

Article Review June 2008

Title: "The Role of Foot Orthoses as an Intervention for Patellofemoral Pain"

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Study Design: Clinical Commentary

Summary: This clinical commentary reviewed current research combined with clinical experience to attempt to define those patients that may benefit from using foot orthoses as an adjunct treatment for PFS. Information is given regarding how foot orthoses affect pain and function, the relationship between lower extremity and foot mechanics, and how orthoses change lower extremity mechanics. The authors use clinical experience in addition to literature to make suggestions as to why orthoses may be beneficial.

Clinical Relevance: The authors describe a general strategy used to determine what patients are appropriate for orthotic intervention. These include assessment of abnormal patellofemoral soft tissue forces, weight-bearing LE alignment, and how an orthotic might improve the mechanics. They describe the patient alignment most commonly prescribed foot orthoses: IR of the entire LE, increased knee valgus, and increased Q angle compared to the unweighted angle. They look for ability to use hip ER and foot supination to move the LE into an alignment of reduces foot pronation, IR, knee valgus and Q angle. Goals include allowing the patient to maintain improved alignment without overusing muscles and decreasing pain.

The authors note two objective findings for PFS they often fit for orthoses: hypermobility and hypomobility of the patella. They list excessive pronation, medial talonavicular bulge, navicular drop in weight bearing and decreased medial longitudinal arch as consistencies with these patient profiles. They will proceed with orthoses intervention in patients without excessive foot pronation if knee valgus and Q angle can be decreased.

The authors list other contributors to PFS: tight iliotibial band, tight quadriceps, tight hamstrings, tight peripatellar soft tissues, weak hip external rotators, and weak quadriceps.

Conclusion/Implications: Based on literature review and clinical experience, the authors suggest that foot orthoses may benefit patients by reducing IR of the LE and Q angle; reduce lateral directed soft tissue forces from the patellar tendon, quadriceps tendon, and the IT band; and reduce patellofemoral contact pressures and altered patellofemoral pressure mapping.