Know your patient: an introduction to the nursing care of donkeys

With approximately 44 million of them worldwide, it is important that veterinary professionals can treat and care for donkeys effectively. In the UK, a decreased workload and nutrient-rich diet can cause donkeys to become metabolically unstable and develop debilitating disease. Donkeys are very resilient and have the ability to mask signs of pain and distress. This often results in veterinary surgeons being presented with donkeys that are already compromised and require high levels of intervention. Most donkeys living in temperate climates are working animals, so there is little research specific to donkeys kept as companion animals, which can be problematic for veterinary professionals working in farm or equine practice in the UK. To deliver the most appropriate diagnoses, treatments and care for donkeys, and to fully support owners, veterinary surgeons and nurses must understand the physiological differences and management requirements of donkeys, compared to horses or ponies. Appropriate care is essential when nursing donkeys and should include all aspects of a holistic approach. https://doi.org/10.12968/ukve.2020.4.6.190

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Donkeys have significant physiological differences and management requirements, compared to horses and ponies. Understanding these differences will enable the veterinary surgeon to more successfully diagnose and treat a compromised donkey and enable the veterinary nurse to deliver appropriate nursing care and husbandry, while fully supporting owners and veterinary colleagues.

Donkeys are often treated as small horses or ponies, but they are significantly different to other equids (Senior, 2013; Burden and Thiemann, 2015; The Donkey Sanctuary, 2018a). With their high levels of resilience, ability to survive on poor diets and their ability to mask signs of pain and distress, 95% of donkeys are used as working animals (*Figure 1*) and live predominantly outside the UK, in countries where they are indispensable to human livelihood (Burden and Thiemann, 2015).

There are numerous challenges associated with the care of donkeys which must be taken into consideration, in order to implement appropriate and effective veterinary care provision.

Research

In the UK, there are 1.3 million horses and annually £4.3 billion of equine consumer spending (British Equine Trade Association National Equestrian Survey, 2011) but there is no comparable 'donkey industry' (The Donkey Sanctuary, 2019a). To improve donkey welfare, support is provided around the world to fund non-invasive research projects. However, there is little research focused around donkeys living as companion animals in the UK. The research that is available indicates that many donkey owners in the UK rely on their veterinary surgeon to provide them with information around

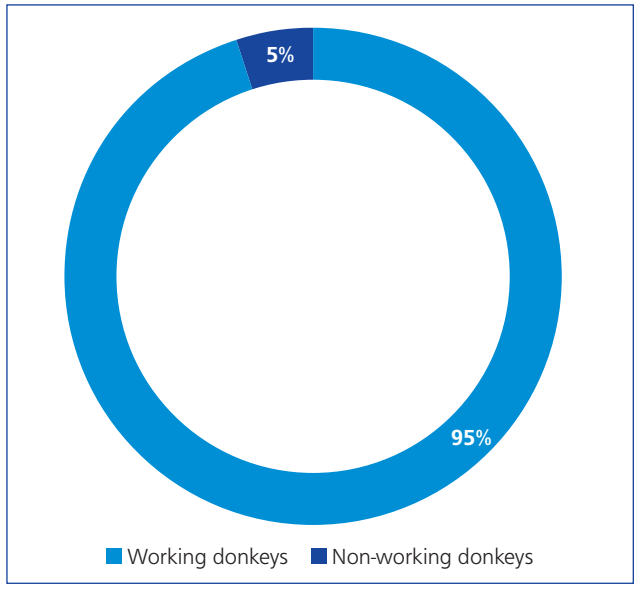

Figure 1. Percentage of working donkeys versus non-working donkeys worldwide.

appropriate care (Cox et al, 2010). Confidence is recognised as one of the most influential factors affecting performance (Owens and Keller, 2018) and being confident in caring for donkeys can therefore be a challenge, when there is limited research and information on which to base practice.

Predisposition to disease

Donkeys often miss out on routine preventative healthcare, resulting in a lack of regular vaccination, worming, dentistry and footcare; a particular concern when hoof disorders such as laminitis, white line abscess and overlong hooves are some of the most common medical conditions seen in donkeys (Thiemann and Rickards, 2013). Donkeys that live in the UK are more likely to have a significantly decreased workload and increased access to a nutrient-rich diet, including access to good quality pasture (*Figure* 2). This lifestyle has the potential to cause donkeys to become metabolically unstable and subsequently develop debilitating diseases including obesity, equine metabolic syndrome and laminitis.

