

# LATERAL HIP PAIN

## GREATER TROCHANTER HIP PAIN

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- AUTHORISED 1991 AALBORG
- PRIVATE PRACTICE SINCE 1993
- CERTIFIED SPECIALIST I MUSKULOSKELETAL PHYSIOTHERAPY
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Bicket et al. *BMC Musculoskeletal Disorders* (2021) 22:1048  
<https://doi.org/10.1186/s12891-021-04935-w>

BMC Musculoskeletal Disorders

RESEARCH Open Access

**The natural history of greater trochanteric pain syndrome: an 11-year follow-up study**

Luke Bicket<sup>1</sup>, Julie Cooke<sup>1,2</sup>, Isaac Knott<sup>4</sup> and Angie Fearon<sup>1,2,3\*</sup>

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People with GTPS were more likely to continue to experience hip pain 11-years after baseline assessment when compared to an asymptomatic control (ASC) group.

A significantly higher proportion of people with GTPS went on to develop hip OA, than the ASC group.

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Dan Med J 2022;69(7):A09210714

**Low prevalence of trochanteric bursitis in patients with refractory lateral hip pain**

Jeppe Lange<sup>1, 2</sup>, Claus Tvedesøe<sup>3</sup>, Bent Lund<sup>1</sup> & Marie Bagger Bohn<sup>1, 2</sup>

1) H-HIP, Department of Orthopedic Surgery, Horsens Regional Hospital, 2) Department of Clinical Medicine, Health, Aarhus University, 3) Diagnostic Centre, Silkeborg Regional Hospital, Denmark

Dan Med J 2022;69(7):A09210714

- The MRIs of 120 patients with LHP  
**69% patients had no sign of trochanter-related bursitis.**
- 25% patients **had elements of inflammation** in the greater trochanteric bursa with relevant hip abductor tendon pathology.

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**Short Term Effect of Treating Lateral Hip Pain with Focused Extracorporeal Shockwave Therapy via an Individualized Myofascial Pain Approach**

Jens Erik Jørgensen<sup>1</sup>, Jens Kristinsson<sup>2</sup>, Jane Andreasen<sup>3,4</sup>, Carsten M Mølgaard<sup>2,3</sup>, Andrew P. Woodward<sup>5</sup>, Angela Fearon<sup>6</sup>

Trochanter Bursitis 16 %

No pathology 25%

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ORIGINAL ARTICLE

**Greater trochanteric pain syndrome in women: Analysis of magnetic resonance, sagittal alignment, muscular strength and endurance of the hip and trunk**

Mauricio Rodrigues Miyasaki<sup>1</sup> | Marieli Araujo Rossoni Marcolli<sup>1</sup> | Amanda Paula Ricardo Rodrigues da Cunha<sup>2</sup> | Giancarlo Cavalli Polesello<sup>2</sup> | Marcelo Garcia Marini<sup>3</sup> | Karen Barros Parron Fernandes<sup>4</sup> | Christiane de Souza Guerino Macedo<sup>4</sup>

**Magnetic Resonance Images**

Category	Greater Trochanteric Pain Syndrome Group	Control Group	p-value
Without changes	1	1	
Tendinopathy	18	18	p=0.30
Femtendinitis	18	17	p=0.10
Gluteus Medius tear	8	2	p=0.05
Bursitis	8	7	p=0.68
Erythema	2	0	p=0.15

The results of the MRI and radiographic parameters did not differentiate women with and without GTPS.

However, the evaluation of muscle strength and endurance can establish the difference between groups.

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ORIGINAL ARTICLE Rheumatic Diseases | WILEY

**Greater trochanteric pain syndrome in women: Analysis of magnetic resonance, sagittal alignment, muscular strength and endurance of the hip and trunk**

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In highlight, the strength of the hip muscles and the endurance of the trunk muscles are lower in women with GTPS, they can differentiate the functional diagnosis and should be included in the evaluation of these patients.

**PAIN: NRS. 6 vs 2**

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Pain Medicine 2020, 20(10), 981–990  
 doi: 10.1002/pain.4199  
 Advance Access Publication Date: 11 October 2018  
 Original Research Article

**METHODOLOGY, MECHANISMS & TRANSLATIONAL RESEARCH SECTION**

**Pain Expansion and Severity Reflect Central Sensitization in Primary Care Patients with Greater Trochanteric Pain Syndrome**

Raúl Ferrer-Peña, MSc, PT,<sup>1,2,3,4</sup> Daniel Muñoz-García, PhD, MSc, PT,<sup>1,2,3</sup> César Calvo-Lobo, PhD, MSc, PT,<sup>1</sup> and José Fernández-Carnero, PhD, MSc, PT,<sup>2,3,4</sup>

Figure 1. Grid with 0.5-cm sectors, number, and percentage of participants who painted each sector in the figures of their body chart.

