

Understanding implications of anti-doping in equine practice

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Categories : [Vets](#)

Date : September 29, 2014

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THE amount of competition horse work each practice does varies widely, but most vets will have need to treat horses in an emergency situation before a major competition, either under Fédération Equestre Internationale (FEI) or British Equestrian Federation (BEF) rules.

Most people are aware of the concept of withdrawal times for the commonly used medications; however, what happens when you treat a case of urticaria with antihistamines under the cascade, or stitch up a small wound using local anaesthetic only prior to an event? It was these scenarios that made me investigate further the role of the treating vet and implications for competition horses.

The FEI instituted a Clean Sport programme to protect equine welfare and create fairness for all competitors. This means all competitors are bound by the Equine Anti-Doping and Controlled Medication Regulations. This programme also acts as the basis for national federation testing; in the UK, this relates to disciplines affiliated to the BEF.

The FEI produces a prohibited substances list that is updated annually. Any new additions to this can only be implemented after a 90-day notice period. The list is divided into “doping” or banned substances, which have no legitimate use in equine medicine, and controlled medications, which are often used in equine therapeutics, but the substances are prohibited in equine competition.

Also produced are individual lists documenting banned substances, controlled medications and a threshold substances list. The threshold substances list gives the details of some naturally occurring substances and their acceptable levels that may be increased in cases of illegitimate

medication, such as carbon dioxide or testosterone. These lists are available on the FEI website, or vets and clients alike can download the FEI Clean Sport Equine Prohibited Substances Database app for android and Apple iOS.

Testing procedure

The FEI can test any FEI-registered horse at any FEI competition; national federations are responsible for testing at national competitions. It is also important to bear in mind any registered horse can be tested out of competition.

Horses are selected for testing based on results, targeted testing or random testing, and can be tested more than once during a competition. Once a horse is selected for testing, a designated responsible person and the steward must accompany the horse until the process is completed.

The testing kits are security sealed for athletes to witness one being opened. Throughout the process, the vet will be gloved to prevent any contamination of samples. Attempts will then be made to obtain a free-catch urine sample, though horses will not always comply, so this will be abandoned if a sample has not been caught after a reasonable length of time. In this case, only a blood sample will be taken.

Both blood and urine samples are split into an A and a B sample before completing the paperwork and security sealing the package, ready for transport to one of five approved laboratories. The samples arrive at the laboratory in anonymous form, with horse and athlete details sent direct to the governing body. The A sample is analysed immediately and usually takes seven days to 21 days, while the B sample is kept for back-up analysis.

Positive tests are recorded in approximately two per cent to three per cent of FEI samples and are deemed to be an adverse analytical finding. If this occurs, the athlete is deemed to be responsible. If a banned substance is detected, the minimum sanction will be a two-year ban from the sport and a fine. Controlled medication detection can result in up to a two-year ban and a fine. Obviously penalties range dramatically, and circumstances and repeat offences are also considered before sanctions are imposed.

Horses that require treatment at, or prior to, an event

In the case of treatments required before an event, the vet should discuss the implications carefully with owners, riders or responsible persons. Before even considering competing after treatment, it must be established the welfare of the horse is not going to be compromised.

Owners must then understand the differences between detection and withdrawal times. Detection times ([Table 1](#)) are a scientifically stated time after medication that the substance or its metabolite can be detected in bodily fluids. These are often based on limited numbers of horses, specific

doses and routes of administration, so all these factors must be taken into account. These detection times can also be affected by concurrent use of other medications or concurrent illness.

Withdrawal times are decided on by the treating vet, based on detection times plus a safety margin. If an owner is concerned, elective testing can be arranged, although this is at the expense of the responsible person.

These are based on medications from specific manufacturers, which may also be relevant to withdrawal times. N-butylscopolamine is not in combination with dipyrone.

