

Tutorial #2- Tuesday, May 17, 10:15am-12:15pm

Title: Functional Outcomes Assessment in Patients with Femoral Acetabular Impingement

Instructor(s)*:

Kirsten Tulchin-Francis, PhD¹, Sherry Backus, PT, DPT, MA², Mario Lamontagne PhD³, Cara Lewis PT, PhD⁴, David Podeszwa, MD¹

¹Texas Scottish Rite Hospital for Children ²Hospital for Special Surgery ³University of Ottawa

⁴Boston University

*Part of the Motion Analysis in FAI Study Group, supported by the Pediatric Orthopedic Society of North America

Purpose:

To provide an overview of femoral acetabular impingement and the important role that biomechanical evaluation, including motion analysis, has in treatment and outcome assessment

Intended Audience:

Orthopedists, Sports Medicine Specialists, biomechanists, physical therapists, athletic trainers, kinesiologists and engineers who participate in the functional evaluation of subjects with hip pathology

Prerequisite Knowledge:

No particular prerequisite knowledge is required.

Abstract:

Described in 2003 by Ganz et al, femoroacetabular impingement (FAI) is a frequent cause of hip pain in adolescents and young adults. Little is known regarding the specific hip pathomechanics, however, the abutment between the femoral head and acetabulum is at the root of this condition. FAI appears to be a repetition injury, in which those individuals who may be predisposed to impingement exacerbate the pathology by continuously placing the hip in biomechanically incompetent positions (for example, excessive hip internal rotation, adduction and/or flexion) which can lead to pain, secondary to labral tears, articular cartilage injury, and early degenerative joint disease. Many outcome based research studies following treatment of FAI have been limited to self-reported questionnaires, clinical and radiographic results. While these assessments can provide information regarding relief of symptoms or anatomical changes, they fail to identify the underlying movement pathologies that may lead to symptomatic FAI, as well as changes or improvements in these movement patterns following intervention. Recently, analysis through both physical assessment and motion capture has identified movement patterns which may be a potentially crucial pathological component of symptomatic FAI. Biomechanically inefficient movement patterns during impact or closed-chain activities may be one reason that FAI is a major cause of early osteoarthritis of the hip in young and active patients

Tutorial #2- Tuesday, May 17, 10:15am-12:15pm

Learning objectives:

At the completion of this course, attendees will:

- Be familiar with the clinical presentation of patients with FAI
- Understand the different types of impingement, the associated clinical/imaging findings and the treatment options available
- Discuss the importance of functional and biomechanical assessment in patients with FAI, including motion analysis and non-motion analysis approaches

Outline of course content:

- I. Introduction to course (10 mins)
 - a. Course outline
 - b. Learning objective review
- II. What is FAI? (10 mins)
 - a. History
 - b. Types (Pincer vs. Cam)
- III. Clinical and Radiographic Evaluation (10mins)
 - a. Initial H&P
 - b. Clinical Examination
 - c. Imaging
- IV. Biomechanical Analysis, Functional Performance and Outcomes Assessment (60mins)
 - a. Functional Assessment: (FMS, Y-balance, etc)
 - b. Motion Analysis (Gait/Running, Functional tasks – stairs, step downs, etc)
 - c. Strength/ROM
 - d. PRO's
- V. Outcomes Following Treatment (15 mins)
 - a. Operative
 - b. Non-operative
- VI. Question/Answer (15 mins)