

NCBI Bookshelf. A service of the National Library of Medicine, National Institutes of Health.

StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2018 Jan-.

Snapping Hip Syndrome

Authors

Sierra R. Musick; Matthew Varacallo¹.

Affiliations

¹ Department of Orthopaedic Surgery, University of Kentucky School of Medicine

Last Update: November 15, 2018.

Introduction

Snapping hip syndrome, also known as *coxa saltans* (or *dancer's hip*), is a clinical condition characterized by an audible or palpable snapping sensation that is heard during movement of the hip joint. Snapping hip has multiple etiologies and is classified based on the anatomic structure that is the cause/source of the snapping sensation.

Historically, two main snapping hip categories were recognized:

- Extra-articular
- Intra-articular

The term *intra-articular snapping hip* has relatively fallen out of favor due to the increasing knowledge of intra-articular pathologies. These etiologies include loose bodies (e.g. secondary to synovial chondromatosis) or labral tears of the hip.

As the clinical terminology evolved, extra-articular snapping hip eventually became subclassified into:

- External snapping hip
- Internal snapping hip

External snapping hip is most commonly attributed to the iliotibial band moving over the greater trochanter of the femoral head during hip movements in flexion, extension, and external or internal rotation. Other causes include the proximal hamstring tendon rolling over the ischial tuberosity, either the fascia lata or the anterior aspect of the gluteus maximus rolling over the greater trochanter, and the psoas tendon rolling over the medial fibers of the iliacus muscle. A combination of defects is also possible; for example, thickening of both the posterior iliotibial band and anterior gluteus maximus, which snap over the greater trochanter at the same time.

Internal snapping hip most commonly occurs as the iliopsoas tendon snaps over underlying bony prominences, such as the iliopectinal eminence or the anterior aspect of the femoral head. Other causes include paralabral cysts and partial or complete bifurcation of the iliopsoas tendon. The snapping sensation can closely mimic intra-articular pathology, since they both originate from the anterior hip area. Close physical exam and imaging can differentiate the two. It should be noted, however, that in approximately 50% of internal snapping hip cases, an additional intra-articular hip pathology is identified.

Etiology

Snapping hip is most commonly an overuse phenomenon, but may be precipitated by trauma, including intramuscular injection into the gluteus maximus and surgical procedures. For example, the smaller median femoral neck angle (i.e., coxa vera) following total hip arthroplasty specifically has been linked to the development of external snapping hip syndrome. Other anatomical variations may predispose to coxa saltans including increased distance between the greater trochanters, prominent greater trochanters, and narrow bi-iliac width. Additionally, iliotibial band tightness,

shorter muscle or tendon lengths, muscle tightness, or inadequate relaxation of the muscles may contribute to snapping hip development. Sometimes no etiology is uncovered at all, resulting in an idiopathic classification.

Epidemiology

Approximately 5% to 10% of the population is affected by coxa saltans, with the majority of patients experiencing painless snapping. The prevalence appears to be slightly higher in women than in men. The groups typically affected include those who do repetitive extreme hip motions, including competitive and recreational ballet dancers, weight lifters, soccer players, and runners. Of the competitive ballet dancers, almost 90% reported symptoms of snapping hip syndrome and 80% had bilateral involvement. Ballet movements that provoke snapping include external hip rotation and abduction at or over 90 degrees.

Pathophysiology

- External snapping hip syndrome most commonly is caused by the iliotibial band snapping over the greater trochanter of the femoral head during movements such as flexion, extension, and external or internal rotation.
- Internal snapping hip is most commonly caused by the iliopsoas tendon snapping over underlying bony prominences, such as the iliopectinal eminence or the anterior aspect of the femoral head.

History and Physical

History and physical exam often can help pinpoint the correct anatomic region of the snapping. The patient often can point with one finger to the area that is painful upon snapping and may even be able to recreate the snap for you. Symptoms develop and increase over a long period of time, typically months to years.

External snapping hip usually is more obvious on clinical exam, with the patient experiencing a snapping or sensation of subluxation of the hip (i.e., pseudosubluxation). Sometimes one can even visualize or palpate the snapping phenomenon under the patient's skin. The area over the greater trochanteric region may be painful due to greater trochanter bursitis, abductor tendon pathology, or inflammation of the iliotibial band. Tests to provoke the snap usually include femoral rotation and or flexion. To examine the hip, the patient is placed in a lateral position, and the Ober test is done to test for iliotibial band tightness. While the patient is in this same position, the knee and hip can be cycled through flexion and extension to provoke the snapping.