The flight response and stress

The flight response in donkeys is less pronounced than in horses; survival for donkeys relies on them appearing healthy, so that they are vulnerable to predators in the wild. Clinical signs of disease are often difficult to detect and donkeys rarely show the same symptoms as horses or ponies. For example, a donkey with laminitis is more likely to shift its weight or spend more time lying down, rather than demonstrating the 'rocking horse' stance that would be familiar in a laminitic horse or pony (Haines and Goliszek, 2019). The signs of colic also differ to those of a horse, as donkeys will rarely thrash around or roll but will instead appear dull and uninterested in their feed.

Stress can have an extremely detrimental effect on donkey health, but donkeys are well adapted to be able to mask signs of pain and distress. Their stoic nature thus makes the detection of problems difficult. Donkeys are often likely to be more debilitated or in more pain than is anticipated (Haines and Goliszek, 2019). This often results in veterinary professionals being presented with a donkey that is already compromised and requires high levels of intervention (Thiemann, 2013). 'The dull donkey' is a veterinary emergency and must be treated as such. Dullness and depression, often accompanied with anorexia, are indicative of a serious problem, which could include hyperlipaemia; a condition that is common in sick or inappetent donkeys, which can be fatal if not treated quickly (Burden et al, 2011).

Considerations during hospitalisation

When a donkey is presented at the veterinary practice, it is imperative that veterinary professionals have a clear understanding of the physiological differences that are associated with the species, in order to be able to provide appropriate diagnosis, treatment, husbandry and care. To ensure the best possible prognosis it is critical that the veterinary nursing care administered is informed and proactive and includes all aspects of a donkey-specific, yet holistic, approach.

Normal routine

Good nursing practice includes the ability to obtain useful information from the owner, to establish what is 'normal' for each patient. This information can be beneficial when trying to limit stress and other problems associated with change. Where possible, an owner should be asked to provide information regarding management, feeding, handling, behaviour, health status and history.

Figure 2. Donkey grazing on pasture in the UK.

Handling and companionship

Donkeys respond well to quiet and gentle handling, alongside time and patience (Dabinett, 2008; The Donkey Sanctuary, 2018). As a rule, donkeys are tolerant of firm and secure restraint, but they cannot be bullied. A nose twitch is not recommended and is unlikely to provide a response (Haines and Goliszek, 2019). When attempting to move a reluctant patient, offering food is often effective at encouraging compliance (Haines and Goliszek, 2019).

Donkeys should be kept as calm as possible, which may include the use of a bonded companion (*Figure* 3) to accompany the donkey to the veterinary practice. In most circumstances, handling is more successful if companions are kept together at all times. Failure to appreciate the significance of these friendships and bonds can induce significant stress and variable reactions to any sedative or anaesthetic agents administered. If a companion is likely to cause risk of injury to personnel, then separating the donkeys so that they can still maintain eye and muzzle contact over a stable door can be useful (The Donkey Sanctuary, 2018b).

If a donkey cannot be well handled, it is recommended that the veterinary surgeon administers sedation in the early stages of treatment. It should be noted that if using an alpha-2 agonist, donkeys may require larger doses than horses to achieve an adequate response. Also, the intramuscular dose (recommended in donkeys because of their shorter necks and thicker muscle) is 1–2 times the amount of the intravenous dose (Haines and Goliszek, 2019).

Clinical examination and normal parameters

A clinical examination of the donkey is essential and may include:

- Demeanour
- Appetite

Figure 3. Bonded companions.

- Temperature
- Heart rate and pulse rate
- Respiratory auscultation and respiratory rate
- Examination of the oral cavity
- Ocular examination
- Musculoskeletal examination
- Abdominal auscultation
- Rectal examination and abdominal palpation
- Blood tests
- Re-examination and reassessment.

Other than normal borborygmi, which is essentially similar to that of the horse, donkeys have significantly different vital parameters (*Table 1*).

