



Surgical & Non-Surgical Care. Sports Medicine. Physical Therapy.

ON-SITE ORTHOPEDIC CLINICS EACH WEEK

- No Charge
- Open to patients of all ages
- Appointments (918) 346-7800

Collinsville Public Schools
Monday/Wednesday
2:00pm—3:30pm

Coweta Public Schools
Wednesday
2:45pm—3:30pm

Edison Preparatory School
Monday/Thursday
2:45pm—3:30pm

Glenpool Public Schools
Tuesday
2:45pm—3:30pm

Kellyville Public Schools
Wednesday
Noon—12:45pm

Regent Preparatory School
Wednesday
Noon—12:45pm

Rejoice Christian School
Monday/Wednesday
2:00pm—3:30pm

Victory Christian School
Tuesday
2:45pm—3:30pm

Wagoner Public Schools
Wednesday
2:45pm—3:30pm

*Hosted by CSO
Athletic Trainers and
Physician Assistants.

EXAMINATION OF THE SPINE AND EXTREMITIES: THE HIP

Volume 8, Issue 2, September 2016

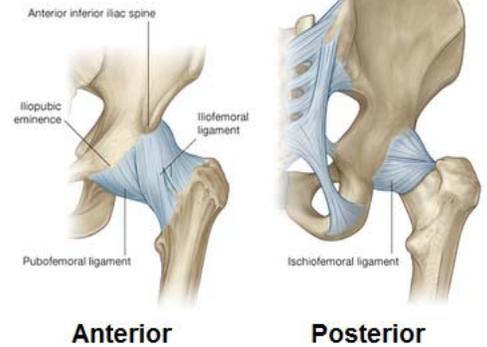
Beginning in January of this year, we began a series of newsletters examining the spine and the extremities one joint/region at a time. Beginning with the foot and working our way upward, the “Examination of the Spine and Extremities Series” is designed to provide a brief overview of the anatomy of each respective joint, an underlying review of its motion and dynamics, and likewise an explanation of some of the more common pathologies experienced in that particular joint.

- Bones:** Femur/Pelvis (i.e. ilium, ischium, pubis)
Ligaments: Iliofemoral, Ischiofemoral, Pubofemoral
Muscles: Anterior: Iliopsoas Complex (2), Rectus Femoris, Sartorius
 Medial: Adductor Complex (5)
 Posterior/Lateral: Gluteal Complex (3), Tensor Fascia Latae, External Rotation Complex (4)



Hip Physiology

As the hip joint serves to transmit force between the lower leg and the axial skeleton, the hip, by design, is one of the largest and most stable joints in the body. Constructed as a multi-directional ball-and-socket joint, the design of the hip joint provides maximum bony stability. The design of the socket is an outward, forward, and downward opening that comprises one-half of a spherical design. Likewise, the head of the femur, which is two-thirds of a sphere, is designed to allow the hip maximal movement in all directions.



The stability provided to the hip joint by its skeletal structure alone makes it one of the most stable joints in the entire body. Additionally, the socket is likewise reinforced by a thick fibrocartilage labrum that deepens the socket and further increases joint stability. Moving outward, the joint is surrounded by a thick joint capsule, and then subsequently reinforced by three very strong ligaments. In particular, the iliofemoral ligament is considered to be the strongest ligament in the body.

Central States Orthopedics Physicians

- | | | | | |
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Common Injuries

Impingement:

Whenever a joint has an extensive amount of range of motion like the hip, there will always be an opportunity for impingement. By definition, impingement occurs when either the socket or the head of the femur is misshapen in such a way where the socket and the femur "pinch" during certain end-range movements, most commonly flexion. As this occurs over time, the articular cartilage surrounding the joint is often damaged, frayed, or torn, and the likelihood of arthritic changes in the joint greatly increase. Generally speaking, stiffness and pain in the joint, especially after the hip has been flexed due to running, jumping, or extended periods of sitting, and/or the inability to cross the affected leg up and over the unaffected leg, are good indications to have your hip evaluated.

Hip Flexor Tendonitis:

Generally speaking, the hip flexor muscle group, made up of the iliacus and the psoas muscles, is often lacking in strength, commonly overworked, and poorly stretched. The combination of these factors quickly lead to a subsequent inflammation in the tendon. Without gentle, unloaded motion, rest, easy stretching, and often the use of anti-inflammatory medications, this condition can be nagging and debilitating.

Labral Tears:

As previously described, the rim of the socket is surrounded by a fibrocartilage labrum that provides additional stability to the hip joint. However, when repetitive activities or motion/stretching routines force the femoral head to travel outside of its normal motion limits, the labrum can easily become inflamed, frayed, or torn. Most commonly, soccer players, dance/cheer/pom, kickers/punters, and hurdlers, who all require quick bursts of dynamic hip range of motion, are most commonly at risk for a labral tear. These tears first present as a general aching pain in one particular area of the hip but almost always progresses to a pain that seems to surround the hip.

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Injury Prevention

The most important area of focus for any freely moveable joint, but especially pertaining to the hip, is the balance between flexibility and strength. Therefore, as this topic pertains extensively to the hip, the following is a reproduction of information provided in our December 2015 Edition, Understanding Joint Stability, Flexibility, and Mobility. For more information on this topic or to retrieve any of our previous newsletters at no charge, visit our website at www.csosortho.com.

Provided that there are no injuries or defects in the bone structure, the cartilage, or the ligamentous tissue; joint stability then boils down to an issue of the surrounding musculature's ability to not only contract, but to likewise stabilize and support the joint. In other words, stability becomes a function of muscle strength. As such, it now becomes really quite simple to understand how flexibility and stability really interact.

Consider the following:

- If Strengthening is grossly greater than Stretching...
...Tightness and motion limitation will result.
- If Strengthening is slightly greater than Stretching...
...Stability will be the result.
- If Strengthening and Stretching are equal...
...No change will be the result.
- If Stretching is slightly greater than Strengthening...
...Flexibility will be the result.
- If Stretching is grossly greater than Strengthening...
...Joint instability, pain, and limitation will result.

In summary, provided that all other factors contributing to joint stability are nominal, the ratio of muscle strengthening to muscle stretching will greatly affect the stability, functional capacity, and performance of a joint. In other words, strengthening may be more valuable than flexibility in fixing the problem.

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For our entire newsletter disclaimer, visit the Sports Medicine Newsletter page on our website: <http://www.csosortho.com/sports-medicine-monthly.html>

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