



STANDING

By Richard Payne European Specialist in Large Animal Surgery (Equine)

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 many different areas, including improvements 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 a general anaesthetic. At RosSDales 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 sarcoids - one of the most problematic, frustrating and locally invasive skin tumours (Fig 1)



Fig 1a

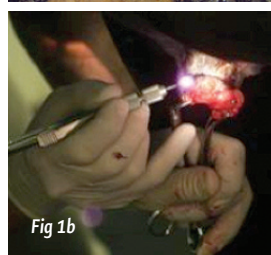


Fig 1b

Research at RosSDales Equine Hospital has found that laser surgery carries a success rate of approximately 80% in removal of sarcoids, and this can often be done safely under local anaesthetic.

1). Laser surgery has also revolutionised our ability to treat diseases and disorders of the nose and throat which are at

surgically inaccessible locations (Fig 2). Procedures such as a ventriculotomy and cordectomy (hobday surgery) have traditionally required a general anaesthetic and an incision beneath the throat. These are now routinely performed in the standing patient by laser surgery, without the need for throat incision. Laser surgery may also be useful for treatment of selected tumours (such as ethmoidal haematomas) within the nose, throat and sinuses, where access can be achieved endoscopically (by 'keyhole' surgery).

Ocular Surgery

Surgery of 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 anaesthetic, in a sensible adequately sedated patient. One example of this



Fig 2

Our Hospital has a particular interest in the treatment of upper respiratory lesions. A laser fibre can be passed through a video-endoscope which allows access and vision to these remote and awkward surgical sites.



Fig 3

Open sinus surgery under local anaesthetic offers considerable advantages in terms of access, vision, and reduced haemorrhage.

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. Where major injuries to the horse's eye occur and the eye cannot be salvaged, surgical



Fig 4

Laparoscopic (keyhole) investigation of the abdomen has been carried out at RosSDales Equine Hospital for the past 18 years. In this image an ovary is being removed.

SURGERY

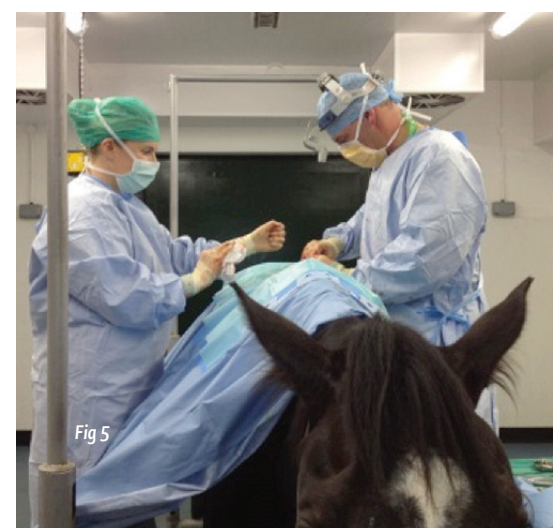


Fig 5

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

removal is sometimes required. 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 adapt 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 relatively simple 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, using minimally invasive surgical techniques, it is often possible to deal with these problems. However, sometimes sinuses 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 a general anaesthetic but nowadays it is routine to carry out 'open' exploratory sinus surgery under local anaesthetic (Fig 3).

Laparoscopic surgery

Laparoscopic (keyhole) investigation of the abdomen has a variety of uses (Fig 4). It can be useful 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 'colic surgery' under general anaesthetic. In certain cases, examination of the liver and spleen may be carried out, and biopsies of the diseased tissues may be carried out under the safety of direct vision.

