

Greater Trochanteric Pain Syndrome Diagnosis and Treatment

Michael Mallow, MD^{a,*}, Levon N. Nazarian, MD^b

KEYWORDS

- Great trochanteric pain syndrome • Greater trochanteric bursitis
- Ultrasound-guided injection

KEY POINTS

- Greater trochanteric pain syndrome (GTPS) is a relatively common condition causing lateral lower limb pain in a diverse group of patients.
- GTPS can be effectively evaluated by ultrasound, and this can also provide guidance for treatment options.
- There are many treatment options for GTPS; however, comparative effectiveness research is needed.



Video of an injection of the greater trochanteric bursa accompanies this article at <http://www.pmr.theclinics.com/>

INTRODUCTION

The term *greater trochanteric pain syndrome* (GTPS) refers to pain originating from various structures in the lateral hip, including tendon and bursa. The latter structure is now thought to play a smaller role in this entity than previously thought, and the term *trochanteric bursitis* is somewhat of a misnomer because inflammation is not commonly found. Other implicated structures and entities include gluteal tears and snapping hip.¹ This article reviews the epidemiology, anatomy, diagnosis, and treatment of GTPS with special attention in imaging and image-guided interventions.

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^a Department of Rehabilitation Medicine, Jefferson Medical College of Thomas Jefferson University, 25 South 9th Street, Philadelphia, PA 19107, USA; ^b Department of Radiology, Jefferson Medical College of Thomas Jefferson University, 132 South 10th Street, Philadelphia, PA 19107, USA

* Corresponding author.

E-mail address: michael.mallow@jefferson.edu

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EPIDEMIOLOGY

Hip pain is a common complaint prompting visitation to a primary care provider or musculoskeletal medicine specialist. In a large national survey, 14.3% of individuals more than 60 years of age reported frequent hip pain.² In the survey, women reported pain more frequently than men; in men, age was not a predictor of hip pain. In a large observational study by Segal and colleagues,³ unilateral GTPS was noted to have a prevalence of 8.5% in women and 6.6% in men. In patients referred to a spine practice for a complaint of back pain, the prevalence of GTPS was 20.2% and again more frequent in women.⁴ Noted in this study, greater than 50% of patients had already undergone magnetic resonance imaging (MRI) of the lumbar spine.

Based on the aforementioned data, GTPS is a common clinical entity in patients presenting with both hip pain and low back pain. Attention to the differential of GTPS in any patient with hip and back pain is essential.

ASSOCIATED CONDITIONS AND FACTORS

Because the buttock and hip can be a common site of referred pain from the spine and other structures, as well as the biomechanical loads placed on structures in this region, there are a host of conditions that may coexist with GTPS. Iliotibial band (ITB) tenderness, knee osteoarthritis, and low back pain were positively related to the occurrence of GTPS in an observational study.³ Body mass index was not found to be associated with GTPS. In a prospective study, GTPS was found in 18% to 45% of patients with chronic low back pain.⁵

ANATOMY

Several muscles insert on or near the greater trochanter of the femur, the gluteus medius and minimus, piriformis, obturator externus, and obturator internus. The most superficial gluteal muscle, the gluteus maximus, has a broad origin including fibers from the ilium and sacrum and inserts onto the gluteal tuberosity of the femur and the iliotibial tract. Deep to this muscle lies the gluteus medius, a smaller muscle in surface area, which originates from the ilium and inserts onto the greater trochanter of the femur. Deep to the gluteus medius, the gluteus minimus is found and takes origin from the ilium and also inserts onto the greater trochanter.

The tensor fascia lata originates from the iliac crest and inserts onto the iliotibial tract in the lower limb. This fibrous band of tissue inserts distally onto the lateral condyle of the tibia. As mentioned earlier, the gluteus maximus muscle inserts onto the iliotibial tract and the femur.

The greater trochanter is associated with bursae that provide protection for the surrounding tendons, namely, the gluteus medius and minimus, ITB, and tensor fascia lata. The most superior bursa, the subgluteus medius bursa, sits superior to the greater trochanter under the gluteus medius tendon. The subgluteus maximus bursa sits between the tendons of the gluteus medius and maximus and lateral to the greater trochanter. The deep subgluteus maximus bursa is a division sometimes revered to as the *trochanteric bursa*. In some individuals, a superficial bursa exists within the gluteus maximus muscle. Dissection study supports the idea that bursa may be acquired as a result of friction between the greater trochanter and gluteus maximus.⁶ Bursal tissue from patients with GTPS undergoing total hip arthroplasty showed no signs of acute or chronic inflammation. This finding supports the understanding that inflammation, or bursitis, plays a limited role in GTPS.⁷

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