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Medial patellofemoral ligament: anatomy, injury and treatment in the adolescent knee

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Abstract

Purpose of review

Traumatic and nontraumatic patellofemoral instability (PFI) in children and adolescents is a complex problem. It is determined by a large number of mechanical and pathomorphologic conditions, mainly seen in nontraumatic dislocations.

Recent findings

Although conservative treatment with a short immobilization, followed by early passive motion and isometric quadriceps strengthening, can be considered in real traumatic dislocations without any cartilaginous injury, a surgical intervention should be considered in atraumatic cases. As 90% of PFI are nontraumatic and correlated with skeletal deformities, the redislocation rate is reported to be up to 80% after initial conservative treatment. To optimize the results, the causing disorder for PFI has to be considered imperatively. In addition to bony disorder, further risk factors have to be taken into consideration for determining the optimal time for surgery. As biomechanical and clinical studies have shown the importance of the medial patellofemoral complex, especially the medial patellofemoral ligament (MPFL), against patellar lateralization, the reconstruction or minimally invasive double-bundle reconstruction of the MPFL is the main surgical technique to treat PFI in children, as it can be used even in open epiphysial cartilage. Further surgical interventions correcting bone deformities, such as trochleoplasty or tibial tubercle osteotomies addressing lower limb deformities, should be performed after closure of the epiphysial cartilage.

Summary

It is the goal of this overview to explain the pathoanatomy of PFI, the demanding clinical

and radiological examinations and treatment options.

Techniques in Foot & Ankle Surgery:
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Technique

Plantar Fascia Release With Proximal and Distal Tarsal Tunnel Release: A Surgical Approach to Chronic, Disabling Plantar Fasciitis With Associated Nerve Pain

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Abstract

Chronic symptoms from proximal plantar fasciitis develop in about 10% of patients with plantar heel pain. A subset of these patients will develop chronic disabling plantar heel pain with associated nerve pain. Surgical intervention, which allows for complete resolution of symptoms and return to full activity without limitations, has been difficult to achieve in this group of patients. This paper reviews the typical presentation and appropriate evaluation for patients with chronic proximal plantar fasciitis and distal tarsal tunnel syndrome. The authors present a surgical approach that has yielded promising results with improved rates of total patient satisfaction. The surgical technique employs a complete plantar fascia release combined with a proximal and distal tarsal tunnel release. A detailed postoperative protocol is presented, and it is felt to play a major role in successful surgical outcomes. Data are presented from a study of 33 patients with a minimum 2-year follow-up. In primary surgery patients, high rates of total patient satisfaction (82%) can be expected, with corresponding high rates of resolution of pain and elimination of activity limitations. However, revision surgery results utilizing this technique are much more unpredictable, and further modification of treatment approach is needed.

Current Opinion in Orthopaedics:
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Ankle and foot

Plantar fasciitis, entrapment neuropathies, and tarsal tunnel syndrome: current up to date treatment

Juliano, Paul J; Harris, Thomas G

Abstract

Purpose of review: The purpose of this review is to assess the common causes of heel pain and their current treatment. Plantar fasciitis is a common cause of heel pain and a common clinical problem. Although there is a consensus that nonoperative therapy is efficacious most of the time, there is no agreement as to which treatment modality is most effective. Tarsal tunnel syndrome and various nerve entrapment neuropathies are also frequent causes of heel pain.

Recent findings: This review is timely because there have been recent advances in the nonoperative treatment of plantar fasciitis with respect to extracorporeal shock wave therapy. Recently, interesting experimental studies have been performed with respect to tarsal tunnel syndrome as well. This review evaluates the current literature regarding these subjects and evaluates the current surgical and nonsurgical treatment of heel pain.

Summary: This review should serve as a guide to various surgical and nonsurgical treatments of heel pain. The implications of the research involving extracorporeal shock wave therapy may affect the way in which orthopedists approach the clinical scenario of heel pain.

Clinical Orthopaedics & Related Research:
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Tarsal Tunnel Syndrome: Outcome of Surgery in Longstanding Cases

Turan, Ibrahim MD, PhD; Rivero-Melián, Carlos MD, PhD; Guntner, Peter MD; Rolf, Christer MD, PhD

Abstract

Cases of longstanding (median, 60 months) tarsal tunnel syndrome were decompressed surgically in 14 female and four male patients. Patients reported intermittent dysesthesia, paresthesia, or anesthesia at the medial plantar aspect of the foot. Symptoms were aggravated by physical activities. Previous trauma was noted in four patients. Tinel's sign was positive in 16 patients. Magnetic resonance imaging was performed in 10 patients but was conclusive in only two. At surgery, the posterior tibial nerve or one of its branches was found to be entrapped in 15 patients. Entrapments were observed isolated or in combination within the fascial septa (n = 5), varicose veins (n = 6), scar tissues (n = 4), tenosynovitis and edema (n = 1), or within the abductor hallucis muscle (n = 1). Two neuromas were excised. In three patients no obvious entrapments were found. Clinical followup was performed a median 18 months after surgery. Relief of symptoms was reported as long as 1 year after surgery. All symptoms were relieved in 11 (61%) patients. Three (17%) patients with previous trauma had relatively severe pain after surgery and were considered to have failed results. Surgical decompression was beneficial in most patients with longstanding tarsal tunnel syndrome.