

# Posterior, Lateral, and Anterior Hip Pain Due to Musculoskeletal Origin: A Narrative Literature Review of History, Physical Examination, and Diagnostic Imaging

Patrick J. Battaglia, DC,<sup>a</sup> Kevin D'Angelo, DC,<sup>b</sup> and Norman W. Kettner, DC, DACBR<sup>a</sup>

## ABSTRACT

**Objective:** The purpose of this study was to present a narrative review of the literature of musculoskeletal causes of adult hip pain, with special attention to history, physical examination, and diagnostic imaging.

**Methods:** A narrative review of the English medical literature was performed by using the search terms “hip pain” AND “anterior,” “lateral,” and “posterior.” Additionally, specific entities of hip pain or pain referral sources to the hip were searched for. We used the PubMed search engine through January 15, 2016.

**Results:** Musculoskeletal sources of adult hip pain can be divided into posterior, lateral, and anterior categories. For posterior hip pain, select considerations include lumbar spine and femoroacetabular joint referral, sacroiliac joint pathology, piriformis syndrome, and proximal hamstring tendinopathy. Gluteal tendinopathy and iliotibial band thickening are the most common causes of lateral hip pain. Anterior hip pain is further divided into causes that are intra-articular (ie, labral tear, osteoarthritis, osteonecrosis) and extra-articular (ie, snapping hip and inguinal disruption [athletic pubalgia]). Entrapment neuropathies and myofascial pain should also be considered in each compartment. A limited number of historical features and physical examination tests for evaluation of adult hip pain are supported by the literature and are discussed in this article. Depending on the clinical differential, the gamut of diagnostic imaging modalities recommended for accurate diagnosis include plain film radiography, computed tomography, magnetic resonance imaging, skeletal scintigraphy, and ultrasonography.

**Conclusions:** The evaluation of adult hip pain is challenging. Clinicians should consider posterior, lateral, and anterior sources of pain while keeping in mind that these may overlap. (*J Chiropr Med* 2016;xx:1-13)

**Key Indexing Terms:** *Hip; Musculoskeletal Pain; Physical Examination; Diagnostic Imaging; Femoroacetabular Impingement; Review*

## INTRODUCTION

Self-reported hip pain is common, afflicting approximately 14% of the population over the age of 60 years.<sup>1</sup> Providing a focused differential diagnosis for a chief complaint of hip pain is challenging, and sources may originate around, or within, the bony ring between the lumbar spine and the pubic symphysis. Clinicians need to

consider both local and distant osteoligamentous, tendinous, nervous, and muscular anatomy when examining patients with complaints related to the posterior, lateral, or anterior hip. Additionally, myofascial pain syndrome is a common and overlooked cause of pain.<sup>2</sup> Genitourinary, gastrointestinal, and vascular pathology should be excluded when examining a patient with hip pain but are beyond the scope of this review.

History and physical examination are crucial in the evaluation of any patient complaint. Unfortunately, the history and physical examination results of a patient with hip pain are typically nonspecific,<sup>3</sup> reflecting the complex anatomy of the hip and pelvis and the overlapping organ systems that are included in the differential diagnosis. As such, diagnostic imaging is indispensable in narrowing and arriving at an accurate differential diagnosis that will guide efficient and cost-effective treatment. Therefore, the aim of this review was to provide musculoskeletal differential considerations for posterior, lateral, and anterior hip pain in the adult patient.

<sup>a</sup> Department of Radiology, Logan University, Chesterfield, MO.

<sup>b</sup> Canadian Memorial Chiropractic College, North York, ON, Canada.

Corresponding author: Patrick J. Battaglia, DC, 1851 Schoettler Road, Chesterfield, MO 63017. Tel.: +1 636 230 1832. (e-mail: [patrick.battaglia@logan.edu](mailto:patrick.battaglia@logan.edu)).

Paper submitted January 16, 2016; in revised form June 23, 2016; accepted August 5, 2016.

1556-3707

© 2016 National University of Health Sciences.

