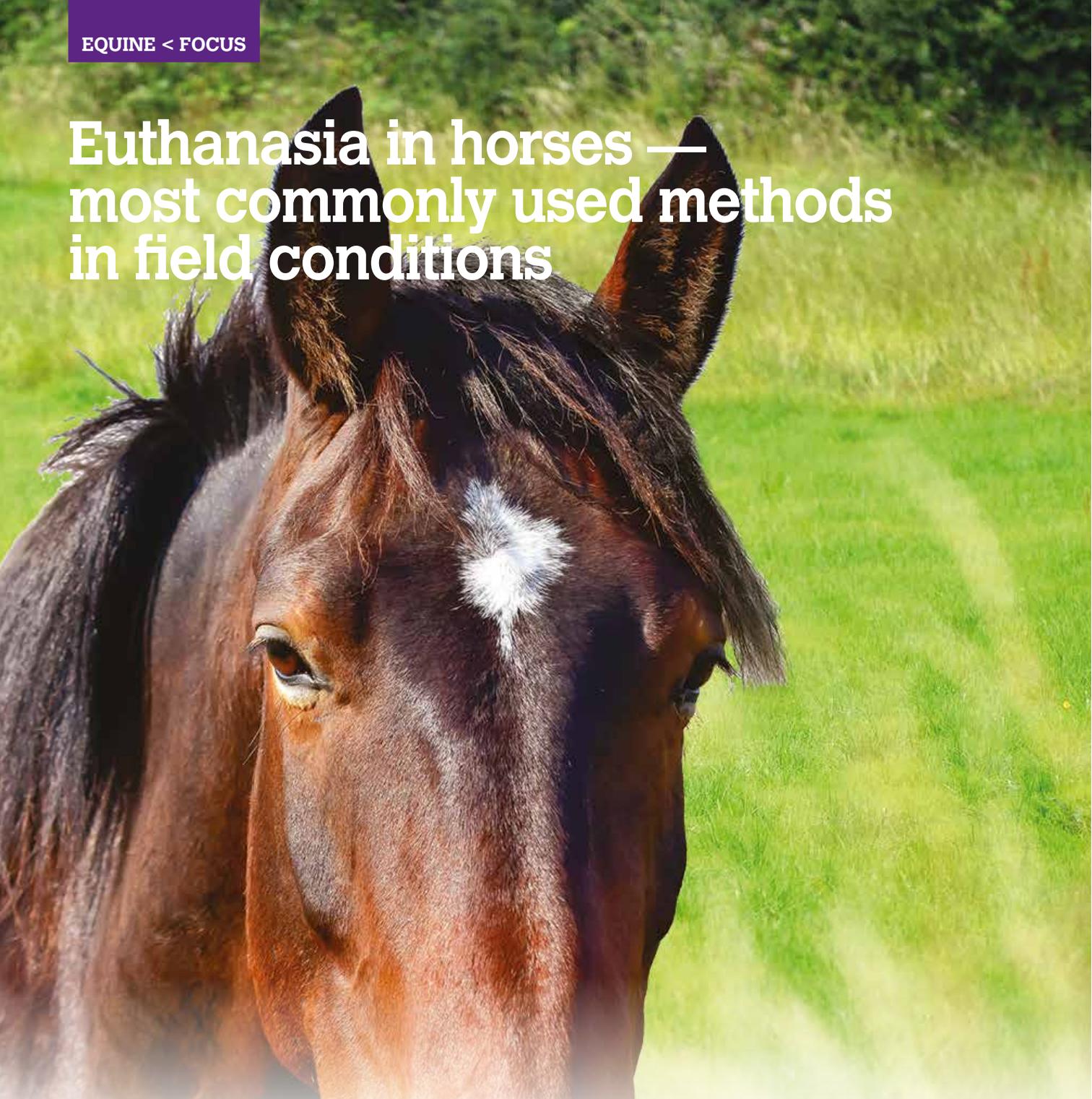


Euthanasia in horses — most commonly used methods in field conditions



Equine euthanasia is a procedure that veterinary practitioners may be called on to carry out, often in emergency situations. Liz O'Flynn MVB Cert WEL MRCVS, of Veterinary Ireland's Equine National Committee and Animal Welfare Committee provides practical guidance on the task of euthanasia in horses

One of the most essential procedures that all vets should be proficient at carrying out efficiently and with confidence is the task of euthanasia.

Euthanasia of a horse may be indicated under the following circumstances:

1. Euthanasia carried out at owner's/keeper's premises. In
2. Emergency euthanasia carried out at racetracks, events,

this case, elective euthanasia is carried out at owner's or keeper's premises on humane grounds, usually in cases of old age, chronic disease, pain or injury. Generally, this would be either at owner request or on veterinary advice.

point-to-points, shows, on animals with catastrophic injuries.

3. Emergency euthanasia as a result of injuries in roadside accidents.
4. Humane destruction of animals in extreme cases of animal neglect. Location will vary on a case by case basis.
5. Humane slaughter of animal at a licensed abattoir or at an approved knackery.

