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09.20–09.45  
How to manage 'euthanasia on humane grounds'
Stuart Thorne  
Fellowes Farm Equine Clinic Ltd, Abbots Ripton, Huntingdon, Cambridgeshire PE28 2LL, UK.

This presentation aims to provide an overview of the challenges that face clinicians when dealing with euthanasia at competition events. Examples of the common pitfalls associated with the use of Somulose and a free bullet will be given together with ways in which these problems can be avoided or minimised. Illustrations, including video clips, will highlight the particular idiosyncrasies of each method.

Introduction
Providing veterinary services at a competition event provides a challenging environment to work in, particularly when faced with a horse that requires euthanasia. However, the stress can be minimised with good preparation and planning.

Preparation
The facilities and the access points to all parts of course should ideally be checked personally prior to the event, as should the equipment, drugs, firearms and ammunition. A suitable, secure bag that can safely store a stethoscope and the required equipment and provides easy rapid access during an emergency is essential.

Somulose
Ensure that a suitable number of bottles are available for the event. The wrappings from the box should be removed prior to the event to save valuable time in the event of an emergency and prevent the embarrassment of fumbling with cellophane wrapping during a stressful situation. It also gives the opportunity to check the clarity of the Somulose solution. It should be a clear viscous that is slightly straw coloured. Bottles containing cloudy liquid should be returned to the manufacturer and not used.

Firearm
Ensure that the firearm is well maintained and of a suitable calibre (>0.32) with a sound moderator attached. A trigger lock can be fitted to increase security during transport. Adequate soft nosed ammunition should be kept separate from the firearm. It is essential to remember that a firearm can only be used by someone with a current Firearm Certificate on which the specific Firearms and Sound Moderators details are included.

Factors to be considered prior to euthanasia
On the day wear easily identifiable clothing, such as a tabard or an armband. People will look to the veterinary surgeon for a horse that requires euthanasia. Positive identification is required either via a standard syringe or a remote injection device (Masterject)³.

Proportional and reasonable decision making is required. In all but the most obvious and extreme incidents a second opinion should be sought if at all possible.

A thorough knowledge of the BEVA guidelines for the destruction of horses under all risks mortality insurance policy is required so that authoritative advice can be given to clients. Many insurance companies will also require a post mortem examination to comply with the terms and conditions of the policy.

Informed consent
Informed consent from owner, trainer or representative is of primary importance and written confirmation of this is ideal. Preprepared consent forms are good, however, this procedure should not become mechanistic; a form pushed under the nose of a distressed client does not constitute informed consent.

Euthanasia
Ideally it should be carried out behind screens, however, in high winds staff may be unable to secure them adequately or the flapping may spook the horse. In these situations vehicles can be used to screen the horse from spectators. It is essential that the vet ensures the horse is dead before leaving the site. Ten minutes will usually provide a safe margin. Positive identification is required either ante mortem or post mortem. A brief written description and confirmation of the microchip number, if present, is ideal.

Somulose (Dechra)²  
Somulose is a combination of Secobarbital sodium (quinobarbitone) and Cinchocaine hydrochloride. Secobarbitone has a rapid onset of action, which profoundly depresses the central nervous system, including the respiratory centres. Cinchocaine has marked cardiotoxic effects at high doses. It is a potent drug which is highly toxic to man and therefore has significant health and safety implications.

The data sheet strongly recommends the preplacement of a 14 gauge catheter, although many practitioners will inject off a 16 gauge needle. Whichever method is used it is critical that the full dose is injected over 10–15 s. Adequate sedation is, in the author's opinion, essential although xylazine should be avoided as unacceptable violent muscular activity has been reported following its use (Knottenbelt et al. 1994). The average time from start of injection to collapse is 34 s, the difference between sedated and unsedated is 8 s (Knottenbelt et al. 1994).

Potential complications may arise for a number of reasons and include: inadequate sedation, sedation with xylazine, use of cloudy Somulose, perivascular injection, use in horses in circulatory collapse, incorrect injection speed, insufficient dose, and accidental self administration.

Firearm
The advantages of this technique are that it is rapid, very effective, easy (if experienced) and cheap. Gun placement at the correct
location and in the required direction will ensure the shot penetrates the brain towards foramen magnum. The result is immediate and dramatic. Some reflex movement of the limbs are often seen once the horse is on the ground. The amount of blood is variable; however, placing the head in a plastic bag can reduce visual impact.

Potential complications may arise for a number of reasons and include: 1) Incorrect placement of gun. This may be due to inexperience, the attachment of the sound moderator, movement of horse just prior to trigger release, the head being in unusual or awkward position. Minor misplacement may result in excessive movement and bleeding. Major misplacement may require a second shot or lethal injection; 2) Gun malfunctions. These are normally a reflection of inadequate maintenance and include an inability to remove a spent round, gun jamming shut or a trigger malfunction; 3) Personnel injury due to the free bullet or falling horse.

Manufacturers’ addresses
1 Nimrod Veterinary Products Ltd, 42, A.P. Elks Road, Rissington Business Park, Upper Rissington GL54 2QB, UK. Tel: 01451 812243. www.nimrodvet.co.uk
2 Dechra Veterinary Products, Sansaw Business Park, Hadnall, Shrewsbury, Shropshire SY4 4AS, UK. Tel: +44 (0) 1939 211200 Fax: + 44 (0)1939 211201, Email: info.uk@dechra.com

References and further reading
BEVA guidelines for the destruction of horses under all risk mortality insurance policy – BEVA Council 1996.
Euthanasia in horses (combined booklet & 30 minute VHS video/DVD). Available from ARCVS CPD Unit, Leahurst, CH64 7TE.