

SEBWAT parameter

(Standardised Equine-Based Welfare Assessment Tool)

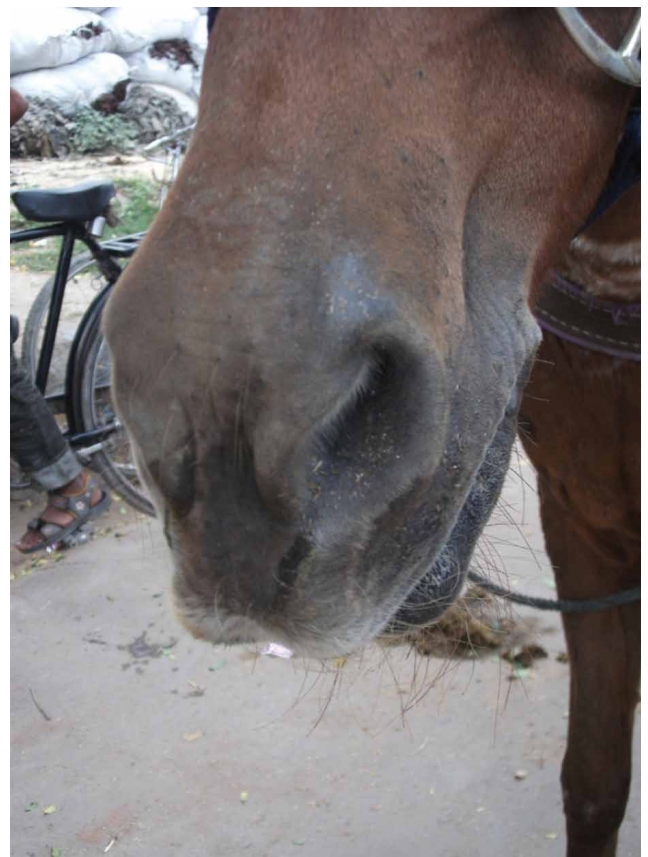
Nasal Discharge

Welfare issue

- The equid displays discharge from one or both nostrils.
- In SEBWAT, only opaque liquid discharge or blood-stained discharge is recorded. However, in some cases transparent discharge may be associated with respiratory problems too.

Welfare significance

- The amount, colour and consistency of any nasal discharge are important as this can give an indication of the underlying problem.
- Transparent, watery discharge can be due to irritation or an allergic reaction caused by dust, pollens or a foreign body. Equids working in dusty environments will often have watery discharge. Airborne allergens will initially cause a clear nasal discharge, clear ocular discharge, coughing and sneezing and increased respiratory rate. They can develop into more serious and chronic conditions that can reduce the animal's productivity and health, e.g. allergic respiratory disease and Recurrent Airway Obstruction (RAO - also known as Chronic Obstructive Pulmonary Disease (COPD) or 'heaves'). Inflammation due to an allergic response will increase susceptibility to secondary bacterial infections, which are common in working equids¹.
- Transparent discharge may also have a viral cause even when only a small amount of bilateral watery nasal discharge is present².
- A thick white or yellow discharge is often a sign of a bacterial infection. However, this may also indicate fungal infection in some cases, or even African Horse Sickness which is viral but can cause white frothy discharge.
- Dried, crusted discharge around the nostrils suggests that the problem has been occurring for some time.
- Some signs of respiratory problems can be very subtle, e.g. a small increase in watery discharge from the nose, a slight cough or sneeze, or reduced vigour³.



Transparent discharge from nostril.

^{1,2,3} Brooke (2013)

Possible causation

Environmental factors

- The equine respiratory tract cannot cleanse air as it is breathed in, therefore all air enters, regardless of quality.
- This means that an animal living or working in an environment where air quality is poor, such as brick kilns or dusty roads, risks damage to the respiratory tract.
- The use of smoking drums around equids to discourage flies is not effective and will also contribute to respiratory problems.
- Dust, e.g. from dirt roads, dirt paddocks, poor quality feed, poorly-ventilated work or accommodation areas, feeding dry or dusty feed in a nose bag dry.
- Mould spores, e.g. from poor quality feed.
- Smoke and other air pollutants, e.g. from cooking fires, brick kilns, or smoking drums used as fly control.

Bacterial infection

- A thick white, yellow or green discharge indicates a bacterial respiratory infection that may be the primary cause of illness, or a secondary complication, e.g. a respiratory virus, or a foreign body.
- Bacterial respiratory infections include strangles, bacterial pneumonia, pleuropneumonia and glanders (which is zoonotic). Further details on these conditions, including symptoms and treatment, can be found in the Brooke Veterinary Manual.
- Airborne bacterial infections, like strangles, are extremely contagious. They can be transmitted by nose-to-nose contact between animals and also through droplets carried on hands, clothing, nose bags, communal water troughs, harnesses and other equipment, and are often brought into a community of equids by the introduction of a new (infected) animal.

