



PREVIOUS CLINICAL RESEARCH PROJECTS

C Bell, L Hnenny, K Torske

INTERNAL NEUROLYSIS FOR THE TREATMENT OF EQUINE HEADSHAKER SYNDROME (2018)

This was a case report study on a horse severely affected with equine trigeminal nerve mediated headshaking syndrome. This case was treated conservatively without resolve and we developed a novel approach to the base of the trigeminal nerve behind the eye in order to neutralize the nerve dysfunction. In collaboration with a human neurosurgery, the internal neurolysis technique was employed and we saw dramatic improvement in the symptoms. Unfortunately, the horse had some residual clinical signs which resulted in it passing and we looked at the brain and nerves for a reason for the condition and for the effectiveness of the procedure.

Fracture of the medial intercondylar eminence of the tibia in horses treated by arthroscopic fragment removal (21 horses).

Rubio-Martínez LM, Redding R, Bladon B, Wilderjans H, Payne RJ Tessier C, Geffroy O, Parker R, Bell C, Collingwood FA.

This was a multicenter study headed by Dr. Rubio-Martinez at the University of Liverpool looking are an uncommon intra-articular fracture in the stifle joints of horses. This fracture is usually the result of trauma and seen in performance horses. The fracture can result in long term complications such as severe arthritis in the stifle joints, however, our study showed that horses can be successfully treated with arthroscopic removal of the fragment(s) and returned to full athletic function with a progressive rehabilitation program.

Results are published in the Equine Veterinary Journal (EVJ)

RECONSTRUCTION OF COLLATERAL LIGAMENTS WITH A NOVEL CONSTRUCT USING FIBREWIRE AND SWIVEILOCK KNOTLESS SUTURE ANCHORS

Bell C, Lobb B, Torske K.

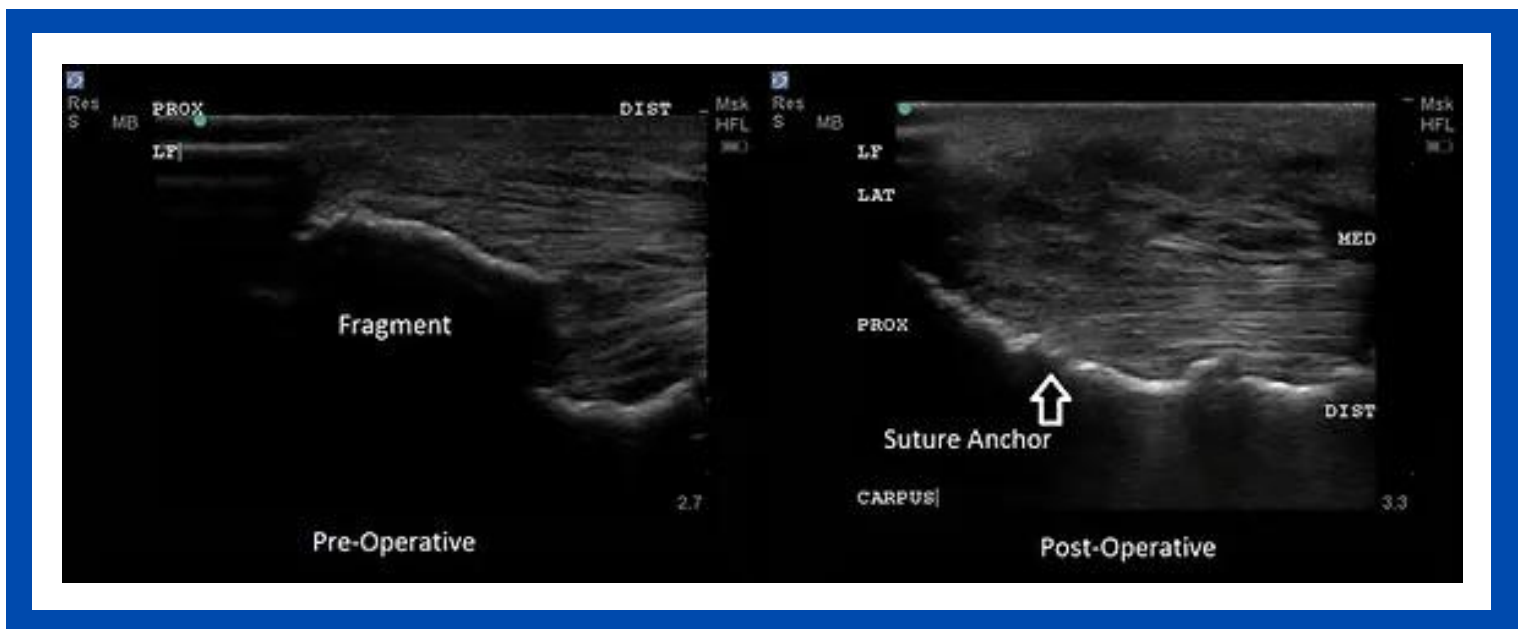
Horses that have a fracture of their insertion or origin of a collateral ligament are often very painful and can develop unstable joints as a result. This ultimately results in severe arthritis and lameness. Traditionally collateral ligament injuries would have been treated conservatively with casts or heavy bandaging and then stall rest. Some foals can be treated with reconstructions but collateral ligament reconstruction in the adult horse had not been previously described. We looked to develop and described with clinical outcomes, the use of a suture anchor construct to rebuild collateral ligament injuries in horses.