Body condition and bodyweight

The use of body condition scoring can be a useful way to assess and manage weight. However, it is important to note that donkeys lie down flat differently to horses and should be body condition scored according to donkey-specific charts. Accurate identification of a donkey's bodyweight is essential before administering medication, especially sedatives and anaesthetic agents. An equine weighbridge is the most reliable method of obtaining an accurate bodyweight.If a weighbridge is not available, then it is useful to be aware that the Donkey Sanctuary have produced a weight estimator which is much more suitable than using a horse weight tape, which will not be accurate when used for donkeys (The Donkey Sanctuary, 2018b).

Monitoring

During hospitalisation and following clinical procedures, donkeys require close monitoring. Recording details and reporting any significant abnormalities or changes is an important aspect of the nursing process and can help to identify problems that may arise.

Donkeys are often reluctant to exercise and are prone to oedema. Their stoic nature, combined with the use of anti-inflammatory drugs, can mask the signs of impaction colic. Donkeys are also highly susceptible to developing hyperlipaemia, as a result of physiological or psychological stress. In order to identify significant and debilitating disorders, donkeys should be assessed for changes in their behaviour and demeanour, as these can useful indicators for identifying pain. According to Haines and Goliszek (2019), donkeys in pain:

- Become less interested in their environment
- Have a lower head position than normal
- Have an altered facial expression
- Weight shift more frequently
- Show reduced ear movement (often holding their ears horizontally or facing backwards)
- Pretend to eat
- Spend more time lying down
- May grind their teeth
- Startle more easily than normal
- Gently headshake at rest.

The utilisation of a pain assessment tool specific to donkeys is exceptionally important, in order to ensure that pain is scored appropriately and specifically to this species. Van Dierendonck et al (2020) specified that objective pain assessment in donkeys is vitally important for improving welfare. Different types of acute pain in donkeys can be assessed by using either a composite or a facial expression-based pain scale. Both the Equine Utrecht University Scale for Donkey Composite Pain Assessment (EQUUS-DONKEY-COMPASS) and the Equine Utrecht University Scale for Donkey Facial Assessment of Pain (EQUUS-DONKEY-FAP), have proved to be successful tools for assessment.

Table 1. Normal parameters of the donkey

	Normal parameter
Temperature	36.5°C–37.7°C (37.1°C)
Heart rate	31–53 beats per minute (41 bpm)
Respiratory rate	13–31 breaths per minute (20 bpm)
Mucous membranes	Normally pale pink but with less of a yellow tinge when compared to the horse
Packed cell volume	25–38%

Pharmaceuticals

Few products include any substantial data on or market authorisation for their use in donkeys. In the absence of a product authorised for use for donkeys, a veterinary product approved for use in the horse should be selected as per the prescribing cascade. However, it is important to note that pharmacokinetic differences have been demonstrated between horses and donkeys for several drugs. Different sizes of donkeys appear to metabolise drugs at differing rates. Phenylbutazone and flunixin meglumine are more rapidly metabolised in donkeys, so doses may need to be larger or given more frequently, with phenylbutazone given twice daily in standard donkeys and three times daily in miniatures. In contrast, carprofen lasts longer in donkeys than in horses and can often be administered just once daily (Matthews, 2008; The Donkey Sanctuary 2018a).

The method required for administration of pharmaceuticals can differ according to the product of choice. It is recommended

that parenteral medications are administered to donkeys in a slightly different way to that in horses. Intramuscular injections seem to be better tolerated when introduced slowly and intravenous injections require the needle to be angled at approximately 60º, because of the thickness of the skin (Matthews, 2008; The Donkey Sanctuary 2018a).

For repeated administration of intravenous medication, indwelling intravenous catheters are recommended for use (The Donkey Sanctuary, 2018b). It is important to consider how intravenous catheter placement will differ in donkeys because they often have a thicker skin and fascia compared to horses. Although the jugular vein is in the same location as in the horse, it can be more difficult to visualise because it is covered by much thicker cutaneous muscle, as well as a fascial layer, therefore the catheter may need be introduced at a slightly different angle, compared to the horse (Matthews and Van Loon, 2013).

