Physeal Sparing Anterior Cruciate Ligament Repair With the Bridge-Enhanced Anterior Cruciate Ligament Restoration Implant

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Background
An anterior cruciate ligament (ACL) tear is an extremely common injury, and surgical management is commonly performed via ACL reconstruction with the use of autograft or allograft; however, autograft is associated with donor-site morbidity, and allograft is associated with higher failure rates. Recently, ACL repair has been revisited as an alternative to ACL reconstruction. Because this technique does not require graft harvest, the native ligament with its proprioceptive properties is retained, and less bone drilling often is required. The bridge-enhanced anterior cruciate ligament restoration implant, which acts as a scaffold to augment ACL repair and allows the ligament to heal, has shown promising results in early clinical studies. Pediatric patients with open physes present another challenge for surgeons. Drilling through the physis can lead to growth arrest; therefore, surgical techniques that spare the physis are of particular interest in this patient population.

Purpose
This video and case presentation demonstrate the surgical technique for physeal sparing ACL repair with the bridge-enhanced anterior cruciate ligament restoration implant.

Methods
Evaluation, diagnosis, and management of a proximal avulsion-type ACL injury are discussed. The case presentation of a 15-year-old skeletally immature male competitive soccer player with an ACL tear in whom surgical treatment is indicated is reviewed.

Results
The patient did very well postoperatively. At 3 months postoperatively, the patient had full range of motion and was progressing with physical therapy.

Conclusion
Physeal sparing ACL repair with the bridge-enhanced anterior cruciate ligament restoration implant is a promising surgical treatment option for skeletally immature patients that does not require graft harvest, allows for retention of the native ligament, and preserves the physis.