

Cinder Hill Equine Clinic



Behavioural Problems in Performance Mares

Behavioural problems in performance mares are common and can arise from a variety of reasons. Behaviour considered undesirable in the performance mare, although rarely, can be due to:

1. Normal oestrus cycle activity
2. Abnormal oestrus cycle activity
3. Non reproductive cycle factors

Types of behavioural problems

The range of behavioural problems in performance mares can be highly varied, which can result in complex investigations to determine the underlying cause.

Typical 'behavioural' signs include:

- Change in attitude
- Tail swishing
- Excessive urination
- Clitoral 'winking'
- Squealing
- Reluctance to go forward
- Reluctance to be separated from other horses
- Kicking out
- Rearing
- Discomfort associated with ovulation – may present with signs typical of back pain ('cold backed', bucking, kicking out when saddled etc.)
- Extra sensitivity to being touched
- Aggressive or stallion like behaviour

Often these behaviour changes occur whether or not they are under saddle. It is important to note that there are numerous physical conditions (ie non-behavioural causes) which can cause similar signs to those listed above.

Mares are seasonal breeders and require long, light days to induce follicular activity. In the UK, most mares begin cycling naturally from mid-March and continue until autumn, when they enter a period of sexual inactivity known as anoestrus. "Spring heat" is the transitional phase where follicular activity of the ovaries start, and this can result in a prolonged heat period of up to six weeks. Mares in the transition period typically undergo waves of ovarian activity where follicles increase in size but fail to ovulate. During this time the mare can show irregular or prolonged displays of oestrous like behaviour. Once the mare has her first ovulation, she will then go on to cycle normally, with a more predictable pattern of oestrous behaviour.

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What is happening when a mare is in Oestrus (in heat/ season)?

Expression of behavioural oestrus, when a mare is ‘in heat’ or ‘in season’, can have a marked negative impact on performance. The oestrus cycle of a mare is on average 21 days in length, of which 5-7 days are in the follicular phase. In her ovaries are small fluid filled sacs called follicles, these release increasing levels of oestrogen as they mature. This is when the mare is in-oestrus and may display behaviours to show that she is receptive to mating. The release of an egg from a dominant follicle, known as ovulation, occurs on days three to five. After ovulation, the follicle develops into a structure, called a Corpus Luteum, that secretes progesterone to prepare the uterus for pregnancy. After 14 days, if the mare is not in foal, hormones are released to remove this source of progesterone and allow follicular activity to resume and oestrus to begin.

Typical signs that a mare is in-oestrus, often more evident when a stallion or an interested gelding is present, include:

- Winking of the vulva
- Tail raising
- More frequent urination
- Standing as to be mounted by a Stallion

Unwanted behaviour and poor performance from a mare may well be related to her cycle, but determining a link between a mare’s undesirable behaviour and oestrus can be difficult. Erratic or aggressive behaviour could also be due to other low grade pain stimuli such as colic, gastric ulceration or back pain.

Before starting any treatment, it is important to try and confirm that the behavioural problems being observed are truly associated with the mare’s oestrous cycle.

What to do?

1. Keeping a diary of your mare’s behaviour can be useful. This could include time of the year, patterns of behaviour, exercise routines, any supplements or medications she is receiving, change in management etc, to see if there is a pattern to her unwanted behaviour. If the problems are only apparent for a few days every 3 weeks, then they are more likely to be due to the mare being in the oestrous phase of her cycle.
2. A full physical examination to rule out other potential physical causes. This may include a physical examination at rest, orthopaedic examination in hand and under saddle, rectal examination and ultrasound examination of the mare’s reproductive tract. Your vet may also take a blood sample to check there is no underlying organ dysfunction.
3. Consider an analgesia trial. Giving daily pain killers for a set period of time, as long as there are no contra-indications for your horse, can be a way of assessing that it is hormones rather than pain that is the reason for her behavioural problem.

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Causes

Abnormal oestrus cycle activity

There are certain conditions in the mare where a disruption to the normal oestrous cycle can cause abnormal behaviour patterns.

Granulosa Cell Tumours (GCTs) are the most common type of ovarian tumour in mares and can cause unwanted behaviour in mares. GCTs usually occur in one ovary, causing it to become enlarged. The unaffected ovary usually becomes small and inactive. GCTs are hormonally active and can secrete excessive amounts of testosterone, oestrogens, and inhibin. It is the excessive production of these hormones that cause the abnormal behaviour patterns seen in affected mares. Mares with GCTs typically present with 1 of 3 different behaviour patterns:

1. Persistent anoestrus – the mare fails to come in to season.
2. Stallion like behaviour – the mare becomes abnormally aggressive, with sexual aggression and mounting of other mares.
3. Persistent oestrus – the mare shows continual signs of being in season.

