

Dental Extraction Pre-admission information sheet

You have booked your horse in for a tooth extraction at Goulburn Valley Equine Hospital. With the following document, we would like to give you an overview of the procedure, some situation dependent adaptations which may be necessary and the complications that may occur.

Horses are flight animals; every intervention brings the risk of injuries to both the patient and handlers. It is our goal to minimise this risk, and therefore safety measures are implemented throughout the procedure.

Generally, a tooth extraction will take place under standing-sedation, in a crush. This allows us to avoid general anaesthesia (GA), although in selected cases progression to GA may be necessary. This will be discussed with you beforehand. The crush helps with restraint and gives the patient support. Although rare, occasionally the patient can fall, or defensive movements can lead to injuries in the crush. To reduce the risk of injury to the horse and handlers, sedative agents are utilised. These medications have an impact on the cardiovascular system and can cause cardiovascular complications even in healthy horses. To reduce the amount of sedation needed, and for welfare reasons to relieve pain, we perform local regional anaesthesia. The areas we block are where nerves and blood vessels run, which can in rare circumstances cause acute or delayed damage including nerve paralysis or bleeding.

A short stay catheter may be placed to ease injections of medications, or if necessary for constant rate infusions. This minimises the number of injections required, and therefore traumatising of the jugular vein and surrounding tissue. Risks of a catheter placement complications are again rare, but include abscess formation or thrombophlebitis.

Pre-operative radiographs optimise the extraction and will be performed either by the referring veterinarian or at our hospital. Depending on the technique used and the available information we may have to take additional Xray views to those provided by your referring veterinarian in order to plan the procedure as accurately as possible. Post-operative radiographs will be taken standardly to confirm that the whole tooth has been removed.

Every horse is an individual and may react differently to medication and interventions. Therefore slight adaptations to approaches may need to be taken, depending on the case, the presentation of the diseased tooth and the temperament of the horse. We will explain the different methods available to remove a tooth and their possible complications:

1. **Tooth extraction standing through the oral cavity:** When the diseased tooth is accessible through the oral cavity and can be grasped with forceps, in most cases oral extraction will be feasible. The extraction is then performed in a crush under sedation and local regional anaesthesia. The mouth will be opened with a gag, and the instruments will be placed through the mouth to remove the tooth. Complications can include damage or fracture of the alveolus or mandibula/maxilla, healing disorders of the alveolus or fistulation (to the sinus, to the skin or to the nose) with possible ascending infection, injury to the palate, cheek or tongue with bleeding or general infection.
2. **Tooth extraction assisted with minimal invasive screw extraction buccotomy:** In more complicated cases mostly when there is no crown to grasp in the oral cavity or when the tooth has shattered, a screw extraction by buccotomy needs to be performed. Some of these can be done standing but depending on the tooth and the behaviour of the patient it may need to be performed under GA. A small incision through the cheek allows instruments to be passed into the mouth from a different angle, and a screw can be inserted into the tooth to get a better hold. In some cases, the tooth can break during this procedure which makes the extraction more complicated. Other complications are similar to standing extraction through the mouth. In addition, nerve paralysis, damage to the parotid ductus and healing issues of the buccotomy site may occur.
3. **Tooth extraction assisted with repulsion:** In rare cases, if the extraction is not successful with the above-mentioned approaches or if the tooth fractures, we may need to perform a repulsion. For maxillary teeth the approach is through a sinus trephination. For mandibular teeth the sinus won't be opened but a hole will be drilled into the mandibular bone. Complications are similar to those of standing extraction through the mouth. Additionally, damage to nerves, blood vessels and nasolacrimal duct can occur.

Combinations of the different techniques are possible and one technique may evolve in another.

Surgery or even just a consult at the clinic can be a stressful event for your horse. Stress related complications include an acute form of colitis or laminitis. To decrease the stress level as much as possible, several perioperative interventions are recommended:

- We recommend dropping off your horse the day before, so they can get used to the new surroundings and a clinical exam can be performed.

- For the benefit of your horse, it is highly recommended to have pre-operative blood analysis (cost: \$127.50). If the bloods are abnormal, we may postpone the surgery to a later date and re-check the blood analysis at this time.
- The morning before the surgery we will withhold your horse's feed. In the evening after surgery, we refeed the patient with initially sloppy mashes and reintroduce them slowly to roughage.
- We recommend keeping the patient for at least one night in hospital to closely monitor them postoperatively.
- Make sure your horse is up to date with tetanus vaccination before your appointment.

Estimated costs

The estimate is for non-complicated extractions excluding hospitalisation/boarding, dispensed drugs, vaccinations or general anaesthesia if this was to be required.

- Tooth extraction standing through the oral cavity: \$1400 to \$2600 (average around \$1800)
- Tooth extraction assisted with minimal invasive buccotomy: \$2800 to 3600 (average around \$3200)
- Tooth extraction with repulsion: \$3500 - \$4500 (average around \$4000)
- Alternative techniques and complex cases – estimate upon assessment of the case. Workup assessment approximately \$600.

If you require more information on the approach, do not hesitate to discuss this with our veterinarians.