Technical Section

TECHNICAL NOTES AND TIPS

A simple and cost-effective method in delivery of bone graft in lumbar spine posterolateral fusion

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BACKGROUND

Consistent posterolateral placement of bone graft and bone graft substitutes in the intertransverse gutter of the lumbar spine can be challenging owing to the depth required for placement and the paraspinous muscle bulk. Bone graft chips may fall into the decompressed spinal canal or into the muscle. We present a simple method for bone graft delivery.

TECHNIQUE

The first step is trimming a 10ml plastic syringe along its entire circumference at the distal end to expose the full diameter of the cylinder. Care should be taken to ensure all small plastic edges at the mouth of the cylinder are trimmed off. Morcellised bone graft in a gallipot is sequentially loaded and compressed with the plunger into the syringe. The bone graft filled syringe is then placed in the posterolateral space, allowing even delivery with minimal need for excessive retraction (Fig 1). One should ensure the rubber stopper is present on removal.

DISCUSSION

The syringe technique for bone graft application has been used previously in long bone non-unions.^{1,2} We have found the 10ml syringe to be the most appropriate diameter and length for intertransverse process application of bone graft. Furthermore, it allows objective measurement of bone graft volume³ that may be useful in future research.

Figure 1 Syringe delivery of bone graft

References

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3. Carragee EJ, Comer GC, Smith MW. Local bone graft harvesting and volumes in posterolateral lumbar fusion: a technical report. *Spine J* 2011; **11**: 540–544.