

# Gluteus Medius Tears in Greater Trochanteric Pain Syndrome: A Systematic Review of Pathology, Imaging, and Surgical Outcomes

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**INTRODUCTION:** Greater trochanteric pain syndrome (GTPS) is a frequent cause of lateral hip pain, primarily driven by gluteus medius (GMED) and minimus (GMIN) tendon pathology rather than traditional bursal inflammation. Existing literature often lacks specificity for GTPS-diagnosed cohorts, which limits direct application to clinical management. This systematic review aims to clarify disease epidemiology, imaging utility, and outcomes for gluteal tendon pathology in adults with GTPS.

**METHODS:** A PRISMA-guided search of PubMed, Ovid, Web of Science, and Cochrane Library (through July 2025) identified clinical studies focused on GMED/GMIN tendinopathy or tears with explicit GTPS diagnosis. Studies addressing imaging features, risk factors, and treatment outcomes (non-operative or surgical) were qualitatively synthesized due to heterogeneity in protocols and reporting. IRB approval was not applicable for this systematic review of published studies.

**RESULTS SECTION:** Twenty-six studies (RCTs, cohort, and case series; >1,000 total subjects) were included. GMED/GMIN tendinopathy and tears are highly prevalent in GTPS, often bilateral and occasionally asymptomatic, with progression from partial to full-thickness tear being uncommon. MRI and ultrasound show moderate diagnostic accuracy, but imaging findings inconsistently predict symptom severity or function. Non-operative interventions, including platelet-rich plasma (PRP), autologous blood injection (ABI), tendon fenestration, and barbotage, reliably improved pain and function in tendinopathy/partial tears. Surgical repair (open/endoscopic) produced significant functional gains for full-thickness or refractory tears, while reconstructive procedures were effective in select cases with massive, irreparable defects.

**DISCUSSION:** Clinicians should screen GTPS patients for underlying gluteal tendon pathology to optimize management. Imaging aids diagnosis but must be interpreted in clinical context, as structural findings alone may not correlate with symptoms. Conservative treatments should be prioritized; escalation to surgery is recommended for persistent functional limitation, regardless of tear grade. Study limitations include heterogeneity in diagnostic and outcome measures. Further standardized, prospective research is warranted.

**SIGNIFICANCE/CLINICAL RELEVANCE:** Identification and management of GMED/GMIN pathology in GTPS enhances patient outcomes. Structured non-operative and operative strategies tailored by symptom persistence and tendon integrity are most effective; imaging should support but not dictate management decisions.

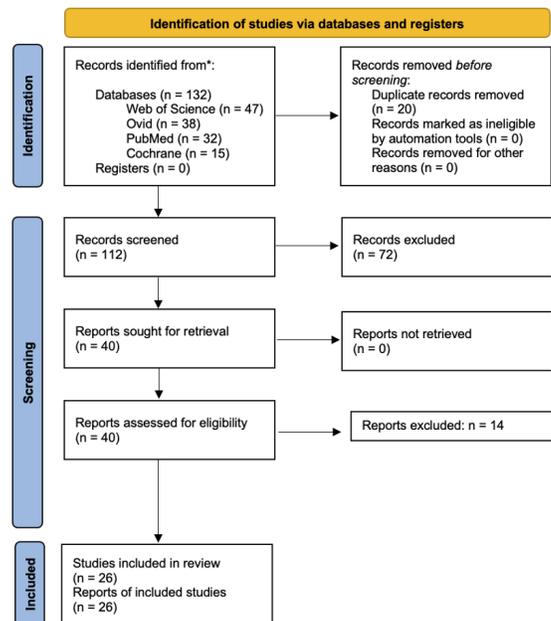


Table 1. PRISMA Flow diagram showing the process of study selection.