The use of a surgical glove in the prevention of tourniquet-associated chemical burns

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BACKGROUND

Chemical burns associated with the use of pneumatic tourniquets is well documented in the surgical literature.[1,2] The most common cause is through the use of alcohol or spirit based skin preparations.[1] If the wool beneath the tourniquet is not protected by an occlusive barrier, it can soak up the fluid and lead to focal areas of partial or full-thickness skin loss.[3,4] This risk is significantly increased in children and the elderly.[5]

EXPERIMENTAL

We propose the use of a surgical glove as a tourniquet barrier. If the glove is cut so that the fingers are removed (Fig. 1), the remaining body of the glove can be stretched to allow the leg to be inserted up to the level of the tourniquet (Fig, 2). When positioned around the tourniquet, it provides a waterproof seal, preventing the pooling of skin preparation fluids or soaking of the wool underneath pneumatic tourniquets.

DISCUSSION

In addition to a number of commercial covers, a variety of simple, non-commercial alternatives have been proposed. Sarkhel and Stride[4] suggested using the disposable reservoir bag from a single-use anaesthetic circuit. However, in our practice, we have found that these are not always disposed of after each case as suggested by the authors and are, therefore, not always readily available. Although this technique cannot be used in patients with large thigh diameters, it does offer a useful and readily available means of preventing chemical burns when using a limb tourniquet.

Figure 1 Removal of the fingers from a surgical glove.

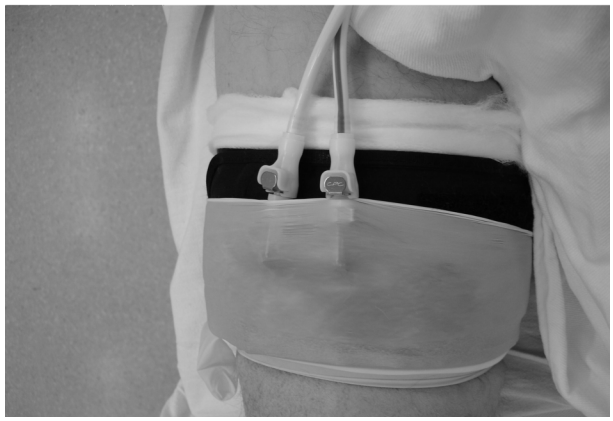

Figure 2 The surgical glove stretched over the tourniquet.

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Arthroscopic repair of tibial spine fractures

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BACKGROUND

There is debate within current literature as to the best treatment of displaced tibial spine fractures.[1,2] We suggest a simple and effective arthroscopic approach to this injury. The Twinfix Ti Quick-T soft tissue anchor (Smith and Nephew; Warwick Technology Park, Gallows Hill, Warwick CV34 6WG, UK) has a 3.5-mm screw on a pre-tied suture attaching a high strength 'T'-bar. The system allows a secure, adjustable fixation of uncomminuted tibial spine fractures.

TECHNIQUE

The patient is positioned for a standard arthroscopic anterior cruciate ligament (ACL) reconstruction using anterolateral and

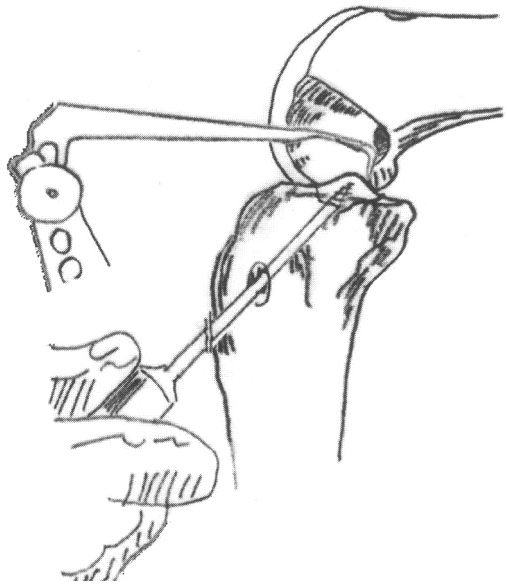

Figure 1 Screw fixation of the secured fragment.

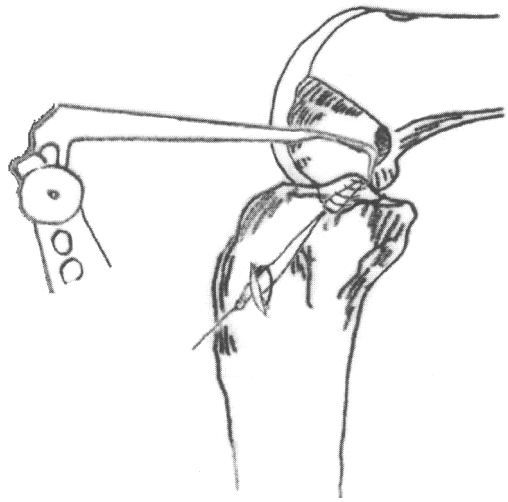

Figure 2 Deployment of suture and secure fixation.

anteromedial portals. The tibial spine is reduced. The acufex ACL drill guide (Smith and Nephew) is used to hold the reduced tibial spine throughout the procedure. Over the guidewire, a 4-mm bit is used to drill the track, terminating the tunnel at the fracture site. The fracture fragment is fixed using the anchor (Fig. 1). The suture is deployed and the 'T'-bar aligned at the distal entrance to the drill track. The pre-tied suture is advanced, thereby securing the tibial spine and ACL (Fig. 2). The incisions are closed in the surgeon's preferred manner, with standard follow-up protocol.

DISCUSSION

Arthroscopic screw or suture fixation of tibial spine fractures proves difficult, with a steep learning curve.[3–5] We suggest a technique, which is quick, effective and simple. Although we identified no such problems, previous reports of suture anchor failure must be noted and caution taken with this approach. A series of patients must undergo this procedure before the long-term results are known.

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Laparoscopic suturing using the 'looped knot'

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BACKGROUND

Laparoscopic suturing is technically challenging and time consuming. It is performed remotely with a limited field of vision and requires excellent hand–eye co-ordination and manual dexterity.[1] Tying a tight first knot is often difficult due to slipping, especially when tissues are retracted. The suture length must be kept to a minimum to prevent excess loops and folds confusing the field of view whilst remaining long enough to tie the knots and complete the stitching. Routinely, we make use of a loop at the end of the suture to form the initial knot when performing continuous laparoscopic suturing.

TECHNIQUE

A loop is made around the shaft of a laparoscopic instrument towards the end of a suture by the theatre nurse with any excess being trimmed (Fig. 1). This produces a loop of approximately 5 mm in diameter. It is then passed through the port into the peritoneal cavity folded to ease its passage (Fig. 2). After taking the first bite of tissue, the needle is passed through the loop (Fig.