Laparoscopic surgery may also be successfully employed during cryptorchid ('rig') investigations in search of retained testicles. This method of examination and castration can offer significant advantages, in some cases saving the horse from more invasive 'open' surgery either through the groin, or through a full abdominal incision. Laparoscopic surgery also offers significant advantages for ovariectomy (the removal of an ovary). The mare's ovaries are located in the upper part of the abdomen just beneath the lumbar spine, which is a difficult area to access with a traditional midline incision. Keyhole surgery in the standing patient has revolutionised this procedure with decreased incision size and swifter recovery. Most commonly this procedure is used to remove an ovarian 'granulosa cell' tumour. Thankfully these are benign tumours, and the prognosis for full recovery and return to normal cyclical activity on just one remaining ovary is good, with many mares able to breed successfully after surgery. Laparoscopy may also be used to access and carry out surgery on other areas of the reproductive tract. One example of this would

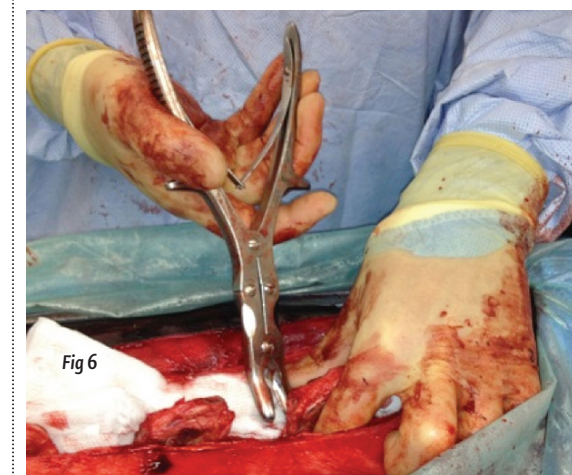


Fig 6

Kissing spines: in the most advanced cases, certain dorsal spinous processes (DSPs) are removed surgically to prevent impingement

Vet Profile



Name: Richard J. Payne
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Richard is the partner responsible for RosSDales 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 RosSDales Equine Hospital where he completed a three-year residency in Equine Surgery. He became a partner at RosSDales in 2002. He has a large and varied caseload of elective and emergency surgery, which is referred to RosSDales from practices throughout the UK. His further qualifications include an RCVS Certificate in Equine Surgery (Orthopaedics) and in 2012 the European College of Veterinary Surgeons (ECVS) awarded him Diplomate status. 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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A recent study of fractures repaired under standing surgery at RosSDales Equine Hospital was published in the Equine Veterinary Journal. Approximately two thirds of horses returned successfully to racing.

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be flushing of the oviduct (fallopian tube) which is carried out under laparoscopic guidance. More recently, a technique called 'uteropexy' has been used for broodmares (typically in middle to older age) where the uterus becomes rather 'slack' and falls away into the abdomen resulting in pooling of infection within it, which can predispose to infertility. Using laparoscopy the uterus is lifted and stitched into a more horizontal position which can be helpful in improving fertility.

Gynaecological surgery

Surgery of the reproductive tract can often be carried out in the standing sedated horse, often under local or epidural anaesthetic. 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 'urethral extension' 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**). Where there is significant new bone formation obstructing the gaps between the impinging dorsal spinous processes (DSPs), surgical removal of carefully selected DSPs 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 racehorses) have traditionally been repaired by insertion of screws under a general anaesthetic. The anaesthetic itself involves a risk, but also recovering a horse from an anaesthetic even with the leg in a cast, is not without added 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**).

Trauma Management

Accidents and injuries are not uncommon in horses, and may have serious consequences. These may range from typical kicks, wounds from fencing or 'over-reach' injuries, to complex trauma and impact injuries, either from falls during competition or, for example, from car accidents. If a horse has sustained a recent trauma injury, it is often far from ideal for it then to have a general anaesthetic, unless absolutely necessary. With patience, sedation and local anaesthetic, a surprising number of even fairly nasty looking trauma injuries may be investigated, treated or reconstructed under local anaesthetic. This would include typical injuries of the face, the trunk and the limbs. In some cases where there is puncture and infection of synovial cavities (joints, tendon sheaths and bursae), a considered decision to flush the affected cavity under local anaesthetic may even be possible.

Summary

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
VETERINARY SURGEONS

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