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EDITORIAL

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Single-bundle, double-bundle or triple-bundle?

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At the recent Anterior Cruciate Ligament Study Group meeting in Hawaii, 26–31 March 2006, this subject was thoroughly discussed. I have earlier discussed single or double-bundle in an Editorial in this journal. Now, Konsei Shino from Osaka, Japan, launches a triple-bundle technique also. The reason most often proposed as an argument for double-bundle (or triple-bundle) is that it could control rotation better than single-bundle reconstructions. Philippe Neyret from Lyon, France, however, pointed out that an additional lateral tenodesis ought to control rotation better than anything we do in the centre of the joint. This makes sense of course. As many remember, the late Giles Bousquet from St Etienne in France repeatedly pointed out that ACL ruptures often were combined with a lateral injury to the popliteus tendon. Neyret thus has a point in that it might perhaps be better to add something laterally than perform double- or triple-bundle ACL reconstructions. My main argument against a widespread use of double- or triple-bundle technique is that all around the world the majority of orthopaedic surgeons do not perform more than 10 ACL reconstructions per year. We already have a far too high frequency of revision ACL reconstructions (where the cause most often is poor primary surgery). What will then happen when these relatively inexperienced ACL surgeons start trying double-bundle?

Another subject discussed in length at the recent ACL Study Group was whether an ACL reconstruction prevents future degenerative osteoarthritis or not. Several speakers came to the conclusion that it does not. It should, however, be borne in mind that some of the damage to the joint might have occurred already at the time of the original ACL lesion. No reconstruction could help that, of course. Thirty years ago, I proposed that we should perform an acute arthroscopy in all acute ACL lesions. My arguments were that it gave us the possibility to diagnose the concomitant injuries, repair the menisci and register cartilage damage. It also made it possible to carefully irrigate the joint. From patients with haemophilia we know how detrimental blood is for the joint cartilage. Although the haemophiliacs undergo punctures for their haemarthrosis, they still develop severe cartilage damage with time. Arthroscopic lavage in acute ACL injuries ought to wash out not just blood but also some of these other detrimental substances found after injury.

I do not think we can answer the question whether ACL reconstruction prevents future osteoarthritis or not. We have to perform very careful prospective studies with long term follow-up, before

we can answer this question. In order to give those, who believe that it is worthwhile to reconstruct the ACL, a little hope, let me tell you about a very long term follow-up that is performed on the patients reconstructed during 1968–1973 at the Karolinska Hospital in Stockholm. Many of these patients had already had a total meniscectomy before the ACL surgery. They have developed osteoarthritis, of course. Preliminary results, however, show that if the patients had intact menisci and we happened to perform an anatomical patellar tendon reconstruction, they are great 35 years later. They have participated in sports and have little or no osteoarthritis. On MRI their reconstructed ACL looks almost like a normal ACL.