Fact Sheet

Equine Arthroscopy

Introduction

Keyhole surgery of joints (arthroscopy) is now a routine procedure in human medicine.

The techniques and equipment have rapidly advanced over the last 25 years and arthroscopy has now also become commonly performed in horse practice.

The procedure

The principles of arthroscopy are that by maintaining a joint in distension a small arthroscope (telescope) can be inserted into the joint. A powerful source of light is then transmitted down the arthroscope allowing visualisation of the joint interior. At a position distant to the arthroscope small instruments are then inserted into the distended joint. Instruments originally were limited to rongeurs to grasp and remove debris and fragments from the joint. However, with time small hand-held motorised equipment have evolved that have a variety of attachments (usually between 2 - 4.5 mm in diameter). The small attachments are capable of removing areas of damaged cartilage, membrane, and bone and can burr out bone cyst lesions. Most operations now rely on these motorised burrs.

The surgery is conducted, similar to in humans, where the surgeon uses a television monitor to to visualise the instruments within the joint.

Following the surgery the joint is usually flushed with several litres of the Hartmann's solution.

Arthroscopy is virtually always conducted with the horse under general anaesthesia.

The whole procedure requires a team of an anaesthetist, surgeon and a trained nurse who all work to ensure that the operation works smoothly and quickly.

Advantages of an arthroscopy

- The surgery is relatively non-traumatic and provides excellent cosmetic results post-operatively
- There is a decreased convalescence time and an earlier return to work when compared to previous surgical treatments.
- The large size of horse joints make them ideal candidates for keyhole surgery
- It is preferred by vets due to the significantly reduced incidence of post op infection and the reduced need to bandage the limb following the surgery
- Joint conditions that were not particular amenable to surgery have been developed. For example, the treatment of OCD (Osteochondritis Dissecans) of the equine shoulder joint, which previously involved making large incisions over the shoulder and gave very poor inspection of the joint

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Arthroscopy is the preferred treatment of choice for: -

- Removal of chip fractures from joints, particularly knees, hocks and fetlocks (including some sesamoid fractures)
- Treatment of OCD. Arthroscopy is the treatment of choice for many foals, yearlings or older horses with OCD, particularly when in the hock and stifles
- Treatment of infected joints. Arthroscopy has the major benefit in the treatment of septic joints over traditional treatment because the surgeon can visualise all the introduced debris and infected material that can then be removed with rongeurs or the motorised equipment
- Treatment of bone cysts, particularly in the stifle joint
- Inspection of joints that are not responding to conventional treatment. Arthroscopy allows a precise prognosis for many of these joints, when X-rays often do not give an accurate picture as to what is going on in the joint. It may also be possible to treat areas of damage with the motorised equipment
- Evaluation of the stifle joint. Similar to human knee, many equine stifle joint problems are related meniscal (cartilage) and ligament injuries. The extent of these injuries cannot be assessed on plain X-rays. This gives a more accurate prognosis for the animal's long-term soundness
- Treatment of tendon sheath problems (such as persistent windgalls). The use of keyhole surgery has revealed that these are often caused by tendon damage a feature that 15 years ago we were unaware of. Keyhole surgery of windgalls also allows procedures to be undertaken that previously would leave the horse with relatively large scars. Another tendon sheath that can be treated by keyhole surgery is the thoroughpin
- Recently keyhole surgery of the navicular bursa has been described and the technique can be used the assess horses with navicular disease or treat horses with infection within the bursa

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