Euthanasia should effect a quick, reliable death in the most effective way to prevent or minimise pain and distress for the animal. It should cause rapid non-reversible loss of consciousness.

It should be safe for human operators. Where a veterinary clinical decision has to be taken on euthanasia of a horse the following are the main considerations.

MAIN CRITERIA

The decision on the method of euthanasia to be used is based on the circumstances and location as outlined above.

Where emergency euthanasia has to be carried out at an equestrian event, on a racetrack, or a road side accident, the main considerations and criteria should be prioritised by the vet in the following order:

1. The welfare of the injured horse.
2. Human safety. Relevant instructions should be given by the vet to the handlers. These handlers should preferably be trained and experienced in horse handling and effective use of screens at equestrian events, point-to-points, racetracks. The presence of bystanders at the site should be minimised, etc.
3. Time factor: minimise all unnecessary delays likely to increase stress to the horse. Adequate advance preparation should be in place to ensure this.
4. Permission of the owner/keeper should be sought by the vet where possible but, in the case of an acute emergency, the decision of the vet on the welfare of the animal takes priority.
5. Where the vet considers necessary, a second veterinary opinion may be sought under certain circumstances. It is important that the veterinary team on duty have prior arrangements in place in order to avoid any unnecessary delay in availability of the second veterinary opinion.
6. Identification, markings and other relevant details must be taken and recorded, if possible. Where the horse is insured, this is specifically important.
7. Disposal of the carcase. Due consideration should be given to all aspects of this, including environmental laws, wildlife, biosecurity and affording respect for the animal and or carcase remains.

FACTORS AFFECTING DECISION ON METHOD OF EUTHANASIA USED

These factors include whether the horse incurred the catastrophic injury on a racetrack, at an event, or in a road side accident. Elective euthanasia is carried out as part of

a routine end-of-life procedure at the request of the owner in the horse's familiar surrounds of the owner's premises or by humane slaughter at a licensed abattoir supervised by DAFM veterinary staff.

These factors and the relevant national and EU laws will, to a large extent, dictate the method of euthanasia that the vet will use.

RECOMMENDED METHODS AND CHEMICALS MOST COMMONLY USED FOR EUTHANASIA OF HORSES

Euthanasia is carried out by using one of the following two main methods or a combination of both.

- (i) Chemical euthanasia, e.g., Somulose or barbiturates preceded by sedative.
- (ii) Mechanical euthanasia, free bullet using humane killer preferably preceded by sedative where possible.

Captive bolt method of euthanasia, though used routinely in humane slaughter at abattoirs, is not permitted on licensed racetracks in Ireland and should not be used at any equestrian event.

USE OF SEDATION PRE-EUTHANASIA

While the use of a sedative is preferable, this may not always be possible for practical reasons, for example, accessibility of the animal for intravenous injection. Sedation is commonly used pre-euthanasia either with chemicals or the free bullet. This helps to minimise distress or physical discomfort for the horse and also enables easier insertion of a catheter (14 gauge) into the horse's vein. Due to the large volume of chemical used, a catheter is recommended and is commonly used. Where the free bullet is used, sedation may help an excitable horse to relax and to keep the head in position.

If possible, one of the following options for sedation purposes may be used:

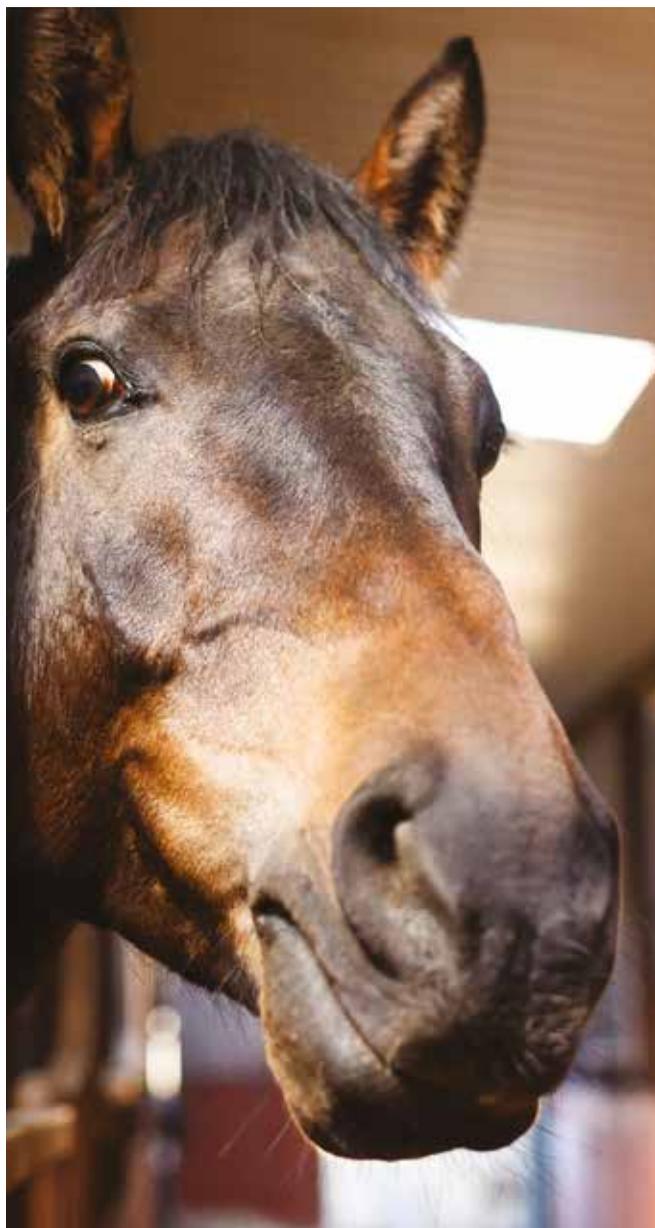
1. Detomidine (Domosedan) I/V.
2. Zylazine (Rompun) I/V.
3. Romifidine I/V.
4. Acepromazine I/V.

