

Regarding “Anterolateral Ligament of the Knee, Fact or Fiction?”



We are in total agreement with Lubowitz et al.¹ and read with interest that the anterolateral ligament (ALL) is considered fictional by some authors. Musahl et al.² state that in anatomic and radiologic evaluation, a “thickening” of the anterolateral capsule was identified in only 30% of patients. They also consider that ALL reconstruction is unable to restore rotational stability³ and may result in overconstraint.⁴

Much of this dissent arises from ongoing confusion regarding the anatomy of the ALL, and it is clear that a consensus should be sought.⁴ To do so, it is important to share our experience of dissection. We consider that this can be difficult and almost impossible when one starts from the femoral insertion. However, when following the “Daggett protocol,” the ALL can be identified in all cases.⁵ This also seems to be the case from a radiologic perspective with several recent publications showing that the ALL can be clearly identified on magnetic resonance imaging in the majority of patients.⁶⁻⁸

It is an error to state that ALL reconstruction is unable to restore rotational stability on the basis of the cited study because the authors evaluated a single-strand tape reconstruction fixed distal to the lateral epicondyle.⁷ Recent literature has shown that the femoral origin is in fact proximal and posterior to the epicondyle^{9,10} (Fig 1) and that this is the optimal location for a reconstruction in order to reproduce the biomechanical function of the native ALL, which is tight in extension and lax in flexion.¹¹

Figure 1 is also important in addressing the point raised by Musahl et al.² that the Segond fracture, which has been suggested as the bony equivalent of an ALL rupture, has not been linked to increased rotational laxity. We believe that the clinical photograph of a large Segond fracture in a patient undergoing anterior cruciate ligament (ACL) reconstruction clearly shows that this rotational injury is a bony avulsion of the ALL (as it corresponds exactly with our surgical dissection of the ALL).

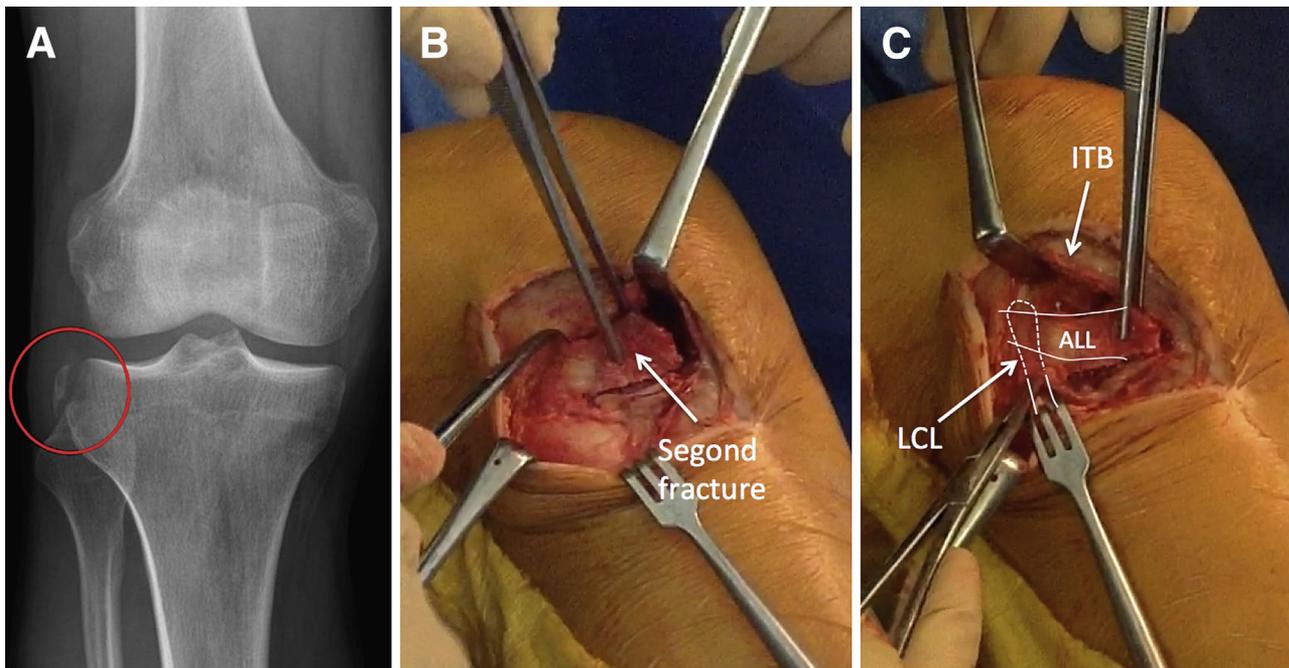


Fig 1. (A) An anteroposterior radiograph of the right knee shows a large Segond fracture (circle) in a patient undergoing open reduction and internal fixation with concomitant anterior cruciate ligament reconstruction. (B, C) The photographs show that the structure that overlaps the lateral collateral ligament (LCL) and has a broad attachment to the bony avulsion is the anterolateral ligament (ALL) identified during previous dissections.⁵ (ITB, iliotibial band.)

The final point to make is that we do not believe the concerns raised about overconstraint of the knee are valid if anatomic reconstruction is performed and the graft is fixed in full extension and neutral rotation.¹¹ In our published experience of 92 combined ACL and ALL reconstructions, with 2 years' follow-up, there has been no clinical evidence of overconstraint (no stiffness and no reoperations to cut a tight ALL). In addition, we report a very low ACL graft failure rate of only 1.1%.¹²

The best answer to this ongoing controversy is our clinical results, which are very promising on retrospective study. Such results strongly suggest that the ALL is not fiction and that there is an urgent need to start a prospective randomized study to confirm this.

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Authors' Reply



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We thank Sonnery-Cottet et al. for raising points in their letter to the editor, giving us the opportunity for much needed clarification of confusing statements for the reader of both journals—*Arthroscopy* and *Knee Surgery, Sports Traumatology, Arthroscopy*—regarding the anterolateral complex of the knee. The main points raised are consistent identification of the anterolateral ligament (ALL), the role of the anterolateral complex in restoring rotational knee stability, and overconstraint. We would also like to congratulate Sonnery-Cottet et al.¹ on their excellent study showing good outcomes of combined anterior cruciate ligament (ACL) and ALL reconstructions with only 9.2% residual pivot shift at 2 years' follow-up.

As editors of *Knee Surgery, Sports Traumatology, Arthroscopy*, we have seen an inflation of manuscripts appearing in the literature. There are an even higher number of submitted manuscripts with few identifiable scientific methods. In particular, a search of MEDLINE shows that more than 20 studies detailing the anatomic description of the anterolateral complex have been published since October 2013.²⁻²⁸ The findings and conclusions of these studies differ from one another with respect to origin, insertion, and course of the proposed ligament. We agree, however, with classic literature from Terry et al.,²⁹ Hughston et al.,³⁰ Müller,³¹ and other authors,³² who described meticulous dissections and reported their findings in