



## Technical Note

# Proposal for a new clinical test for diagnosing lateral hip snapping<sup>☆,☆☆</sup>



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### ABSTRACT

Lateral hip snapping is a nosological entity that is often unknown to many orthopedists and even to some hip surgery specialists. It comprises palpable and/or audible snapping on the lateral face of the hip that is sometimes painful, caused by muscle-tendon friction on the greater trochanter during flexion and extension of the coxofemoral joint. In the following, we describe a new test for diagnosing lateral hip snapping, which is eminently clinical.

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### Proposta de um novo teste clínico para o diagnóstico do ressalto lateral do quadril

#### RESUMO

O ressalto lateral do quadril é uma entidade nosológica muitas vezes desconhecida pela maioria dos ortopedistas e até mesmo por alguns especialistas em cirurgia do quadril. Trata-se da presença de um estalido palpável e/ou audível na face lateral do quadril, por vezes doloroso, causado pelo atrito musculotendíneo sobre o grande trocanter durante a flexão e a extensão da articulação coxofemoral. Descreveremos a seguir um novo teste para o diagnóstico do ressalto lateral do quadril, que é eminentemente clínico.

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## Introduction

It may be difficult to evaluate patients with hip pain given that there are vast numbers of differential diagnoses, including intra-articular and extra-articular pathological conditions and pain relating to pelvic and vertebral pathological conditions.

Advances in imaging examinations, particular regarding magnetic resonance imaging, and knowledge coming from the evolution of surgical procedures such as arthroscopy have led to greater comprehension of the functional anatomy of the hip, which includes diseases of soft tissues such as muscles and tendons.<sup>1</sup>

The greater trochanteric pain syndrome was defined originally as “painful palpation above the greater trochanter” and it includes trochanteric bursitis, tendinopathy of the gluteus medius and minimus muscles and lateral hip snapping. It has greater prevalence among women than among men.<sup>1,2</sup> It is relatively common and affects 10–25% of the general population,<sup>1</sup> but only a small percentage presents lateral snapping.

Lateral hip snapping, also known as snapping or clacking of the iliotibial band (ITB), occurs through friction between the posterior edge of the ITB or anterior edge of the gluteus maximus muscle and the lateral face of the greater trochanter during hip movements, particularly flexion and extension.<sup>1,3-5</sup> When the hip is extended, the ITB is posterior to the greater trochanter. As the hip is then flexed, the ITB passes by the greater trochanter to reach a more anterior position. Although this passage is physiological and benign, snapping may occur in cases of lateral tension and this sometimes becomes an inflammatory and painful condition that irradiates to the lateral face of the thigh or to the ipsilateral gluteal region.<sup>6</sup> Patients with symptomatic snapping are generally young and physically active.<sup>1</sup> The snapping may be voluntary or involuntary<sup>7</sup> and palpable and/or audible.<sup>8</sup>

Because of the few studies that have been published on this topic, the diagnosis of snapping is often not made and adequate treatment is impaired. History-taking generally shows that the patients are active, with a nontraumatic long-lasting condition that shows progressive symptoms of “discomfort” around the greater trochanter. Under physical examination, patients may be able to reproduce the snapping unaided, or the orthopedist may find it through hip extension and flexion maneuvers, with the patient in horizontal or lateral dorsal decubitus. The Ober test may be positive and indicate tension in the ITB, and Trendelenburg gait may be found, thus indicating gluteal lesions.<sup>4</sup>

Snapping needs to be differentiated from intra-articular causes of clacking of the hip, such as free bodies, synovial osteochondromatosis and lesions of the acetabular labrum.<sup>9,10</sup> Simple radiographs of the coxofemoral joint are generally normal and this result helps to rule out free bodies. Examinations like static ultrasound and magnetic resonance imaging may show local inflammatory processes, and these examinations help to corroborate the diagnosis of lateral snapping and are also important for discarding other likely causes of clacking hips. Dynamic ultrasound is the best method for making imaging diagnoses of snapping, although it is examiner-dependent.<sup>11</sup>

The treatment for painful snapping can be conservative, through changing the activities that cause it, administration of oral analgesics and anti-inflammatory drugs, stretching exercises for the iliotibial tract and, if necessary, local infiltration with corticoids and anesthetic, which diminishes the inflammation of the iliotibial tract and the hip bursas.

In a minority of these cases, if conservative treatment fails, surgery becomes necessary.<sup>1</sup> This generally involves zeta-plasty with stretching or resection of part of the ITB, and it can be done by means of open techniques<sup>8</sup> or endoscopic techniques.<sup>3,4</sup>

Although the mechanism that causes snapping has been well described in the literature, no clinical test has yet been described for diagnosis this, to the best of our knowledge.

The aim of this study was to describe a simple clinical test with the capacity to identify lateral snapping of the hip.

## Description of the clinical test

The patient should be positioned in horizontal dorsal decubitus on an examination bed, with the lower limbs fully extended. The examiner stands contralaterally to the limb that is to be tested, in order to carry out the maneuvers (Fig. 1).



**Fig. 1 – Examiner positioned on the side contralateral to the limb that is to be examined.**



**Fig. 2 – Stabilization of the pelvis with one hand. The other hand is used to hold the ankle, with the hip flexed at 15°.**



**Fig. 3 – Internal rotation of the hip with the hip flexed at 15° and adducted at 45°. At this moment, the snapping can be seen when the test is positive.**



**Fig. 4 – External rotation of the hip with the hip flexed at 15° and adducted at 45°. At this moment, the snapping can be seen when the test is positive.**

The limb that is not going to be examined is then moved off the bed and is left hanging, with the knee flexed at 90°. The lower limb that is to be examined should be positioned with the knee extended and with the hip flexed at 15° and adducted at 45° (Figs. 2 and 3).

The examiner places weight on the anterosuperior iliac spine with one hand and thus stabilizes the pelvis. With the other, he holds the lower limb under examination by the ankle and makes internal and external hip rotation movements (Figs. 3 and 4).

When the limb is positive for snapping, this is noted on the lateral face of the hip. The snapping is often visible, palpable and even audible, and it may or may not be painful.

## Final remarks

Although lateral snapping of the hip is rare and generally painless, it should form part of the differential diagnosis for painful hip syndrome.

We believe that the test described above may help orthopedists to recognize lateral snapping of the hip, although further studies would be necessary in order to confirm its validity and reproducibility.

## Conflicts of interest

The authors declare no conflicts of interest.

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