The condition is treated by surgical removal of the affected ovary. Once the affected ovary is removed the mare should return to normal cyclic activity on her remaining ovary and can be bred from in subsequent breeding seasons.

A less common cause of persistent oestrous behaviour is uterine infection. Bacteria and fluid in the uterus can cause a mare to have abnormal cycles. Although far less common in the performance mare than the breeding mare, poor vulval conformation in competition mares can lead to the sucking of air and faecal material into the vagina, a condition known as Pneumovagina. This in turn this can lead to infection within the uterus itself. The condition can be diagnosed with an ultrasound examination and a uterine swab. After treatment of this infection, the condition can be prevented from recurring by performing a ‘Caslick’s Vulvoplasty’. This is a procedure involving suturing of the upper vulva under local anaesthetic.

Abnormal behaviour not related to the reproductive cycle

The types of abnormal behaviour discussed above may of course be caused by factors not related to the mare’s reproductive cycle. When investigating the mare with problematic behavioural patterns, a full clinical examination should be undertaken to try and rule out other potential causes such as:

- Dental pain
- Lameness

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- Back pain
- Gastric ulcers If dental or orthopaedic pain is suspected but not obvious on clinical examination, a short period of painkillers can be administered to the mare to see if she shows an improvement, this is often referred to as a 'bute trial'.

Treatment Options

Once other causes have been ruled out, addressing your mare's difficult behaviour will depend on yours and your mares' requirements. Is she a competition mare? Would you like to breed from her? There are different options that can be used to suppress your mare's oestrus behaviour and your vet can advise on the best and most suitable option for you and your mare.

1. Oral synthetic progesterone supplementation

Regumate™ is a synthetic progesterone that is licensed for use in horses and given orally every 24 hours. Progesterone is the dominant hormone in the mare's reproductive cycle and therefore daily supplementation with Regumate™ will prevent a mare from coming into season. Regumate™ is very effective and easy to use. In addition, studies have shown that the product can be used for extended periods without adverse effects on future reproductive performance or fertility. The disadvantages of its use include cost (the drug must be given daily) and the fact that its use is not allowed by some competition authorities (see box below). In addition, care must be taken when handling the product, as it can be absorbed through skin and can influence the human reproductive cycle.

Use of Regumate™ during competitions

FEI Rules: Regumate™ is currently allowed under FEI rules in mares.

Jockey Club Rules: Regumate™ is NOT allowed under the rules of racing. The withdrawal period is 8 days, during which time the mare is likely to come back into season thus reducing its usefulness in racing fillies/mares.

2. Progesterone injections

Although not licensed in the UK, recently an injectable form of altrenogest (the same active ingredient as in Regumate™) has shown it to be successful in suppressing oestrus. Injections are given once weekly. They are more costly than giving oral Regumate™, however, it is often easier when managing large numbers of stock.

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3. GnRH vaccine

GnRH is a hormone released by the hypothalamus in the brain which in turn causes high levels of the hormones FSH and LH to be released which cause an increase in ovarian activity which results in a mare coming into season and exhibiting signs of oestrous behaviour. This reduces the secretion of GnRH, therefore, suppressing a mare's oestrous behaviour. Studies have shown that GnRH vaccines are 100% effective in suppressing the normal ovarian cycle and thus suppressing signs of oestrus behaviour. The duration of suppression is not reliable and may be prolonged for up to several months. Although available commercially in Australia, the vaccine is not currently licensed for use in the UK or elsewhere in Europe at present. An important consideration is that some individuals fail to return to oestrus again and are subsequently barren. If breeding the mare in the future is of importance the vaccine should not be administered.

4. Intra-uterine insertion of a sterile marble or iUPOD magnet

The insertion of sterile glass marbles and iUPOD's has been used to suppress oestrous return in mares and would be advantageous in competition mares as no withdrawal times would be required. This can result in prolonged suppression for up to 90 days.

In addition, there has been no study to evaluate any long-term effects on a mare's future fertility. Glass marbles have also been known to fragment inside the uterus making their removal difficult. The iUPOD's can be easily removed by your Veterinary Surgeon.

5. Ovariectomy

Although clearly an invasive and irreversible procedure, removal of the ovaries has been used a technique to stop unwanted oestrous behaviour.

6. Acupuncture

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 has no suppression of the mare's oestrous cycle there is some anecdotal evidence to suggest it may reduce unwanted behaviour during the heat period in some mares.

Finally, it should be mentioned that FEI and Jockey Club rules permit horses to compete up until 120 days of pregnancy. During this time there will be no oestrous cycles or unwanted oestrous related behaviour. Some trainers believe there is improved performance in pregnant mares although this is purely anecdotal.