correlating identically with the prosthesis stem size in 9 out of 12 cases and, with the acetabulum size, on 10 of 12 occasions. In comparison, scaled Orthoview® templating correlated with the correct femoral prosthesis size in 5 of 12 patients, and 8 of 12 for the acetabulum. Additionally, Orthoview® templating took a mean of 6 min, whereas manual templating can be achieved in under 30 s.

Manual templating of scaled PACS images using transparencies conferred considerable advantages in terms of accuracy and speed. Moreover, this method allows a hands-on assessment of the forthcoming surgical procedure immediately prior to the operation, as well as late changes in implant choice. We recommend the continuation of manual templating using modern, scaled, digital images.

Pre-operative planning when using the Wiltse approach to the lumbar spine

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BACKGROUND

The Wiltse approach to the lumbar spine employs bilateral incisions 4.5 cm lateral to the mid-line, to gain access to the lower lumbar and sacral vertebrae. The natural cleavage plane, between

Figure 1 At L4, the distance of the natural cleavage plane of sacrospinalis is 2.5 cm from the mid-line in this patient.

Figure 2 At L5, the distance of the natural cleavage plane of sacrospinalis is 3 cm from the mid-line in this patient.

Figure 3 At S1, the distance of the natural cleavage plane of sacrospinalis is 3.5 cm from the mid-line in this patient.

the multifidus part of sacrospinalis and the longissimus part, is used.¹ This plane allows direct access to the pars, transverse processes and facet joints with minimal soft tissue dissection and retraction. This is less vascular than the mid-line approach, resulting in less bleeding.² Two lateral incisions preserve the supraspinous and interspinous ligaments, resulting in less pain.¹ Cadaveric studies show variation from 2.4–7 cm. from the mid-line for the natural cleavage plane.^{3,4} When skin incisions are made a set distance from the mid-line, access to the facet joint

and pars is compromised due to mismatch between the position of the skin incision and that of the cleavage plane.

TECHNIQUE

The cleavage plane location is different for L4, L5 and S1 (Figs 1–3). We measure the distance from the mid-line of the natural cleavage plane on magnetic resonance imaging (MRI) at each vertebral level, and use it to determine the correct location for skin incisions.

DISCUSSION

The Wiltse approach allows instrumented posterolateral fusion and decompression to be performed with minimal soft tissue trauma. By accurately identifying the natural cleavage plane between multifidus and longissimus, we have reduced postoperative morbidity. When using the Wiltse approach, we recommend using pre-operative MRI to plan the distance of skin incisions from the midline at each vertebral level.

References

1. Wiltse LL, Bateman JG, Hutchinson RH, Nelson WE. The paraspinal sacrospinalis-splitting approach to the lumbar spine. *J Bone Joint Surg Am* 1968; **50**: 919–26.
2. Olivier E, Beldame J, Ould Slimane M, Defives T, Duparc F. Comparison between one midline incision and two lateral incisions in the lumbar paraspinal approach by Wiltse: a cadaver study. *Surg Radiol Anat* 2006; **28**: 494–7.
3. Vialle R, Wicart P, Drain O, Dubousset J, Court C. The Wiltse paraspinal approach to the lumbar spine revisited: an anatomic study. *Clin Orthop Relat Res* 2006; **445**: 175–80.
4. Vialle R, Court C, Khouri N, Olivier E, Miladi L, Tassin JL *et al.* Anatomical study of the paraspinal approach to the lumbar spine. *Eur Spine J* 2005; **14**: 366–71.

A novel approach to oesophageal clot removal

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BACKGROUND

We describe a novel technique for removal of intraluminal blood clots from a dilated oesophagus. This can be employed in cases where the endoscope's own suction channel is too narrow to remove large clots, preventing effective diagnosis and therapy (Figs 1 and 2). We also describe the placement of a three-way Foley catheter to prevent re-accumulation of the oesophageal clots.

TECHNIQUE

Under general anaesthetic, two 32-FG Robinson drains are passed orally (Fig. 3). Using repeated cycles of irrigation (with

Figure 1 Endoscopic view of the oesophagus before initial suction using the in-built suction channel.

Figure 2 Endoscopic view of the oesophagus after initial suction using the in-built suction channel. The ineffectiveness of this suction for removing such extensive clots is clearly apparent.

Figure 3 An external view of the patient showing the two Robinson drains *in situ*.