A technique for bone grafting tibial and femoral tunnels in revision anterior cruciate ligament reconstruction

Tahir Mahmud, Andrew M Williams

Department of Trauma and Orthopaedic Surgery, Chelsea and Westminster Hospital, London, UK

CORRESPONDENCE TO

Tahir Mahmud, Department of Trauma and Orthopaedic Surgery, Chelsea and Westminster Hospital, 369 Fulham Road, London SW10 9NH, UK
E: drtahirmahmud@googlemail.com

BACKGROUND

As the number of primary anterior cruciate ligament (ACL) reconstructions increases, the numbers of cases being referred for revision is also increasing. In cases requiring bone grafting of tunnels, our first choice of bone graft is iliac crest cancellous autograft. We describe a technique that combines both ease of delivery and appropriate impaction of the bone graft whilst minimising handling errors.

TECHNIQUE

Following the removal of fixation devices, a threaded shoulder arthroscopy cannula (CLEAR TRAC, Smith & Nephew Inc., 1450 Brooks Road, Memphis, TN 38116, USA; Fig. 1) is screwed into the anteromedial arthroscopic portal and placed into the aperture of the femoral bone tunnel. The diameter of the cannula will depend on the size of the bony tunnel. The pointed end of the arthroscopy cannula trochar is then scored, and cut in order to produce a flat-ended pusher to facilitate the introduction, and impaction of the cancellous autograft into the femoral tunnel.

Figure 1 Threaded shoulder arthroscopy cannula.

Figure 2 Arthroscopy cannula engaged in femoral tunnel facilitating delivery of autograft.

Figure 3 Excellent impaction achieved without spillage of autograft.

The technique of screwing in of the arthroscopy cannula ensures stability for the introduction of the autograft, removing the risk of spillage of graft into the knee (Fig. 2). It also allows for excellent impaction of the graft (Fig. 3). The same cannula is also used to bone graft the tibial bone tunnel with the aid of a curette placed over the intra-articular tunnel exit.

DISCUSSION

The success of revision ACL surgery is partly determined by the quality of bone available to secure the graft chosen. The cannula has a large enough working diameter to allow good volumes of graft to be introduced, and impacted, thereby minimising operative time.