Principles
As with all conditions, accurate treatment requires accurate diagnosis. However, with back pathology, this important tenet can be difficult to apply due to the limitations of our diagnostic capabilities and sometimes because accurate diagnosis often requires time-consuming and expensive investigation. When a precise diagnosis can be made, treatment can be aimed at a number of conditions. This abstract will focus on the treatment of impinging dorsal spinous processes (DSPs), intervertebral articular disease, supraspinous ligament desmopathy and lumbosacral disease.

Impinging dorsal spinous processes (DSPs)
Kissing spines is an easy diagnosis to make. It is less easy to make a correct diagnosis of kissing spines. Impingement is a common radiographic finding but this does not mean that it is clinically relevant in all horses showing radiographic abnormalities. This is a crucial point - it is the author’s opinion that medical or surgical treatment of impingement can be very successful and that many failures are because there are other issues that have not been taken into account. The simplest method for treating impingement is peri-lesional injection of corticosteroids. A number of methods exist but I prefer to use triamcinolone acetonide diluted in sterile saline. I limit the total dose to 30 mg and split this between the number of sites required by dilution in sterile saline. Typically, if 3 sites are to be treated (i.e. 3 affected interspinous regions) I will prepare, aseptically, 3 syringes, each with 10 mg triamcinolone acetonide diluted in 10 ml saline. The sites for treatment will have been identified radiographically (radiopaque markers placed on the skin are standard practice for my cases and their positions are then recorded by small clip marks in the hair after the procedure) and, almost always, small areas of hair are clipped away at these sites followed by a brief scrub and injection of a small bleb of local anaesthetic - this makes the procedure a lot less uncomfortable for the horse. It is impossible to inject between the DSPs - the aim is to deposit the medication either side of the site of the lesion(s). I use a 1.5 inch 20 gauge needle penetrating the skin in the midline. This is only advanced a few millimetres before it is lifted slightly, tenting the skin, and pushed to the left of midline (but keeping the needle vertical) before being advanced down the side of the interspinous space. Five ml of the previously prepared 10 ml solution is injected and the needle is withdrawn, but not completely, before advancing it down the right side of the space. The same technique is used for anaesthesia during investigations to determine the significance of lesions.

Supraspinous ligament (SSpL) desmopathy
Once again, an easy diagnosis to make, but true SSpL injury as a cause of back pain is uncommon, at least in my caseload. When genuine cases are encountered the most logical treatment is a period of rest, with ultrasonographic monitoring at 3-monthly intervals to assess progress (although lesions can persist despite clinical resolution). Other techniques such as extracorporeal shock wave therapy (ESWT) seem logical for chronic, unresponsive cases; I would advise against its use in acute/subacute injuries. Similarly, intra- or peri-lesional injection of biologics such as platelet-rich plasma would also seem logical although I have limited experience of their use in this site.

Intervertebral articular disease
This typically affects the caudal thoracic and cranial lumbar joints (sometimes referred to as facet joints). A diagnosis is usually made with a combination of scintigraphy, ultrasonography and radiography. Affected joints can be medicated, usually with corticosteroids, via ultrasound-guided injection (USGI). Once the affected joints have been identified a curvilinear transducer is placed at right angles to the midline and the joint localised. Two techniques are available but with similar results - the aim is to guide the 3.5 inch 18 gauge spinal needle through the epaxial musculature and deposit the medication into, or close to, the joint. Whether the probe is positioned close to midline and the needle is directed from lateral or vice versa, the aim is to inject into multifidus close to the joint. A skin bleb of local anaesthetic again reduces the discomfort to the patient. I would typically use 5 mg of triamcinolone acetonide diluted in 1.5 ml of sterile saline, per joint.

Lumbosacral disease
Intervertebral disc disease is much less common in horses than in humans, due in part to the differing morphology of the discs between the species. However, there is a large disc at the lumbosacral (LS) junction (usually L6/S1, but sometimes L5/S6 if there is sacralisation) that is prone to degeneration. Assessment of this region is possible with ultrasonographic examination per rectum at which time the integrity of the LS disc can be evaluated. In addition the sacroiliac joints can be viewed (although only the most medial aspects) and the intertransverse joints. The intertransverse joints (ITJs) are interesting - it is likely that disease here may cause discomfort but it is their proximity to the L6 nerve roots that might be more significant. New bone formation around the ITJs will cause compression of the L6 nerve outflow (a main contributor to the sciatic nerve). The lumbosacral region can be treated by ultrasound-guided injection via a cranial approach. A curvilinear probe is positioned parallel to midline, over the cranial edge of the ilial wing: the aim is to guide the needle under the ilium, towards the lumbosacral region. It is useful to have reference to an anatomical specimen when learning this approach; the close proximity of the ITJs, LSJ and SIJs can be appreciated, as well as the anatomy of the ilial wing (the change in bone thickness of the ilium is a useful guide during USGI). The 6 inch 18 gauge spinal needle effectively forms the hypotenuse of a right-angled triangle and it can be useful to use this principle when assessing the correct position for needle placement. The needle penetrates the skin, aiming caudoventrally, 3–6 cm off midline and at a position close enough in front of the ilial wing to allow it to pass under the bone parallel with its surface and towards the lumbosacral region. Again, typically I would use 5 mg triamcinolone acetonide diluted in 10 ml sterile saline for this treatment. Left and right sides of the horse are always treated together.

Other comments
All injections are performed under aseptic conditions, with the operator wearing sterile gloves and the injection sites prepared as for other intra-articular procedures.

Further reading