The results are published in the Equine Veterinary Education journal (EVE)



BALLOON SINUPLASTY FOR THE TREATMENT OF EQUINE SINUSITIS CONDITIONS

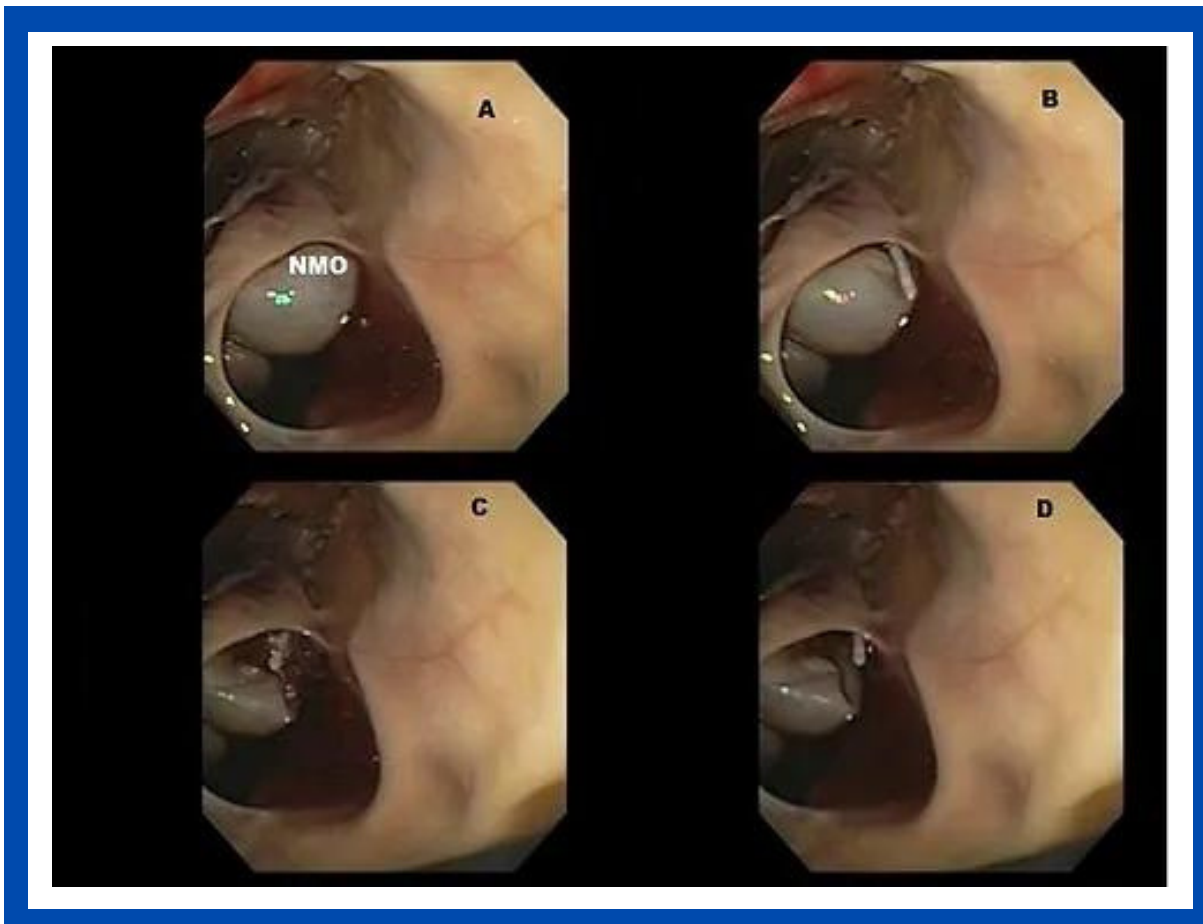
Horses that develop primary or secondary sinusitis or sinus inflammation have long struggled with a means to drain the sinus without aggressive surgical intervention. We sought to design and implement a minimally invasive surgical procedure to improve drainage of the equine sinus system via the natural nasomaxillary opening (NMO) into the nose. The procedure involves endoscopic surgery to place a dilating balloon into the nasomaxillary opening of the horse and increase the diameter of the opening to allow for greater drainage via the natural anatomical structure (rather than making a surgical access hole elsewhere in the sinuses from the nose). In this project, we successfully dilated the NMO in both cadaver and clinical cases to improve the drainage in a minimally invasive manner. The results are published in the Veterinary Surgery journal (Vet Surg)





EQUINE CUSHINGS SYNDROME/PITUITARY ADENOMAS

Equine Cushing Syndrome is a type of generalized metabolic dysfunction in horses affected by a tumor in the pituitary gland at the base of the brain. This tumor, known as an adenoma, is a space-occupying mass within the normal pituitary gland that is functional and produces (overproduces) various hormones and signaling proteins in the body with very detrimental effects on the health of the horse. Some of the most common clinical signs associated with pituitary adenomas are excessive or curly hair growth, not shedding out their hair coat each summer, laminitis, increased propensity for infection, excessive fatty weight gain, poor muscle building, increased drinking and urination without obvious reason. The tumor that causes this condition in horses is very similar to the condition in humans. Dr. Bell in collaboration with several human neurosurgeon colleagues and veterinary surgeons has developed several approaches to removal of the pituitary adenomas from the horse's brain. The approach is via the basisphenoid bone either through the sphenopalatine sinus or via a ventral approach through a pharyngotomy or via the paired guttural pouches. With access to the sella or the bony cavity in which the pituitary sits, the pituitary tumor is removed and the horse is relieved of the effects of the tumor. Dr. Bell has also developed another approach via the temporal bone of the skull to access the pituitary from above rather than below to remove macroadenomatous tumors (macroadenoma tumors are more rare but cannot be fully removed via the ventral approach). The approaches developed have been refined in the cadaver models but have yet to be fully proven in the clinical cases. The advancement of CT and MRI studies available of the equine brain and skull will further advance this technique and we look forward to working with clinical cases in the future to resolve this condition. If you would like more information on this exciting new area of clinical research, please contact us.





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