Patients with GTPS and characteristics of central sensitization could have differences in outcomes after undergoing traditional treatments.

(higher pain intensity, pain duration and number of pain areas and more widespread pain)

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Original article

### Greater trochanteric pain syndrome: defining the clinical syndrome

Angela M Fearon,<sup>1,2</sup> Jennie M Scarvell,<sup>1,2,3</sup> Terry Neeman,<sup>1</sup> Jill I Cook,<sup>5</sup> Wes Cormick,<sup>6</sup> Paul N Smith<sup>1,2</sup>

Fearon AM, et al. Br J Sports Med 2013;47:649–653. doi:10.1136/bjsports-2012-091565

Single leg stance 30 seconds

Direct pain on palpation of the greater trochanter

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#### What this study adds

- ▶ A clinical and research definition of greater trochanteric pain syndrome (GTPS).
- ▶ This study provides clinicians with a history key and a clinical assessment key for differentiating GTPS from hip osteoarthritis (OA).
  - The ability to manipulate one's shoes and socks provides a useful question regarding differentiation of GTPS from hip OA
  - The flexion abduction external rotation (FABER), with reproduction of lateral hip pain, is a sensitive and specific test for GTPS compared to hip OA.

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### High Prevalence of Lumbosacral Pathology in Patients with Greater Trochanteric Pain Syndrome

David R. Maldonado, M.D., Keon A. Youssefzadeh, B.S., Frank Wydra, M.D., Benjamin Sherman, D.O., and Michael B. Gerhardt, M.D.

Arthroscopy: The Journal of Arthroscopic and Related Surgery, Vol 38, No 4 (April), 2022: pp 1189-1192

Patients with hip abductor tendon disorders were associated with a high prevalence of underlying lumbar and lumbosacral pathologies.

Nevertheless, a causal relationship between these conditions cannot be established.

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Contents lists available at ScienceDirect

Journal of Clinical Neuroscience

journal homepage: www.elsevier.com/locate/jocn

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Clinical Study

**High prevalence of greater trochanteric pain syndrome among patients presenting to spine clinic for evaluation of degenerative lumbar pathologies**

Lee A. Tan<sup>a</sup>, Barlas Benkli<sup>b</sup>, Alexander Tuchman<sup>b</sup>, Xudong J. Li<sup>c</sup>, Natasha N. Desai<sup>b</sup>, Thomas S. Bottiglieri<sup>b</sup>, Jeffrey Pavel<sup>d</sup>, Lawrence G. Lenke<sup>b</sup>, Ronald A. Lehman Jr.<sup>b,\*</sup>

A total of 273 consecutive patients (145 women, 128 men) were evaluated for degenerative lumbar pathologies. Average age of 61.9 years.

50.5% had GTPS,

49.5% did not have GTPS .

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Original Article

**Focused extracorporeal shock wave therapy for greater trochanteric pain syndrome with gluteal tendinopathy: a randomized controlled trial**

Ettore Carlisi<sup>1</sup>, Miriam Cecini<sup>1,4</sup>, Giuseppe Di Natali<sup>1</sup>, Federica Manzoni<sup>2,3</sup>, Carmine Tinelli<sup>2</sup> and Claudio Lisi<sup>1</sup>

Clinical Rehabilitation  
1–11  
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DOI: 10.1177/0289215518819255  
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- Sonographic examination of the gluteal tendons,
- fESWT once a week for three consecutive weeks.
- Patients lying in lateral decubitus position, the enthesis of the gluteus medius on the anterior part
- The greater trochanter's lateral facet was targeted through a non-inline sonographic focusing,
- A linear probe (7.5–12MHz) connected to an ultrasound scanner
- All patients received 1800 pulses (frequency=4Hz) of an energy flux density of 0.15 mJ/mm<sup>2</sup> with a perpendicular technique.
- **At the first treatment session, the energy flux density was gradually increased from 0.05 to 0.15mJ/mm<sup>2</sup> during the first 300 pulses.**

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1305  
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A commentary by Møglgaard U, MD, PhD, is linked to the online version of this article at <https://doi.org/10.2106/JBJS.20.00093>.

Ramon et al. Focused Shockwave Treatment for Greater Trochanteric Pain Syndrome: A Multicenter, Randomized, Controlled Clinical Trial. J Bone Joint Surg Am. 2020 Aug 5;102(15):1305-1311. doi: 10.2106/JBJS.20.00093. PMID: 32769596.

