

Editorial Commentary: Taking a Wider View During Anterior Cruciate Ligament Reconstruction? The Case for Doing More Than Just Reconstructing the Anterior Cruciate Ligament Itself



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Abstract: Anterior cruciate ligament reconstruction may leave a residual instability. If other pathology is identified, the surgeon should consider doing more than the isolated anterior cruciate ligament reconstruction to address peripheral lesions to the menisci, ligaments, and capsule in selected cases.

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It is common knowledge that a rupture of the anterior cruciate ligament (ACL) may lead to knee instability that is often severe enough to warrant an ACL reconstruction and that the clinical test that correlates most closely with the signs and symptoms recognized by the patient is the pivot-shift test. The pivot shift is a complex combination of anterior-posterior translation of the tibial plateau accompanied by internal-external rotation. The test is often accentuated by application of a valgus moment across the knee so that in early flexion, the femoral lateral condyle rolls “downhill” on the posterior slope of the tibial lateral condyle, subluxating the lateral tibial plateau anteriorly, and then the tibia can suddenly reduce, across the arc of knee flexion. This rotational subluxation-reduction mechanism is logically abolished by ACL reconstruction, but many clinical reviews have established that a small percentage of knees thus treated may suffer persistence of minor instability that degrades the functional outcome. A residual “mini-pivot”¹ probably indicates the presence of concomitant peripheral pathology. This observation has led to many

articles in which attempts have been made to eliminate this annoying reminder of surgeon fallibility.

One example of this genre appears in this issue: “A Biomechanical Study of the Role of the Anterolateral Ligament and the Deep Iliotibial Band for Control of a Simulated Pivot Shift With Comparison of Minimally Invasive Extra-articular Anterolateral Tendon Graft Reconstruction Versus a Modified Lemaire Reconstruction After Anterior Cruciate Ligament Reconstruction” by Smith, Thomas, Pomajzl, Bley, Pfeiffer, and Cook.² This article has found that the rotatory laxity was increased when the deep capsule-osseous fibers of the iliotibial tract were disrupted, more than occurred after cutting the anterolateral ligament, and then that the addition of a lateral extra-articular procedure was effective in abolishing a residual laxity that persisted after an isolated ACL reconstruction; similar findings have been reported previously.³ Although one may debate the translation of results at “time zero” in a cadaver to the reality of the clinic, the clinical literature is starting to show that results may be improved by the addition of a lateral procedure to the intra-articular ACL reconstruction.⁴ This, of course, leads us into the unknown realms of appropriate patient selection and indications for surgery, but that is not the objective of this commentary. Rather, this is a call for surgeons to do more work!

What I am saying here is that I wish to promote a trend to rediscover the classic works of the orthopaedic literature and to think about how the wisdom contained therein may be blended with more modern

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knowledge and technical abilities to do a better job on the knee as a whole. Many ACL injuries include a rotatory component of the tibial subluxation, whether this is valgus plus external rotation or else internal rotation. We can see the evidence of these traumatic bony excursions from bone bruises on magnetic resonance imaging,⁵ and they take us back to classic works on the pathology of rotatory instability, such as the articles from Slocum and Larson⁶—who introduced this concept—and Terry et al.⁷ It appears to me that the arthroscope may induce tunnel vision and that a wider view may be useful. It is difficult to imagine how the ACL can be ruptured by a rotatory injury mechanism if this does not also injure more peripheral structures. Although those structures may heal more readily than the ACL, any persisting deficiency is likely to throw greater forces onto the ACL graft.⁸ Thus, it seems to me that it is appropriate to search for pathology around the knee, in addition to the ACL itself, such as meniscal root tears,⁹ meniscocapsular lesions,¹⁰ and both anterolateral and medial collateral soft-tissue lesions, and to consider whether to address those lesions.

An eminent sports surgeon visited me last week and said that his ACL reconstruction procedures were now taking longer than they used to: He was now searching out the other pathology and addressing it. He said that his results had improved because of this extra work; the knees felt more stable. Of course, much work is needed to convert anecdote into evidence. . . .

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