Viral infection

- Respiratory viruses are highly contagious and different viruses often have very similar symptoms⁴. Respiratory viruses include equine influenza, equine herpes viruses (EHV) and rhinoviruses.
- Viruses are characterised by substantial, thick grey/yellow nasal discharge. A secondary bacterial infection can develop as a complication of a respiratory virus.
- It has been suggested that working equids are at greater risk of contracting influenza than other equids, that infection will be more severe, and recovery will be longer⁵. This is due to the additional stresses on the body and weakened immune system common in working equines.
- Like bacterial infections, respiratory viruses are transmitted by breathing infected droplets and by direct contact with nasal secretions⁶.
- African Horse Sickness, unlike other respiratory diseases, is not contagious between individual equids but is transmitted by the bites of the *Culicoides* midge, therefore fly control is an important preventative measure.



Opaque discharge.

^{4,6} Brooke (2013)

⁵ Abd El-rahim and Hussein (2004) quoted in Brooke (2013)



Blood-stained discharge.

Epistaxis

- Epistaxis is bleeding from the nose. This can be from one or both nostrils and can range from a slow drip to a substantial and life threatening haemorrhage.
- Bloody nasal discharge may be due to bleeding from the nasal cavity, from the guttural pouches, or from the lungs.
- Bleeding from the nasal cavity has a number of causes, including trauma to the face or nostrils, infection resulting in erosion (e.g. sinusitis, fungal infection, granulomas), neoplasia (abnormal tissue growths), or a foreign body.
- Bleeding from the guttural pouches can be caused by either fungal or bacterial infection (e.g. strangles).
- Bleeding from the lungs may occur as a result of exercise-induced pulmonary haemorrhage, or pulmonary abscess.

Food regurgitated from the nose

- The most common cause of food being regurgitated through the nose is 'choke'. This is where an obstruction (usually food) in the oesophagus blocks the passing food causing it to be regurgitated through the nose (equines are anatomically unable to vomit).
- Choke is commonly caused by eating inappropriate or very dry food, or eating too quickly, failing to chew food sufficiently before swallowing. It can also be caused by tooth abnormalities, which cause food to become trapped and accumulate at the back of the mouth.
- Choke should be treated as an emergency, as food may be inhaled into the lungs causing aspiration pneumonia. There is also a danger that the oesophagus could be ruptured.
- Older equids with poor teeth are more predisposed to choke.

Fungal infection

- Guttural pouch infections (e.g. *aspergillosis*) and sinusitis often have a fungal cause.
- *Coccidiomycosis* is a fungal infection found in Central and South America which may affect nasal tissues, leading to nasal discharge and other respiratory symptoms⁷.

⁷ Long et al. (2014)

Means of resolution

- Good hygiene and avoiding of cross-contamination is key for preventing infections and viruses. Handlers should wash their hands between animals and take particular care if respiratory infection is suspected.
- Quarantine procedures should be followed whenever possible when introducing new animals to an existing group. New animals of unknown origin should be isolated and carefully monitored for signs of infectious disease for three weeks before mixing with others. Behaviour and social needs (e.g. visual contact with other animals) must be considered.
- Drenching (forcibly administering liquid medications orally) should be avoided, as this is a possible cause of aspiration pneumonia if the medications being administered accidentally enter the lungs. Dehydration is a serious welfare concern in working horses and donkeys. We strongly advocate that animals are offered clean, fresh water throughout the day and that they are given the time and space to drink. In circumstances where animals are unable or unwilling to drink, fluid therapy may be required.

We believe oral fluid therapy is the most physiological and least invasive way to restore hydration. Providing fluids through nasogastric intubation (through the nose to the stomach) is more practical than IV fluids because owners have access to water, buckets and funnels and service providers can easily carry a stomach tube, lubricant and electrolytes.
- In accommodation, ensuring good ventilation, avoiding overcrowding with too many animals, and use of bedding materials that are low in dust are good practices.
- Dampening feed or hay reduces dust and mould spores, and is often recommended for animals at risk of respiratory problems⁸. Beware of soaking hay for longer than 1 hour, as this will reduce its nutrient content. Once soaked, the hay should not be stored due to the risk of dangerous mould growth, so should be fed to the animal straight away. The effluent run off is also an environmental pollutant.
- The use of nose bags should be avoided, as they reduce ventilation and quality of air.
- Vaccination, if available, can prevent some viruses e.g. equine influenza.
- Any respiratory problems should be investigated straight away, because the earlier treatment is started, the better the long term prognosis.
- Equids suffering or recovering from respiratory problems should be given rest and a reduced workload, particularly in cases where significant damage to the airway may have occurred.
- It should be emphasised to owners and local service providers that slitting of the nostrils does not improve breathing, or cure or prevent respiratory problems and will only increase suffering and risk of infection. (See the **Mutilations** section for further information.)

Refer to the Working Equid Veterinary Manual, Community Engagement work plans or strategies and the Handling Guidelines before conducting an intervention..

References

The Brooke (2013) *The Working Equid Veterinary Manual*; Whittet Books, Essex.

Hayes, M.H. (1992) *Veterinary Notes for Horse Owners*; Stanley Paul, London.

⁸ University of Kentucky (2014)