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## THE DIAGNOSIS OF EQUINE BEHAVIOUR PROBLEMS – THE VETERINARY PERSPECTIVE!

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Equine behaviour problems are commonly thought to be due to the attitude of the horse. It is often thought that the horse is “playing up”, being aggressive or resisting work because he is “bad tempered”, “lazy” or “stubborn”. However, when these cases are carefully worked up there is often an underlying physical

problem and pain may play an important role. Pain in horses, especially chronic pain and other physical complaints are often not recognised, even by veterinarians. However, careful work up of these cases by a veterinarian often results in an accurate diagnosis of the behaviour problem. A recent study (1) showed that 75% of horses with a severely affected vertebral column (diagnosed upon palpation) exhibited aggressive behaviours and that horses with no or lesser vertebral problems demonstrated less aggression during standardised behavioural testing. Furthermore, this study appears to be the first experimental evidence of a link between chronic discomfort/potential pain and aggression, the authors further concluded that chronic discomfort or pain may often be overlooked when facing “bad tempered” individuals, whether humans or animals and the study confirms the importance of including chronic discomfort or pain as a major factor in diagnosing aggression. With a little extra training in history taking, recognition of the clinical skills they already possess and a basic understanding of what’s normal equine behaviour and what’s abnormal, any equine veterinarian has the unique advantage of being able to find the cause of almost any behaviour problem whether it be rearing under saddle, aggression to human handlers or resistance to work!

## History taking

In order to diagnose an equine behaviour problem, i.e. to find the cause of the problem a good anamnesis (as when solving other veterinary problems) is essential. The signalment, medical and behavioural history form important parts of the anamnesis. In some cases the management factors are also pertinent, for example the stabling, the feeding system, turn-out, work regime etc. Here we will focus on the medical and behavioural history. Look for signs of illness which could relate to the behaviour problem you’re trying to treat. For example is the horse intermittently lame? Lameness is an adaptation to pain. Pain can cause aggression (to other horses, to other animals and/or to humans), ridden problems such as rearing, bucking, resistance, reduced performance or refusal of fences.



Ascertain when the problem started (so you know how long its being going on), what the worst manifestation of the behaviour has been and whether the problem is increasing or decreasing. Always ask whether it the problem began suddenly or built up gradually. Is it always a problem (continuous) or only sometimes (i.e. intermittent). Find out in which contexts the problem occurs (it may occur in several), what the triggers are and the underlying motivation for the behaviour and what the exact behavioural sequence is (see below).

## Clinical examination

A good routine clinical examination is of paramount importance and something that every equine veterinarian is capable of doing. Ancillary examinations and/or tests may be necessary depending on the clinician’s findings. For example, a neurological examination,



lameness examination and an inspection of the mouth should be performed in cases such as aggression, head shaking and ridden problems. Routine haematology and biochemistry may be required in some cases or further endocrinological testing such as ACTH stimulation test. Exploration of the gastrointestinal tract is sometimes required and / or rectal examination. An ophthalmological examination may be necessary in some cases if for example an underlying uveitis or a corneal ulcer is suspected. Both of these may give rise to pain which could explain head shyness and aggression. You must always ask yourself, what could possibly cause this problem and how likely is it to be the cause of the problem as in most cases you don't need to instantly resort to an MRI of the brain. Endoscopy of the airways, radiography and echography may be of use depending on the case. Furthermore, where a diagnosis remains elusive 24 hour video recordings can be made of the horse undisturbed in a stall or paddock to help identify physical discomfort (2).

Observation of the behaviour is highly recommended as the client can't always give you the information you need (2) (although with very careful questioning they usually can). It is often beneficial to ask the client to film the behaviour for you if it is not evident during the consultation. Obviously it ought not be recommended in some cases, such as inter-species and intra-species aggression.

### **Normal Versus abnormal behaviour**

Try to elucidate if the problem is actually a problem for the horse or for the owner or for both. Is it a normal behaviour but simply undesirable to the owner or is it a pathological behaviour? Normal behaviour is adaptive, flexible and the animal can adjust to changes in the environment without great difficulties where as a pathological behaviour is generally inflexible and non-adaptive. For example, a stallion who becomes difficult to handle in the vicinity of a mare in estrus is not necessarily showing abnormal behaviour, however it may be undesirable if he barges through his handler or otherwise physically accosts him (kicking, biting etc.). Rearing is a normal inter stallion action (agonistic behaviour), is also seen in equine play behaviour (3) and is a defensive manoeuvre used to evade aversive stimuli suddenly appearing to the fore (4). It is usually an undesirable behaviour in the working horse unless the horse has been specifically trained to perform that behav-

iour. In most cases rearing is an adaptive response and is usually successful with horses under saddle, i.e. the horse unseats his rider and thus gets rid of his source of discomfort or irritation. If the horse succeeds in such a way and is thus in fact rewarded, the horse will quickly learn to rear at any opportunity. A horse which rears when worked when a small amount of tension is put on the bit (whether it be the lungeing line or the rein whilst under saddle) and flips over backwards that has not been trained to do this is fairly indicative of a serious problem. Punishing such an animal will not help as there is clearly something wrong with the horse. It is not in the interest of a prey animal to behave in such a way and careful examination will usually result in an underlying physical problem (Jonckheer-Sheehy, unpublished data). There are several good texts outlining normal equine behaviour (3, 5).



To reach a diagnosis, you need to know the context(s) the behaviour is performed in, what is the stimulus triggering the behaviour, the underlying motivation and the exact behavioural sequence and the factors which influence it. With a careful history taking, observation of the behaviour and a good clinical examination you should be able to find these. Remember that there may be several stimuli for the behaviour and that it may be triggered in different contexts etc. A stimulus is any detectable change in an animal's environment (4) and may in fact sometimes be undetectable to us (certain odours etc). Environment refers to both the animal's internal and external environment. Primary stimuli refer to things such as light, sound, taste, temperature, pressure, etc. The context refers to the situa-

tion or atmosphere in which the horse finds itself when a stimulus causes a behaviour (whether abnormal or not) to be performed. An animal does not always show the same response when it encounters a stimulus. This can be due to a change in the context or the motivation. Motivation refers to the factors working on or in an animal to get it to perform a behaviour, for example, fear, hunger, thirst or genetic factors.

In order to be able to ascertain if the behaviour is normal or pathological the behavioural sequence must be analysed. Certain behaviours may have several phases, the first of which is elicited by a stimulus, this is the initiation phase, for example, a horse feels hungry (the stimulus may have been the sight or smell of food, or a drop in the concentration of plasma glucose below a certain level; the secondary phase is known as the "consumption phase" i.e. the phase where the behaviour is actually carried out, for example, eating; the tertiary phase is an ending or quietening phase, for example, the horse feels full and the final or fourth phase is the refractory phase. In this phase the horse may feel full and not wish to eat anymore. The first phase is not present in all behaviours, for example, it may be lacking in some forms of auto-mutilation or stereotypic behaviour.

In conclusion, veterinarians are in a unique position of being able to diagnose equine behaviour problems and even if you don't do the full behaviour consultation yourself you should be able to work together with a qualified behaviour therapist or veterinary assistant. As a veterinarian you should take behaviour problems very seriously as they are a major cause of death, abandonment and suffering of horses, thus a major welfare problem. A thorough physical examination of the horse is crucial and something that a veterinarian must certainly can do!

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