Technical Section

TECHNICAL NOTES & TIPS

TECHNICAL NOTES

New surgical procedure for the treatment of acromioclavicular joint meniscal tears

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BACKGROUND

Anatomical studies have confirmed the presence of a cartilaginous meniscus within the acromioclavicular joint (ACJ).¹ Acute meniscal tears are caused by trauma, presenting as high arc pain. Ultrasound is the investigation of choice. We describe an arthroscopic technique for the treatment of this condition.

TECHNIQUE

Inclusion criteria include young patients with no degenerative changes. General and regional anaesthesia are used, with the patient in the beech chair position. A 2.5-mm small arthroscope and a 2.2-mm radiofrequency probe are inserted through portals, anterior and posterior to the ACJ. A fluid management system with suitable pressure is used. Adhesions are first divided in order to visualise the meniscus. The meniscus must be approached through both portals with the radiofrequency probe to achieve complete ablation. The recovery period is 3–4 weeks. Seven patients have had this procedure, with only one revision to ACJ excision.

DISCUSSION

We believe this procedure to be very effective in the treatment of ACJ meniscal pathology. It maintains a normal ACJ, has a quicker recovery period and avoids complications associated with ACJ excision, including destabilising the clavicle.²

References

1. Salter Jr EG, Nasca RJ, Shelley BS. Anatomical observations on the acromioclavicular joint and supporting ligaments. *Am J Sports Med* 1987; **15**: 199–206.
2. Blazar PE, Iannotti JP, Williams GR. Anteroposterior instability of the distal clavicle after distal clavicle resection. *Clin Orthop* 1998; **348**: 114–20.

Bone sutures: a simple technique for passing multiple sutures through one bony tunnel

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BACKGROUND

Passing sutures through bony tunnels is usually performed using a blunt probe or a suture mounted on a straight needle;¹ if multiple sutures are to be passed through the same canal, either technique may damage sutures already *in situ*, by crushing, cutting or piercing them. Apart from using specialist equipment,² we have found no approach to overcome this problem. We describe here a simple technique, requiring no special equipment, which resolves the problem.

TECHNIQUE

A primary suture is passed through each bone canal and a loop tied in its middle (Fig. 1); the free ends may be secured with artery forceps. The sutures being used for the repair are then

Figure 1 Diagram illustrating the suture passing technique. (i) Preparing the suture to be passed; (ii) passing the final suture through the canal.

individually threaded through this loop and pulled through the canal using the primary suture. By the sequential use of the primary sutures in each bony canal, a single suture may be passed, in either direction, through as many bony tunnels as is required to complete the repair. Each primary suture may be used many times and to draw repair sutures in either direction. Once the repair is secure, the primary suture is removed.

DISCUSSION

Using this technique, the danger of crushing or cutting previously passed repair sutures is abolished, thereby preserving the strength of the repair suture. We have found this a simple technique to use, requiring no specialised equipment; it is particularly valuable in the repair of patellar tendons where multiple sutures must be woven through several bony canals.

References

1. Bucholz RW, Heckman JD. *Rockwood and Green's Fractures in Adults*, 5th edn. Philadelphia, PA: Lippincott, Williams and Wilkins, 2001.
2. Terry Canale S. *Campbell's Operative Orthopedics*, 9th edn. St Louis, MO: Mosby, 1998.

SQUASH – simple qualitative user-friendly amplitude sensor of hand-strength – a non-invasive monitor during carotid endarterectomy under local anaesthetic

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BACKGROUND

There is currently no objective, reliable and recordable method of measuring contralateral motor function during a carotid endarterectomy (CEA) under local anaesthesia. A major complication of CEA is cerebral hypoperfusion requiring shunting. We describe a novel technique to determine the need for shunting.

TECHNIQUE

SQUASH is a non-invasive technique, which allows assessment of contralateral upper limb grip strength during CEA under local anaesthesia without sedation (Fig. 1). The SQUASH system is shown in Figure 2. The voluntary grip strength is transduced to zero and the patient is instructed to grip the bag maximally and its trace calibrated for maximum 'squash' (Fig. 3). The patient is asked to squash (Fig. 4) during the procedure especially before

Figure 1 SQUASH bag.

Key points Figs 1 & 2:

- Fixed volume bag (100 ml normal saline), which fits the palm.
- Drawing up needle to which extension pressure tubing with Luer lock is attached.
- Reinforcing tape.
- The 'drawing up' needle, attached to the CVP tubing at the Luer lock, is inserted into saline bag via the rubber seal and reinforced (we use Elastoplast).
- Central venous pressure (CVP) transducer and non-expansile pressure tubing with Luer lock attachment.
- The CVP tubing is filled from the bag and flushed to ensure no air bubbles are present.
- * Monitor with flow module (standard anaesthetic monitor).

Figure 2 Schematic diagram of SQUASH system.

Figure 3 Maximum SQUASH.