### Focused Shockwave Treatment for Greater Trochanteric Pain Syndrome

A Multicenter, Randomized, Controlled Clinical Trial

- ▶ Patients were treated in the lateral decubitus position
- ▶ An ultrasonic guide to concentrate the shockwaves on the greater trochanter area of the gluteus tendons enthesis
- ▶ No local anesthesia was applied.
- ▶ Pts were treated with 3 weekly sessions
- ▶ At each session, 2,000 impulses were applied with a frequency of 5.0 Hz
- ▶ The F-ESWT group received an energy flux density (EFD) of 0.20 mJ/mm<sup>2</sup>

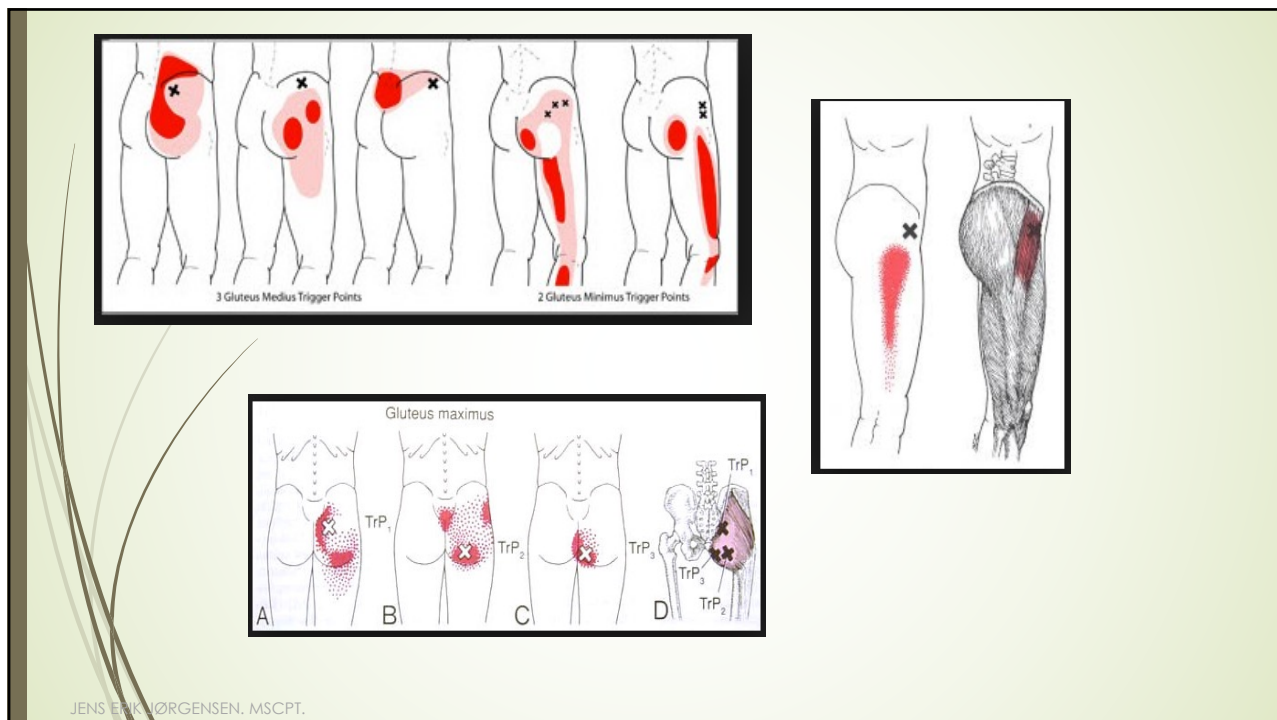
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### Short Term Effect of Treating Lateral Hip Pain with Focused Extracorporeal Shockwave Therapy via an Individualized Myofascial Pain Approach

Jens Erik Jørgensen<sup>1</sup>, Jens Kristinsson<sup>2</sup>, Jane Andreasen<sup>3,4</sup>, Carsten M Mølgaard<sup>2,3</sup>, Andrew P. Woodward<sup>5</sup>, Angela Fearon<sup>6</sup>

- ▶ Extracorporeal Shockwave Therapy
- ▶ 3 sessions of shock wave treatment via a fESWT device
- ▶ The treatment administered in 3 weekly sessions.
- ▶ Treated in the lateral decubitus position.
- ▶ Shock wave is focused on the area of maximal tenderness, active myofascial trigger points

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Rompe, J. D., Segal, N. A., Cacchio, A., Furia, J. P., Morral, A., & Maffulli, N. (2009). Home training, local corticosteroid injection, or radial shock wave therapy for greater trochanter pain syndrome. *The American journal of sports medicine*, 37(10), 1981–1990.