<http://dx.doi.org/10.1016/j.jcm.2016.08.004>

## METHODS

A narrative review of the English medical literature was conducted. For the purpose of organizing hip pain into a clinically useful context, it was subdivided into posterior (ie, ischial), lateral (ie, trochanteric), and anterior (ie, inguinal) locations. Furthermore, myofascial pain was considered separately as a source of hip pain. Randomized controlled trials, cohort and case-control studies, case series, and both systematic and narrative reviews were included. Individual case reports were not included. PubMed was searched by using the search terms “hip pain” AND “posterior,” “lateral,” and “anterior.” Specific entities known to be sources of hip pain that were not retrieved using this search format were searched for individually. Ancillary search terms included AND “diagnostic imaging” or “physical examination.” Appropriate references from the retrieved items were also searched for and included. There was no initial date restriction for the PubMed search, and it ended January 15, 2016.

## RESULTS

The authors selected 116 papers to include in this narrative review.

## DISCUSSION

The following is a discussion of posterior, lateral, and anterior hip pain in an adult patient. Myofascial pain is discussed first as a separate entity because it may present in any hip compartment, although the underlying pathophysiology is constant. Additionally, there is limited information on objective clinical examination and imaging findings for the diagnosis of myofascial pain. For these reasons, myofascial pain is discussed separately, with the understanding that it should be considered in all cases of hip pain. Also, peripheral neuropathies have a similar clinical presentation, with the greatest variability being the distribution of the nerve involved. For this reason, the signs and symptoms of a peripheral neuropathy are discussed in the posterior hip pain section and are not repeated in subsequent sections. Rather, just the nerves that may be implicated, along with likely mechanisms and pertinent neurodynamic tests, are presented in the lateral and anterior hip pain sections. Tables 1, 2, and 3 provide summaries of differential diagnoses, clinical features, orthopedic testing, and diagnostic imaging for adults presenting with posterior, lateral, and anterior hip pain, respectively.

### Myofascial Pain

The high prevalence of myofascial pain in patients with various musculoskeletal complaints deserves special

emphasis.<sup>4-6</sup> Myofascial pain syndrome is conceptualized by the trigger point and is characterized by complex motor and sensory abnormalities producing local and referred pain.<sup>7,8</sup> High-quality studies on myofascial pain syndrome specific to hip pain are lacking. A recent review article emphasizes the role of the myofascial system in pelvic pain, a condition that has significant overlap with hip pain.<sup>9</sup> Also, trigger point injections into the musculature of the anteromedial hip appear to be effective at relieving the groin pain that accompanies chronic pelvic pain.<sup>10,11</sup> One case series (level IV evidence) reported a significant reduction in posterolateral hip pain in patients with confirmed acetabular labral tears after myofascial treatment.<sup>12</sup> Common trigger points referring to the posterolateral and anterolateral hip include the gluteal muscle group (maximus, medius, minimus) and the piriformis, tensor fascia latae, and quadratus lumborum muscles. The iliopsoas and proximal adductor tendons can refer pain into the anteromedial hip and thigh.<sup>8,13,14</sup>

Although considerable investigation is required to establish the etiology and prevalence of myofascial hip pain, failure to diagnose and properly treat this entity may result in chronicity of the patient's complaint. For example, in patients suffering from tension headaches, longstanding muscle pain has been proposed as a key etiologic agent in the transition from an acute state to a chronic state.<sup>15</sup>

Imaging of patients with myofascial pain and a related trigger point is challenging. In 1 study of the trapezius muscle, in which ultrasound (US) elastography and Doppler imaging were used, investigators were able to demonstrate that active trigger points (identified by manual palpation) were larger and showed greater resistance to blood flow compared with latent trigger points.<sup>16</sup> The visualization of these trigger points was inferred by examining the elastographic map of the trapezius muscle after applying external vibration. Magnetic resonance (MR) elastography has also been used to examine palpated taut bands and demonstrated that these structures are significantly stiffer relative to controls.<sup>17,18</sup> Despite the potential of US and MR elastography, there are currently no imaging modalities available in daily clinical practice to reliably image myofascial pain syndrome, and clinicians must rely on trigger point evaluation during physical examination.

### Posterior Hip Pain

Posterior hip pain is an under-recognized manifestation of femoroacetabular joint disease. More commonly accepted sources include referral from the lumbar spine and sacroiliac joint (SIJ). Additionally, proximal hamstring tendinopathy, sacral stress fractures, piriformis syndrome, tendinopathy of the obturator internus/gemelli complex, and ischiofemoral impingement should be considered. Sciatic and pudendal neuropathies can also refer pain to the posterior hip.

Download English Version:

<https://daneshyari.com/en/article/8559739>

Download Persian Version:

<https://daneshyari.com/article/8559739>

[Daneshyari.com](https://daneshyari.com)