

NOTES ON SEDATION AND ANAESTHESIA OF DONKEYS



**THE DONKEY
SANCTUARY**

GENERAL POINTS:

- Patience, a quiet voice and a calm demeanour are essential. An arm around the neck and a hand over the dorsal nose usually provides good restraint. A well-fitted head-collar is essential.
- Applying a twitch to the lip would appear to have little effect, in marked contrast to other equines (although we have found that it can be useful when handling fractious mules). A firmly but carefully held ear may be needed in a minority of instances but care should always be taken to massage the ear after release, to prevent the donkey becoming head or ear shy in future.
- Distraction of a donkey with the odd polo, biscuit or treat can be useful when trying to get an initial head collar placement or good handling posture.
- Beware that the lifting of a foreleg will not always prevent kicking; many donkeys are adept at standing on two legs and accurately directing hindlimb kicks.
- A golden rule of donkey handling is **to keep companions together** at all times, irrespective of the species of the companion. Failure to appreciate the significance of these bonds can induce significant stress and a variable reaction to any sedative/anaesthetic agents administered. If the companion is causing risk of injury to personnel e.g during iv catheter placement then separating the donkeys so that they can still maintain eye and muzzle contact over a stable door can be useful.
- The standard local anaesthetic and regional nerve blocking techniques used in other areas of equine practice can be usefully employed in the donkey. **Doses of local anaesthetic should be scaled down** to reflect the smaller size of the donkey so that toxic doses are not administered.
- **Accurate identification of a donkey's weight** is essential before administering anaesthetic agents and preferably sedatives. If a weighbridge is not available please note that horse weigh tapes are not accurate in the donkey, the Donkey Sanctuary have devised a 'Donkey Weight Estimator' which can be emailed or faxed on request, or found on our website.
- **A good reference paper** is: Matthews N and van Loon J.P.A.M (2013). Review Article: Anaesthesia and Analgesia of the Donkey and the Mule. Equine Veterinary Education 25 (1) 47-51
- As few drugs are licensed for use in donkeys, discussion of off-label use with clients and owners must be considered.

Always be aware of the risk of hyperlipaemia in a stressed donkey, if there is any doubt of a donkey's health status after a full clinical examination has been performed then a blood sample should be taken and triglyceride levels checked.

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www.thedonkeysanctuary.org.uk

The Donkey Sanctuary was founded by Dr Elisabeth Svendsen MBE in 1969.

The Donkey Sanctuary (registered charity number 264818) and its sole corporate trustee, The Donkey Sanctuary Trustee Limited (Company number 07328588) both have their registered office at Slade House Farm, Sidmouth, EX10 0NU.

Incorporating: The Elisabeth Svendsen Trust for Children and Donkeys (EST); The International Donkey Protection Trust (IDPT).

WORKING WORLDWIDE

SEDATION:

- Once restrained with a head-collar, intravenous sedation can be reliably achieved by jugular venepuncture. As in other equines, the dose of sedative agent used will depend on a number of factors including temperament, age, condition, health status, anticipated duration and potential pain level of the procedure.
- All of the commercially available alpha-2 agonists can be successfully used in the donkey using standard equine doses. (For mules increase the dose of sedation and anaesthetic drugs by 1/3 to ½). **Romifidine, detomidine and xylazine** are all commonly used at the Donkey Sanctuary; precise selection is according to vet personal preference and the procedure being undertaken.
- Typically the alpha-2 agonists are combined with an opioid, most commonly butorphanol but on occasion recently the use of buprenorphine has been employed where more painful procedures are anticipated.

GENERAL ANAESTHESIA:

As with sedation, general anaesthetic agents and dosages used in the donkey are similar to those used in other equines. **The main point to be aware of is that many drugs are metabolised more rapidly than in horses and so need to be given more frequently.** The use of an indwelling catheter is strongly recommended.

Typical anaesthetic protocols employed at the Donkey Sanctuary are as follows:

- PRE MED: ACP 0.03mg/kg IM (40 minutes prior to alpha-2), Xylazine 1.1mg/kg IV or detomidine 0.02mg/kg IV
- INDUCTION: Ketamine 2.2mg/kg IV, diazepam 0.1mg/kg IV
- Butorphanol at 0.02mg/kg or buprenorphine 5-10µg/kg may be added to the above if an opioid is desired.
- MAINTENANCE: Isoflurane/oxygen, triple drip or ketamine/alpha 2 agonist top ups have all been used, depending on the situation.

Our current triple drip recipe is available separately.

- When using ketamine top ups, be aware that **boluses will need to be given every 10-15 minutes**, rather than every 15-20 minutes, as in horses.
- Typically a 1/3 induction dose of ketamine and alpha-2 is given as a top up.
- **Endotracheal intubation of donkeys can prove extremely tricky** due to their shorter, more pointed epiglottis and caudally tilted laryngeal opening. The trachea is also narrower relative to other equine species.
- **The average 180kg donkey requires an endotracheal tube of 16mm internal diameter.** It is wise to have a range of 14-18mm tubes available.
- The auricular artery has been used for catheterization and direct measurement of arterial B.P. If this proves difficult the facial artery has also been used.
- Arterial blood pressure can provide a very reliable method of monitoring anaesthesia in donkeys.
- Although myositis appears to be less of a risk in donkeys undergoing general anaesthesia, appropriate padding of limbs is still strongly recommended.
- Donkeys typically have higher respiratory rates under anaesthesia than other equines and **usually spontaneous ventilation is well maintained.**
- **Donkeys are usually far calmer in recovery** than horses and rarely require sedation in the recovery period. Typically they will achieve sternal recumbency and only attempt standing when ready, assistance is rarely required, although occasionally a tail pull may be called for.

ANALGESIA:

It is essential not to forget provision of analgesia in donkeys; their somewhat stoical nature can prevent overtly displaying pain so if in doubt, ensure analgesia is on board!

- Phenylbutazone 2.2mg/kg BID and flunixin 1.1mg/kg **BID** are commonly used at the Donkey Sanctuary.
- Carprofen 0.7mg/kg **SID** is also used, although usually for more chronic pain such as osteoarthritis.
- The use of meloxicam is not currently advised in donkeys as it appears to be metabolised too quickly to have any lasting efficacy.
- Firocoxib has been used successfully in the USA but has not been tried at the Sanctuary so we do not yet have any data on suitable dosages.

Opioids including morphine, buprenorphine and fentanyl patches have all been used at the Sanctuary, using dosages extrapolated from equine formularies.

PLEASE DO NOT HESITATE TO CONTACT US IF YOU HAVE ANY QUERIES

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