Accommodation

In most veterinary practices, it is unlikely that there will be accommodation that has been specifically created for donkeys. Most stable doors are too high for donkeys to see over and should be adapted accordingly, perhaps with the use of a metal grill or gate. Automatic drinkers are often inaccessible to donkeys, because of their height and location, and these may need to be replaced with water buckets. Feed mangers often need to be lowered to meet the height and feeding requirements of a donkey. Although they are particularly fond of straw, which can be beneficial to their digestive health when provided in small quantities, it is best to use non-edible bedding for hospitalised donkeys, because of the risk of impaction colic.

Unless absolutely necessary, donkeys should not be isolated from other patients as they are likely to find this particularly stressful and may react negatively to separation from their companion (Duffield, 2008; The Donkey Sanctuary 2018a).

It is also worth considering how intravenous fluid therapy will be administered, as fluid hangers may need adjusting to suit.

Feeding

Depending on their condition and clinical status, a dust-free, low-energy forage will normally be sufficient for a hospitalised donkey. Concentrated feeds are not usually required and should be avoided, as they are unlikely to be donkey-specific. Donkeys with inappetence, hyperlipaemia, dental disease and obesity will have very specific dietary requirements and these will need to be thoroughly researched, to ensure that individuals are catered for appropriately. An inappetent donkey can often be tempted to eat by offering treats that are high in sugar, such as ginger biscuits and jam sandwiches. These can also be useful to assist with administering oral medication, but they should only be used if there is an absolute need.

Keeping warm and dry

Donkeys' coats are composed differently to horses and they require shelter from the rain (*Figure 4*). If a shelter is not available, then turnout should be avoided when it is raining, but in a hospitalised situation this may not pose an issue. However, if turnout is available and appropriate, this can be beneficial to a donkey by increasing their movement, aiding digestion and improving demeanour.

Rugs are not usually recommended for donkeys as they are often associated with causing overheating or encouraging louse infestation (*Figure 5a* and *5b*).

Young and healthy donkeys very rarely require rugs, but elderly, sick or debilitated donkeys will find it harder to maintain body heat. When compared to horses and ponies, donkeys have narrow shoulders, chests and necks and in older donkeys, narrow hind quarters are often recognised. These differences in confirmation mean that pony rugs (*Figure 6*) tend to slip and rub and can sometimes drop below the shoulder, causing restriction of the donkey's front leg action and trapping them when they lie down.

If rugs are required then it is recommended that bespoke donkey rugs (*Figure 7a* and *7b*) are used to reduce the risk of danger and discomfort (The Donkey Sanctuary, 2019b). If donkey rugs are not available at the veterinary practice, or the donkey is not used to wearing a rug, it would be sensible to use alternative

Figure 4. Donkey with access to a shelter.

Figures 5a and 5b. Hair loss can be caused by overheating and/or louse infestation.

KEY POINTS

- Donkeys are often treated as small horses or ponies; however, they are significantly different to other equids.
- In the UK, a decreased workload and nutrient-rich diet can cause donkeys to become metabolically unstable and develop debilitating disease.
- Donkeys have a stoical nature making the detection of problems difficult; they are often likely to be more debilitated or in more pain than anticipated.
- Veterinary surgeons are often presented with donkeys that are already compromised and require high levels of intervention.
- Veterinary professionals must understand the significant number of physiological differences and management requirements that donkeys have when compared to horses and ponies.
- When nursing a hospitalised donkey, appropriate care is essential and should include all aspects of a holistic approach.

methods of keeping warm which can include heat lamps, additional bedding, and warming intravenous fluids.

Conclusion

Donkeys are not small horses or ponies and should not be treated as such. Hospitalised donkeys are often compromised and can require high levels of intervention. In order to carry out the most appropriate care and management for donkeys, and to be able to fully support owners and veterinary colleagues, it is paramount that veterinary surgeons and nurses understand the significant physiological differences and management requirements that donkeys have, compared to horses and ponies. A specific understanding of the donkey as a species can make a significant difference to effective diagnosis, treatment, hospitalisation, care, husbandry, and recovery. Competent, informed and proactive donkey care is essential and should include all aspects of a holistic approach. EQ

Figure 6. Poorly fitting pony rug.

Figures 7a and 7b. Bespoke donkey rug.

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