

If Only They Could Talk

Our regular focus on equine health. This month vet **BECKY DINSDALE** discusses fractures of the poll.

THE POLL is the bony prominence at the top of a horse's skull, between the ears. It functions as a point of insertion for muscles of the neck and, importantly, also for the nuchal ligament, which extends from the poll to approximately the seventh vertebrae and acts to suspend the cervical vertebrae.

Poll injuries are not that common but the poll is relatively exposed and fragile, and when a horse rears or raises its head the poll becomes the first point of impact with anything in the way. Fractures of the poll usually result in chips of bone being formed, and the fragments can then be pulled backwards due to the elastic recoil of the muscles that attach here.

Poll fractures are classified as open or closed, dependent on whether or not the skin has been broken. Open fractures are where the skin has been broken and there is a wound evident; closed is where the skin remains intact.



Radiograph showing a bone fragment

Closed fractures

- In these cases the bone fragments often settle in position and scar tissue forms around the fracture site.
- Full clinical examination and radiography is carried out to assess the injury fully and then such cases require anti-inflammatory medication and rest.
- Careful management must also be implemented to avoid application of pressure over the poll as this may disrupt the fragment again and is often very painful for the horse.

Open fractures

- Open fractures present complications in that the skin, soft tissues and bone are exposed to infectious and gross contamination.
- Bacterial contamination is most common and presents clinically as discharge from the wound, persistent inflammation and often there is substantial delay in the wound healing.
- These cases require surgical intervention to remove the fragments, to lavage the wound and to create a wound appropriate to be sutured, or to create an environment in which the wound can heal by third intention (form a granulation bed then contract).

Surgical procedure in open poll fractures

Following thorough clinical examination, radiographic imaging is undertaken to assess the extent of the bone fragments in the injury, and metal markers are used to locate the fragments. Accurate location of the fragments permits removal with least trauma to the already inflamed localising tissues.

At least two views are taken at different angles to ensure all fragments are detected and so that their association to the anatomy is accurately appreciated. Both imaging and removal of the fragments is possible under standing sedation and local anaesthetic. The local anaesthetic is instilled into the skin and muscle surrounding the fragments to desensitise the area.

The wound is then thoroughly cleaned and lavaged with sterile water and chlorhexidine (hibi scrub) as this has antibacterial properties and hence reduces the infectious load in the likely already contaminated wound. The cleaning process also ensures the exposed tissues don't become overly dry, as this can inhibit healing.

Sterile instruments are used to reach and extract the fragments within the wound. If localisation becomes challenging due to depth or accessibility the instruments can also be left in place while further radiographs are taken to aid retrieval. Forceps are commonly used as the fragments can be gripped and secured for imaging, and they also permit security if dissection is necessary to release the fragments from any muscular attachment. Every effort is made not to cause more injury to the area but in some cases it may be necessary to further increase the wound size to allow access. This is done under strict aseptic technique and



A bone fragment removed using forceps

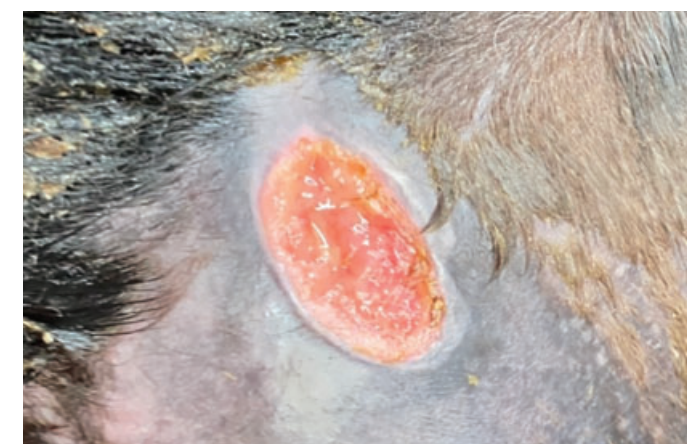
sutures are placed afterwards to reduce healing speed.

Radiographs are then repeated once the fragments have been removed to ensure none has been missed and also to gauge the integrity of the anatomy where the fragments have arisen from. Horses having undergone surgical extractions remain on prolonged courses of anti-inflammatory drugs — most commonly phenylbutazone (bute) — and antibiotics. Initially we select a combination of penicillin and gentamycin. This combination covers a broad spectrum of different bacterial species and is able to penetrate skin and muscle readily.

The healing wound must be monitored carefully as these wounds can discharge quite profusely due to the dead space created by the fragments and exploration required to remove them. Further to this the wounds are obviously at the highest point so don't drain well. Here at Johnston Racing we manage these cases by feeding from the floor to improve drainage ability. Horses recovering from surgery will be assessed at least twice daily, have their drugs administered and the wound managed as appropriate. Initially we may continue to lavage open wounds, any discharge is cleaned gently from the skin and we often apply silver sulphadiazine cream to the localised skin to prevent scalding and dermatitis.



An open fracture one week after surgical extraction of fragments



A granulating wound two weeks after surgery

As the wound begins to granulate the discharge typically reduces dramatically. The soft tissue swelling also reduces and sensitivity to palpation of the area also becomes less severe. The horses are managed initially on box rest then progress on to the walker once they can tolerate it and are safe to handle in a headcollar/bridle. Once the wound is completely healed and the poll is non-painful they can resume ridden exercise and their training will be gradually built back up dependent upon the amount of time they had off. There are rarely any long-term implications of poll fractures but in complex cases referral may be sought. ■



Becky Dinsdale

At Johnston Racing, the peace of mind of our owners is a priority. This is why we have included the vet fees in our inclusive daily rate for horses in training.

Becky Dinsdale was born and raised on a farm in upper Wensleydale. She attended Ripon Grammar before studying veterinary science at the University of Liverpool, graduating in July 2019. She had a spell shadowing the vets at Kingsley Park as part of a university placement, and had further placements in France and New Zealand. After graduating she had another stint at Johnston Racing as an assistant to the vets. She then worked at a first-opinion veterinary practice in west Yorkshire before joining the yard as a full-time vet in early 2020.

Our veterinary team



John Martin

John Martin is from the town of Stradbally in County Laois in Ireland's Midlands. He was raised on a farm and from a young age had ambitions to be a vet.

He trained at University College in Dublin and it was there that he first took an interest in horse racing, which nurtured an ambition to eventually specialise in working with horses as a vet.

After graduating he took up a post at a veterinary hospital in Navan, County Meath, before moving to England to join a practice in Louth, Lincolnshire.

He joined Mark Johnston Racing at the start of 2010, staying for more than two years before returning to Ireland for a brief spell and then resuming his position at the yard in April 2013.