### Home Training, Local Corticosteroid Injection, or Radial Shock Wave Therapy for Greater Trochanter Pain Syndrome

Jan D. Rompe,<sup>1</sup> MD, Neil A. Segal,<sup>2</sup> MD, Angelo Cacchio,<sup>3</sup> MD, John P. Furia,<sup>3</sup> MD, Antonio Morral,<sup>4</sup> PT, and Nicola Maffulli,<sup>5</sup> MD, MS, PhD, FRCS(Orth), FFSEM(UK)

- Radial shock wave device with 15-mm-diameter metal applicator.
- The treatment was administered in 3 weekly sessions.
- At each session, 2000 pulses were applied with a pressure of 3 bar (equal to an energy flux density of 0.12 mJ/mm<sup>2</sup>).
- The treatment frequency was 8 pulses/s.
- With use of the principle of clinical focusing, the area of maximal tenderness was treated in a circumferential pattern, starting at the point of maximum pain level over the greater trochanter.
- No local anesthesia was applied.
- After 6 weeks, the patients were told to slowly return to their previous levels of sports/recreational activity.

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## Three Sessions of Radial Extracorporeal Shockwave Therapy Gives No Additional Benefit Over “Minimal-Dose” Radial Extracorporeal Shockwave Therapy for Patients With Chronic Greater Trochanteric Pain Syndrome: A Double-Blinded, Randomized, Controlled Trial

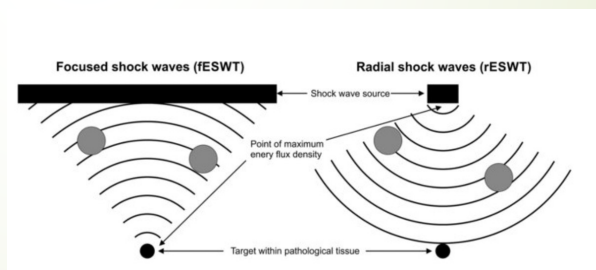
Wheeler, P. , Dudson, C. , Calver, R. , Goodall, D. , Gregory, K. , Singh, H. & Boyd, K. (2022). Three Sessions of Radial Extracorporeal Shockwave Therapy Gives No Additional Benefit Over “Minimal-Dose” Radial Extracorporeal Shockwave Therapy for Patients With Chronic Greater Trochanteric Pain Syndrome: A Double-Blinded, Randomized, Controlled Trial. *Clinical Journal of Sport Medicine*, 32 (1), e7-e18. doi: 10.1097/JSM.0000000000000880

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- Intervention group was 2.3 bar, 2.8 bar, and 3.3 bar for the first, second, and third treatment sessions, respectively. **“maximal comfortably tolerated”** 2000 shots
- Control group received a “minimal dose” rESWT, using the lowest practical settings from this commercially available rESWT machine. This minimal dose rESWT used a frequency of 20.0 Hz with 500 shocks per treatment and 1.4 bar pressure
- **The reasons for the lack of differences in outcomes following either 3 sessions of rESWT at “recommend dose” or “minimal dose” are not clear at this time. However, this RCT has raised significant questions as to the effectiveness of rESWT for this condition because it has shown no differences between the intervention and the control groups.**

OR ??



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## General Review

## Comparative Efficacy of Nonoperative Treatments for Greater Trochanteric Pain Syndrome: A Systematic Review and Network Meta-Analysis of Randomized Controlled Trials

Aaron Gazendam, MD,\* Saper Ekhtiari, MD, MSc,\* Daniel Axelrod, MD, MSc,\* Kyle Gouveia, BSc,† Lauren Gyemi, BSc,† Olufemi Ayeni, MD, PhD,\* and Mohit Bhandari, MD, PhD\*

Gazendam, A., Ekhtiari, S., Axelrod, D., Gouveia, K., Gyemi, L., Ayeni, O. & Bhandari, M. (2022). Comparative Efficacy of Nonoperative Treatments for Greater Trochanteric Pain Syndrome: A Systematic Review and Network Meta-Analysis of Randomized Controlled Trials. *Clinical Journal of Sport Medicine*, 32 (4), 427-432. doi: 10.1097/JSM.0000000000000924.

- Current evidence suggests that PRP and shockwave therapy may provide short-term (1-3 months) pain relief
- Structured exercise leads to short-term (1-3 months) improvements in functional outcomes.

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## Kilder

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