Internal snapping hip is usually described by the patient as a snapping or locking of the hip with an audible snap. Weakness in the gluteus medius is sometimes found as well. To examine the hip, the patient is placed in the supine position with the affected hip guided by the examiner into an externally rotated and flexed position. Then, from this position, the leg is extended into an anatomically neutral position next to the other resting leg. This test is positive if the snapping is reproduced at the anterior hip. Remember that almost half of patients with internal snapping hip also have inter-articular pathology that may confound the physical exam findings.

Evaluation

If coxa saltans cannot be diagnosed by history and physical exam, imaging can be used to help rule out other hip pathology and confirm the diagnosis. Plain radiographs usually are of little use to confirm the diagnosis; however, they should be done to rule out anatomical variations, developmental dysplasia, or other hip pathology. Additionally, a positive response to anesthetic joint injection in the affected area can help distinguish between external and internal snapping hip syndrome.

Clinically visible external snapping hip syndrome can be confirmed on T1 weighted axial MRI as a thickened iliotibial band or thickened anterior edge of the gluteus maximus muscle. If the snapping is not visible on physical exam, dynamic ultrasonography can be used to demonstrate the snapping of the iliotibial band over the greater trochanter. Dynamic ultrasonography also can reveal associated tendonitis, iliopsoas bursitis, or muscle tears.

A diagnosis of internal snapping hip syndrome can be confirmed using iliopsoas bursography combined with fluoroscopy, dynamic ultrasonography, magnetic resonance imaging, or magnetic resonance arthrography. Magnetic resonance arthrography is preferred because it also can detect intra-articular hip pathology, which commonly accompanies internal snapping hip syndrome.

Treatment / Management

When pain is not present, treatment is not warranted. When pain is present upon snapping, treatment is conservative and consists of rest, stretching, steroid injections, oral anti-inflammatory medications, physical therapy, and activity modification. Most of the time, patients experience relief with these measures.

If pain persists despite these conservative measures, surgical intervention can be considered. For external snapping hip syndrome, loosening of the iliotibial band is usually the goal and can be accomplished with either open or arthroscopic procedures. The iliotibial tendon is lengthened or completely released using various procedures including formal Z-lengthening, a cross-shaped release, a Z-shaped release or a gluteus maximus release. Weakness in abduction may be a complication if the release is excessive or there is damage to the surrounding area.

For internal snapping hip syndrome, open or arthroscopic procedures also are available to lengthen or release the iliopsoas tendon. Arthroscopic methods are preferred to avoid complications of open surgery. The most common adverse effect of iliopsoas release is hip flexor weakness, which may occur if there is excessive release or there is damage to the surrounding area. Corrective surgeries for either internal or external snapping hip can result in other complications including infection, heterotopic ossification, muscle atrophy, continued symptoms, or nerve damage.

Questions

To access free multiple choice questions on this topic, [click here](#).

References

1. Flato R, Passanante GJ, Skalski MR, Patel DB, White EA, Matcuk GR. The iliotibial tract: imaging, anatomy, injuries, and other pathology. *Skeletal Radiol*. 2017 May;46(5):605-622. [PubMed: 28238018]
2. Via AG, Basile A, Wainer M, Musa C, Padulo J, Mardones R. Endoscopic release of internal snapping hip: a review of literature. *Muscles Ligaments Tendons J*. 2016 Jul-Sep;6(3):372-377. [PMC free article: PMC5193528] [PubMed: 28066743]
3. Yen YM, Lewis CL, Kim YJ. Understanding and Treating the Snapping Hip. *Sports Med Arthrosc Rev*. 2015 Dec;23(4):194-9. [PMC free article: PMC4961351] [PubMed: 26524554]
4. Lewis CL. Extra-articular Snapping Hip: A Literature Review. *Sports Health*. 2010 May;2(3):186-90. [PMC free article: PMC3445103] [PubMed: 23015936]

Copyright © 2018, StatPearls Publishing LLC.

This book is distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, duplication, adaptation, distribution, and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, a link is provided to the Creative Commons license, and any changes made are indicated.

Bookshelf ID: NBK448200 PMID: 28846235