If a horse requires treatment for a documented medical condition using a controlled substance, the responsible person must then seek permission to compete from the FEI veterinary official and his or her own vet must complete and sign a veterinary form – previously an equine therapeutic use exemption (ETUE) form – that states the medication given and why it was required. These forms are all available at the download centre of the FEI Clean Sport web pages.

There are four different veterinary forms depending on the substances to be given.

- **Vet form 1** – This seeks authorisation for emergency treatment with use of a controlled medication – for example, local anaesthetic for suturing a small wound. If this occurs prior to the start of competition, it should be completed and accompanied with a signed statement from the treating vet, which can then be used to seek permission to compete from the veterinary delegate, either at, or in advance of, the competition. If treatment is required at the event, permission should be sought before treating the horse, unless it is a genuine emergency situation.
- **Vet form 2** – This form seeks authorisation for the administration of altrenogest for the treatment of oestrus-related behavioural problems in mares only.
- **Vet form 3** – This seeks authorisation for use of non-prohibited substances via parenteral routes – for example, antibiotics (except procaine penicillin) or rehydration therapies.
- **Vet form 4** – This is a self-declaration for use of specified support substances such as B vitamins, polysulphated glycosaminoglycans and so on.

As omeprazole is not on the list of controlled substances, completion of a form is not required.

Any FEI-registered horses should have medications that are on the equine prohibited substance list recorded in their FEI medication logbook, including treatment, dosage and route of administration, together with who administered it.

Horses at national events under the auspices of British Equestrian Federation Anti-Doping and Controlled Medication (BEFAR) treated prior to an event should have their vet complete a BEFAR

medication form (available to download on the BEF website). If the horse is then selected for testing, the form should be presented to the testing vet and a national equine therapeutic use exemption application form sent to the BEF. The information provided on this form is then used in conjunction with the results of testing.

Feed contamination

Most owners will be aware contamination of feedstuffs can result in a positive test and, as such, should seek out appropriate feeding. The British Equestrian Trade Association Naturally Occurring Prohibited Substances assurance scheme provides assurance contamination of feeding should not occur.

Other notes of interest

Extracorporeal shockwave therapy is prohibited during FEI events and in the preceding five days. Cooling with water and ice is allowed, but treated areas must not cool to below 0°C. Any machines capable of cooling to this temperature may not be used at an event unless the sub-zero temperatures can be locked out.

Although unrelated to anti-doping, it is worth mentioning there must be a seven-day interval between vaccines and arrival at a competition, or admission will not be granted.

Summary

Although a positive blood test is a nightmare for all concerned parties, by discussing medications carefully with competition horse owners or riders, hopefully, instances can be reduced. Owners should also be made aware of potential for cross contamination between medicated and un-medicated horses to reduce the risk of a positive sample. If there is any doubt, it is always worth contacting the appropriate federation for further advice.

- Please note some drugs mentioned in this article are used under the cascade.



Choice of medication in equines requires careful consideration.



Drug	Route of administration	Number of horses based on	Detection time (hours)
Phenylbutazone	Oral (4.4mg/kg bid for 5 days)	2	168 (7 days)
Meloxicam	Oral (0.6mg/kg sid for 14 days)	8	72 (3 days)
Flunixin meglumine	IV (1mg/kg)	4	144 (6 days)
Mepivacaine	SQ lower limb (0.07mg/kg -0.09mg/kg)	6	48 (2 days)
Detomidine	IV (0.02mg/kg)	10	48 (2 days)
N-butylscopolamine	IV (0.3mg/kg)	6	24 (1 day)
Methylprednisolone acetate	200mg in 3 joints	5	672 (28 days)
Triamcinolone acetonide	12mg in 1 joint	6	168 (7 days)
<p>These are based on medications from specific manufacturers, which may also be relevant to withdrawal times.</p> <p>N-butylscopolamine is not in combination with dipyrone.</p>			

Table 1. Some example detection times (adapted from FEI list of detection times)