CHEMICALS USED FOR EUTHANASIA

- (i) Somulose administered slowly over 15 seconds, is one of the preferred options.
- (ii) Either Euthatal (Dolethol) 200mg or Euthoxin 500mg may also be used. The stronger product, Euthoxin, is licensed for use in horses. This product may be more effective although it has a more viscous consistency so it is more difficult to inject.

All three products, Somulose, Euthatal (Dolethol) or Euthoxin, cause a quick loss of consciousness and death with a minimum of pain and distress for the animal. Due to the injection volume of barbiturate, and since it must be given strictly intravenously and quickly, secure intravenous access should be obtained, i.e., an intravenous catheter. Manufacturer's instructions on Somulose advise that where sedation is used, this "may produce a slower onset of euthanasia". However, this is not the general finding of many users of same.

In addition, sedation facilitates insertion of a catheter for



administration of the Somulose.

The dosage used will vary depending on the circumstances under which euthanasia is being performed, i.e., the dosage required in emergency euthanasia on a horse on a racetrack, particularly in a hyper-excited horse, is higher than the dosage required in elective euthanasia of a horse in its own familiar surroundings.

HUMANE KILLER: GUNSHOT TO THE HEAD (FREE BULLET)

The humane killer/free bullet is one of the most commonly-used methods in some countries and is considered the quickest and most effective method for euthanasia. It should be preceded by sedation if necessary and where possible.

When carried out correctly, the humane killer loose bullet causes immediate loss of consciousness and a humane death with minimal pain or distress.

It provides a more predictable outcome than use of chemical injection for euthanasia in horses.

The procedure should be performed outdoors and away from public access.

The minimum acceptable calibre of gun recommended for euthanasia of horses is 0.32, using a heavy, soft-nose bullet with a strong charge. A 0.22 calibre gun is not recommended.

The correct site for humane destruction is 2-3cms above the point of intersection of lines drawn from the medial canthus of the eye to the middle of the base of the opposite ear. It is important that the operator does not go below this point.

The operator stands directly in front of the horse when using the humane killer, so will need to be ready to move quickly out of the way as the horse may fall forward. For aesthetic reasons, the free bullet is not used within two furlongs of the finishing post on racetracks in Ireland, unless in extreme circumstances.

The use of captive bolt is not recommended and should not be used under field conditions at any equestrian event or racetrack.

In stunning for humane slaughter at a licensed abattoir, the approved method of stunning allows for the use of a firearm with a free projectile that causes irreversible brain damage (followed by pithing) and is considered acceptable if performed by a skilled, licensed person.

CONFIRMATION OF DEATH

Irrespective of the method of euthanasia used, death must be confirmed before moving of the animal and disposal of the animal. The following checks should be used to evaluate consciousness and confirm death:

1. Absence of heart beat (auscultation of heart).
2. Lack of respiration (movement of the thorax and airflow in nostrils).
3. Lack of corneal reflex (touching the surface of the eye for corneal reflex).

DISPOSAL OF CARCASE REMAINS

After euthanasia, disposal of the carcass remains must be carried out through appropriate measures and in line with the relevant laws.

There are potential environmental hazards associated with carcasses left in the field, containing harmful residues from chemical euthanasia methods (e.g., barbiturates), if consumed by scavengers or predators.

Liz O'Flynn MVB Cert WEL MRCVS has worked on racetracks in both the USA (including Santa Anita, Hollywood Park and Del Mar), and in Ireland (including Galway racetrack). She is a member of both the Veterinary Ireland Equine National Committee, and the Veterinary Ireland Animal Welfare Committee, of which she is a former Chair. For any queries on this article, please contact Liz through Veterinary Ireland headquarters, 01-457-7976/HQ@vetireland.ie.