Surgery carried out on horses under heavy sedation and local anaesthetic has now become a well-established and routine part of equine practice. This has been made possible by advances in sedative drugs, increasing expertise, advances in technical equipment, improvements in hospitalisation facilities, and specialist care provided by nursing and support staff. Team work is the key to success!

The fact that surgery can often be carried out under local anaesthetic offers a considerable advantage to the horse in avoiding the risks associated with a general anaesthetic. In addition, many procedures may actually be accomplished more easily in the standing sedated horse rather than under general anaesthesia. At Rosdalen Equine Hospital, we carry out approximately 1300 surgical procedures per year, of which approximately 50% are now carried out in the standing patient, and 50% under a general anaesthetic. We have a purpose-built standing surgery operating theatre in our Diagnostic Centre and the following are some examples of how it is used.

**Laser surgery**

Laser surgery has been used at our hospital for over 20 years and allows precise tissue removal with minimal haemorrhage and reduced post-operative pain and swelling. It is very commonly used to remove scars - one of the most problematic, frustrating and locally invasive skin tumours (Fig. 1). The horse has a particular interest in the treatment of upper respiratory infections. A laser fibre can be passed through a video endoscope which allows access and vision to these remote and awkward surgical sites.

**Ocular Surgery**

Surgery on the horse’s eye can be complex, requiring precise expertise and specialist equipment, often under a general anaesthetic. However, several procedures relating to the horse’s eye can be carried out safely under local anaesthesia, in a safe and adequately sedated patient. One example of this would be removal of the third eyelid – usually where there is a tumour such as a squamous cell carcinoma on it. In some cases, minor surgery of the cornea (the surface of the eye) may also be carried out safely under local anaesthetic.

**Removal**

This is a procedure which can be carried out routinely under sedation and local anaesthetic. The prognosis for full recovery and healing once the badly damaged eye has been removed is usually excellent, and horses with one eye adapted and cope amazingly well, adjusting to normal life and returning to almost all forms of activity and use.

**Dental Surgery**

There have been huge advances in equine dentistry over the past decade. This relates not only to a better understanding of disease, but also improved expertise and technical equipment for dealing with problems. Clients would expect routine dental surgery to be carried out under sedation and local anaesthetic, and nowadays even fairly major procedures such as complex dental extraction may be successfully conducted in this way. Our hospital has a team of four veterinary surgeons who have a particular interest and expertise in dental surgery and this team of people is constantly improving the standard of care that can be offered to horses and ponies.

**Sinus Surgery**

Just like humans, horses not uncommonly suffer from sinus problems. These can range from simple acute problems with infection through to more complex problems which might involve tooth root infection, or even on rare occasions, the presence of tumours. As previously mentioned, without the expensive surgical technique, it is often possible to deal with these problems. However, sometimes issues need to be ‘opened up’ fully to explore them and deal with the problems. In the past, traditionally this would have been carried out under general anaesthetic but nowadays it is routine to carry out open, exploratory sinus surgery under local anaesthesia (Fig. 3).

**Laparoscopic surgery**

Laparoscopic (keyhole) investigation of the abdomen has a variety of uses (Fig. 4). It can be used for investigation of horses which suffer chronic and recurrent bouts of colic, as it allows inspection of a significant part of the abdomen without the need for a midline incision and full ‘tut-and-scut’ surgery under general anaesthetic. In certain cases, examination of the liver and spleen may be carried out as well as biopsy of the diseased tissues.

**Rising spine**

Rising spine can be treated by two types of surgery, both routinely carried out under local anaesthetic.

**By Richard Payne - European Specialist in Large Animal Surgery (equine)**

**Name:** Richard J. Payne

**Qualifications:** BSc, BVSc, CertES(Ophth), DipECVS, MRVCYS

Richard is the partner responsible for Rosdalen Equine Hospital and is one of the busiest equine surgeons in the UK. Richard graduated from the University of Bristol in 1995 and after a year in mixed practice, he moved to Rosdalen Equine Hospital where he completed a threeyear residency in Equine Surgery. He became a partner at Rosdalen in 2002. He has a large and varied caseload of effective and emergency surgery, which is referred to Rosdalen from practices throughout the UK.

Richard has published papers on equine surgery in peer-reviewed scientific journals, and authored several book chapters. He has acted as an examiner for the Royal College of Veterinary Surgeons, and lectured on equine surgery at national and international meetings.

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**Trauma Management**

To treat fractures under general anaesthetic,
"A huge range of surgical techniques may be accomplished successfully in the standing, sedated horse. The final decision to carry out a procedure in a standing patient will be influenced by a large number of factors including the type and complexity of the problem, the temperament of the horse and the personal experience preference and expertise of the surgeon.

The essential ingredients for successful standing surgery include:

1. A well trained, experienced organised team of vets, nurses and support staff
2. Appropriate technical equipment
3. A compliant patient
4. A quiet undisturbed operating environment
5. Patience!

**Rossdales Equine Hospital & Diagnostic Centre**

(All horse admissions)

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01638 777734 (office hours), 01638 663150 (24 hours)
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Rossdales Equine Practice

(Ambulatory Practice, Horseware, and Assays)

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**Gynaecological surgery**

Surgery of the reproductive tract can often be carried out in the standing sedated horse, often under local or epidural anaesthesia. A whole variety of surgical procedures can be carried out, from routine injury repair (for example after foaling), through to surgery which improves conformation, and more specialist procedures such as ‘ventral exteriorisation’ in order to prevent internal urine pooling problems.

**Kissing Spines**

Kissing spines causing back pain and problems in the horse are a well recognised problem. There is huge complexity to this disease. In some cases, where medical management and physiotherapy are not effective, surgery may be helpful (Fig 5). When there is significant new bone formation obliterating the gaps between the impinging dorsal spinous processes (DSP), surgical removal of carefully selected DSP may be carried out (Fig 6). In other carefully selected cases, in particular where there is no bone bridging the gap between adjacent DSPs, it may be possible to cut the interspinous ligament between the kissing spines, which can also be helpful.

**Fracture Repair**

Fractures of the lower limb (often in the rear) have traditionally been repaired by insertion of screws under a general anaesthetic. The anaesthetic itself involves a risk, but also recovering a horse from anaesthetic even with the leg in a cast, is not without additional risk. Work carried out since 2004 at Rossdales Equine Hospital has helped to establish and develop a safe method of repair of certain fractures under sedation and local anaesthetic, offering obvious advantages to the horse (Fig 7).