



The Hip Sports Page

The Official Newsletter of The Hip Special Interest Group • Fall 2010

Upcoming Events:

SPTS Team Concept Conference

Las Vegas, NV
December 2-4th
2010

Bally's Hotel

APTA Combined Sections Meeting

New Orleans, LA
February 9-12th
2011

Ernest N. Morial
Convention
Center

Femoral Anterior Glide with Medial Rotation Syndrome

By Christopher A. Garcia, PT, DPT, SCS, CSCS

Hip pain is a common complaint among athletes and presents with various signs and symptoms.¹ Clustering signs and symptoms has been shown to improve outcomes in individuals with low back pain when compared to those who are not classified.² This may be true for individuals with hip pain. In 2002, Sahrman proposed eleven syndromes to classify and direct treatment of hip pain based on the Movement System Impairment (MSI) framework. The syndrome believed to be most commonly associated with anterior groin pain is femoral anterior glide with medial rotation syndrome.³ Although the reliability or validity of this syndrome has not been established, the concept may provide clinicians additional insight into the treatment of patients with hip pain.

According to the MSI theory, femoral anterior glide with medial rotation syndrome may be due to excessive extensibility of the anterior joint capsule and imprecise accessory joint motion of the hip, leading to anterior hip pain.³ For example, when the hip is brought into flexion, a stiff posterior capsule may limit appropriate posterior glide and cause the femoral head to glide anteriorly and abut with the acetabulum, causing pinching or pain. Alternatively, with active hip extension, the use of a long lever muscle, such as the hamstrings, may place additional anterior hip forces when compared to the use of a short lever muscle, such as the gluteus maximus.⁴ Recent evidence suggests gluteus maximus weakness with hip extension may also increase anterior hip joint forces.⁵

Poor posture may also contribute to femoral anterior glide with medial rotation syndrome. For example, in the swayback posture, in which the hip joint is anterior to the line of gravity, hip hyperextension may place additional stress on the anterior joint structures by increasing anterior joint forces.⁴ Over time this could contribute to a lengthened anterior capsule or iliopsoas.³ The iliopsoas tendon is thought to provide anterior hip joint capsule stability when the hip is in extension.⁶ Thus, Sahrman proposes that hip hyperextension, a stiff posterior capsule and a lengthened iliopsoas all may contribute to excessive anterior hip stress.³

The medial rotation component of the syndrome may be due to an imbalance between hip lateral rotator strength and tensor fascia lata-iliotibial band (TFL-ITB) stiffness.³ When a patient performs a step-down task, clinicians may observe a pelvic hip drop or excessive femoral adduction-medial rotation, presenting as knee valgus. This may be due to weakness of the hip lateral rotators or a stiff TFL-ITB. Excessive femoral adduction-medial rotation may also be seen in other functional tasks, such as single limb balance or rising from a chair.³ Faulty biomechanics of excessive femoral adduction-medial rotation during hopping and step-down tasks have been associated with hip pathology.⁷

According to Sahrman, patients with this syndrome may complain of groin pain with hip flexion, walking, standing and sitting.³ Young females with femoral anteversion may be affected more than males.³ Individuals who participate in activities that require excessive motion into hip extension, such as running, yoga and dance, may be at a higher risk for developing

this syndrome.³

It has been proposed that treatment of femoral anterior glide with medial rotation syndrome should be directed at improving postural alignment, functional movements and muscular impairments to reduce anteriorly directed forces on the hip joint.³ Hip hyperextension and femoral medial rotation are considered the primary contributing factors and should be avoided with functional activities, particularly standing and walking.³ Patients should be instructed to decrease hip hyperextension by increasing ankle push-off during the terminal phase of walking to reduce anterior hip joint forces, as reported by Lewis et al.⁸ Strengthening of the muscles that originate and insert close to the hip axis of rotation, such as the iliopsoas, hip lateral rotators and gluteus maximus, may help to decrease anterior hip joint forces. Furthermore, use of the gluteus maximus with hip extension activities should be encouraged to reduce anterior hip forces.

Femoral anterior glide with medial rotation syndrome is believed to be associated with excessive anterior hip forces from poor posture, increased anterior joint flexibility and weakness of musculature attaching close to the hip joint. These impairments may lead to increased anterior joint forces and imprecise spinning of the femoral head during hip flexion, causing anterior hip pain. Although the reliability or validity of femoral anterior glide with medial rotation syndrome has not been established, an understanding of the MSI syndrome may help clinicians better direct treatment or provide additional insight into the various causes of hip pain.



(A) Neutral femoral alignment with straight leg raise

(B) Femoral anterior glide with medial rotation with straight leg raise

Images from Movement System Impairment Syndrome Course Notes 2008. Courtesy of Shirley Sahrman, PT, PhD, FAPTA and Associates.

REFERENCES

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8. LEWIS CL, FERRIS DP. Walking with increased ankle push-off decreases hip muscle moments. *J Biomech*. 2008;41:2082-2089.

For questions you may email Chris at: chris_a_garcia@hotmail.com

This quarterly newsletter is provided for the members of the Hip Special Interest Group of the Sports Section of the APTA. To learn more about the Sports Section or to join the SIG, go to the website at www.spts.org

Back Page News & Notes

The behind the scenes update on the Hip Special Interest Group

Mentorship Program

We are proud to announce our new Hip SIG Mentorship Coordinator, Chris Garcia! Chris will be in charge of running the mentorship program from this point forward. If you would like more information or to be added to the list send an email to Chris at chris_a_garcia@hotmail.com. As mentioned before, volunteers can expect one maybe two questions sent their way each year.

CSM 2011

There is no specific Hip SIG programming for CSM2011 but there is still great programming being put on by other SIGs plus Complicated Patient, The Many Faces of Sports PT, and, of course, great abstract and poster presentations. The Hip SIG business meeting will be held at CSM on Saturday, February 12, 2011 at 7am (I hear that someone is bringing coffee). We will be going over our ideas for future programming and other SIG projects. The specific location will be announced in the next *Hip Sports Page*.

If you have any questions or feedback regarding anything in the Back Page News & Notes, email them to the SIG chair at emeira@blackdiamondpt.com. As always, we need and appreciate your input!