are usually benign in mares, however, they are hormone driven so they can cause changes in behaviour. The most common type of ovarian tumour is a granulosa cell tumour. These most commonly occur in mares in their teenage years and typically on just one ovary.

Treatment involves removing the affected ovary, but mares can usually still breed from the other ovary following treatment. Granulosa cell tumours tend to cause three problems...

- 1 The mare fails to come into season
- 2 She exhibits stallion-like behaviour – aggressive and mounting other mares
- 3 The mare is persistently in season

Pain around ovulation causing colic signs has been described in some mares and is diagnosed by taking a full history of the mare's cycling behaviour alongside colic episodes. This pain is thought to be caused by the process of ovulation or by the fact that the ovaries are so heavy and large, due to follicles being ready for ovulation, that they hang down, causing traction on the broad ligament that suspends them in the abdomen. Treatment involves preventing the mares from cycling.



Treatment options

Some mares don't have a medical condition that is causing their behaviour. If your vet has confirmed that the problems are hormone-related, it can be very helpful to prevent the mare from cycling, but some may benefit from treatments that alleviate the symptoms associated with coming into season.

There are various ways to treat a hormonal mare...

Synthetic progesterone treatment is a common method of stopping the mare's reproductive cycle. As progesterone prevents mares from cycling, administering it should stop the adverse behaviour. A liquid treatment is licensed for horses, which needs to be given in feed every day – similar to women taking the contraceptive pill. This treatment can also be used as a trial to see if it prevents the unwanted behaviours. Currently, this drug is prohibited for use in racing mares and fillies. Horses competing under FEI rules must be given a veterinary certificate.

Studies have shown that the product can be used for extended periods without adverse effects on future reproductive performance or fertility. Care must be taken when handling the product, as it can be absorbed through skin and can have an effect on the human reproductive cycle.

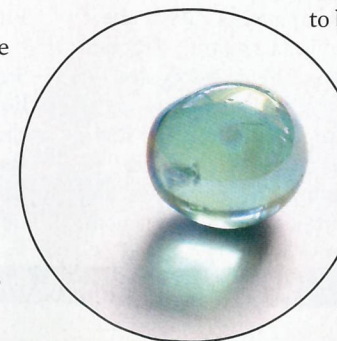
Sometimes the difficult behaviour isn't just down to normal hormonal changes, various medical conditions can cause hormones to go awry and inflict pain

Vaccination has also been used to prevent mares cycling. All of the hormones that control the breeding cycle are controlled by GnRH, a hormone higher up the chain. When GnRH is released, it causes other hormones to be released that trigger follicle development and, consequently, mares come into season.

In Australia, a vaccine has been developed that blocks the production of GnRH, which in turn prevents the other hormones being released and mares don't cycle any more. The vaccine works for between three and six months. It is not currently available in the UK and has an unknown effect on future fertility, so it shouldn't be used in mares who are intended for breeding.

Intra-uterine insertion of a sterile marble has been used to prevent mares coming into season. This can result in suppression of seasons for up to 90 days, but studies have shown this method to be successful in only 40%

of mares. The advantage of this treatment is that it is cost-effective, however, its effect on long-term fertility is unknown. Glass marbles have also been known to fragment inside the uterus, making their removal difficult.





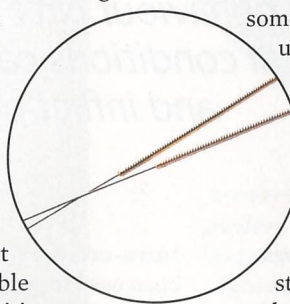
Pregnancy may be an option for some mares

Some owners find supplements specially designed for mares helpful

Intra-uterine administration of plant oils such as peanut oil or coconut oil has been shown to suppress unwanted behaviour associated with being in season. In a scientific study, 11 out of the 12 mares tested showed an improvement. Although the exact mechanism of action is not fully understood, it is thought these plant oils extend the progesterone production from within the ovary, thus keeping progesterone levels high and blocking the return to oestrous.

More work is required to confirm the findings of this initial study, but it may be a promising technique available to veterinarians dealing with competition mares, with obvious advantages in terms of avoiding drugs that may contravene competition rules. The risk of side effects, such as an inflammatory reaction within the uterus, has not been fully investigated.

Ovariectomy is removal of the ovaries to stop the breeding cycle. Although this is an invasive and irreversible procedure, it has been used successfully as a technique to stop unwanted oestrous behaviour.



Acupuncture has been used with varying success in curbing unwanted oestrous behaviour. The technique often involves inserting surgical staples into an acupuncture point in the mare's ear tip. Although this does not suppress the mare's oestrous cycle, there is some anecdotal evidence to suggest it may reduce unwanted behaviour during the heat period in some mares.

Pregnancy is a drastic option, but it will stop mares showing signs of being in season. This can either be a pregnancy carried to term or, controversially, one that is aborted after 35 days, during which time a structure called the endometrial cup forms. The endometrial cup produces a hormone that prevents mares from cycling until it regresses at approximately 100–120 days.

Supplements are commonly used to modify hormonal symptoms in mares. There is little evidence that they work, although some horse owners find them to be very useful. Remember to carefully check the label of any supplements, as some are banned in competition. ■

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