Anterior cruciate ligament (ACL) reconstruction remains the most studied area in sports medicine. One aspect of ACL reconstruction that continues to be heavily debated is single- vs double-tunnel reconstruction. As evidenced by the multitude of anatomic studies published in the past 5 years, one can appreciate our inability to completely reproduce the normal anatomy of the native ligament, particularly the bony insertion sites on the femur and tibia. These bony insertion site footprints are much larger than the width of the native ligament, making it virtually impossible to reproduce with our current graft ligament substitutes. A double-tunnel technique allows one to more closely reproduce the native bony insertion site footprint and provide more collagen to help prevent the pathologic pivot shift. Further studies must be conducted to help us understand which patients may benefit from this more costly and technically difficult reconstruction.

Anatomic studies have shown that placing the femoral tunnel completely in the native footprint can only be achieved by nontibial tunnel–drilling methods, whether accessory anteromedial or outside-in. Although much focus has been put on the femoral side, tibial-sided placement is equally important. The tibial footprint of the native ACL often measures 14 to 18 mm, and the single tunnel must be placed in the center of this footprint, which is directly medial to the anterior horn of the lateral meniscus when drilled.

Graft selection depends on surgeon and patient preference, as well as availability. However, not all grafts are indicated for all patients. Recent studies have recommended caution when using allograft tissue in high school and collegiate athletes and reported increased failure rates with this graft in this patient population. Outcome after hamstring ACL reconstruction may be related to patient age and graft construct size. Patients younger than 22 years with graft diameters less than 8 mm may have increased failure rates.

Return-to-play data also recommend caution regarding ACL reconstruction. Although our ability to get patients back in the game has greatly improved, only 60% to 80% of patients truly return to level I sports at their preinjury level of participation.

A high incidence of the development of osteoarthritis in these knees within 5 to 10 years of ACL surgery is concerning to surgeons. Although many variables determine the fate of the ACL-injured knee, we may see less osteoarthritis in our patients with the current technique of a completely anatomic ACL (both tunnels placed in the native footprint).

The treatment of shoulder instability and superior labral anterior-posterior (SLAP) lesions has generated much interest in the past year. The treatment of acute and chronic anterior shoulder instability requires one to appreciate the soft tissue and bony anatomy preoperatively. Arthroscopic repair has been associated with good long-term outcomes; however, higher failure rates in young, highly active patients have been reported. Technical aspects of the repair remain critically important. The most commonly reported cause of failure is the failure to recognize capsular injury or laxity and glenohumeral bone loss. Because of the inability to objectively quantify the amount of capsular laxity pre- or intraoperatively, some have advocated arthroscopic repair for first-time dislocators in high-risk athletes (young men who participate in activities that require year-round activity).
shoulder stability). Surgical repair in first-time dislocators has resulted in good outcomes; the same technique in those who chose nonoperative treatment and then went on to need repair yielded poorer results (85% vs 63% good to excellent).9

Our appreciation for bone loss and its role in shoulder stability has increased dramatically over the past 5 years. Bone loss on the anterior glenoid is important in the chronic dislocator or failed scope repair patient. Bone loss can easily be measured and quantified on preoperative computed tomography scans with 3-dimensional reconstruction. When bone loss is more than 6 mm measured arthroscopically or loss of the glenoid circle is more than 20% compared with the uninvolved shoulder on preoperative computed tomography scan, a bony procedure, such as the Latarjet, is indicated.10 Early results of this open procedure are encouraging for these complex cases.

Many surgeons, including me, may need to revisit open surgery techniques about the shoulder. Over the past 20 years, many sports medicine fellowships in the United States have provided little to no open shoulder experience, which has created a lack of supply that our patients may demand. Treatment of significant Hill-Sachs lesions measuring more than 20% of the humeral head and engaged on the front of the glenoid during diagnostic arthroscopy may also require treatment. Early results of Remplissage of the posterior rotator cuff into this defect are promising.11

Repair of isolated SLAP lesions remains controversial. No clear, validated clinical test exists for a SLAP. Magnetic resonance imaging is unhelpful; magnetic resonance angiogram may be more useful. Normal variants are common, and isolated, symptomatic SLAP lesions are rare; therefore, suspicion should exist if that is all that is being treated, particularly in patients older than 40 years or those who cannot describe a traumatic event when the symptoms began. If the incidence in your surgical practice is over 10%, reassess unless your practice predominantly treats overhead throwing athletes. Most SLAP I and II lesions in patients older than 40 years are normal variants or a degenerative process of the biceps anchor, and repair of these lesions should rarely be performed.12 In patients with compromised biceps quality, a biceps tenotomy or tenodesis may be the treatment of choice, particularly in those older than 40 years.

REFERENCES