

Butt Pain II Gluteal Tunnel Syndrome

Timothy Jackson MD
Congress Orthopedic Associates
Pasadena, CA

Overview

- Anatomy
- Diagnosis
 - History
 - Exam
 - Imaging (or lack thereof)
- Endoscopic Release
- Outcomes

Definition

- Deep Gluteal Syndrome
 - Pain originating from the potential space under the gluteus maximus muscle.
 - Including piriformis syndrome, hamstring pathology, fibrous scar tissue.
- Gluteal Tunnel Syndrome
 - A specific pathologic fibrous structure causing sciatic nerve impingement.
 - Analogous to Carpal Tunnel, Cubital tunnel syndrome.
 - Won't find this on Google.

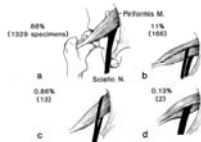
Anatomy

- Sciatic Nerve exits Sciatic notch under the piriformis muscle.
 - L4-S3
- Laying over the external rotators.
- Tracking adjacent to ischium/hamstring tendon insertion.
- Posterior femoral cutaneous runs parallel to sciatic
 - Perineal branches



Anatomic Variation

Relation of Sciatic Nerve to Piriformis Muscle
In 1510 Extremities Studied



Number of extremities studied, 1510.
 A. Usual relationship with the sciatic nerve passing from the piriformis beneath as piriformis.
 B. M. piriformis divided into two parts with the posterior division of the sciatic nerve passing between the two parts of piriformis.
 C. The posterior division of the sciatic nerve passes over as piriformis and the third division passes beneath the middle part.
 D. In these cases the entire nerve passes through the divided as piriformis.
 From Strain, L.E. and B.T. Adams. The course of the sciatic nerve and its subdivisions to the piriformis muscle. *Anat. Rec.* 70:1-5, 1918.

History

- Pain in buttocks
 - Worse with sitting
 - Night pain
 - Relieved by standing
 - Diffuse pain, not point tender
 - Radicular pain into posterior thigh and below knee.
- Traumatic or Insidious
- Motor weakness rare
- Often chronic
 - Multiple surgeries, procedures. Narcotic pain medication.

Exam

- Not point tender over ischium and hamstring tendon
 - Have patient point to pain.
 - Usually open palm
- Palpation proximal to hamstring along lateral border of ischium can elicit pain.
- Piriformis Stretch test*
 - Flex/add/IR.
- Frieberg test*
 - Pain with extension, IR of hip
- Pace sign*
 - Pain with resisted abduction and ER.



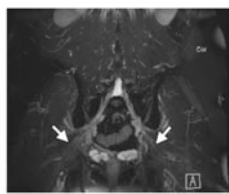
*Primarily assess piriformis

Imaging

- Xray
 - Arthritis
 - Dysplasia
- MRI
 - Lumbar spine to rule out discogenic, facet or lumbar stenosis as pain source.
 - Pelvis - Primarily to address concomitant pathology.
 - Hamstring
 - GIPS
 - Mass/tumor.



MR Neurogram

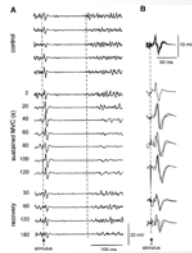


- MR Neurogram

Figure 8. Normal sciatic nerves in the same patient as in Figure 6. Coronal 3D MIP STIR SPACE MR image shows normal sciatic nerves (arrows).

EMG/NCV

- Positional
 - Flex, adduct, internal rotation.
- Standard



Conservative treatments

- PT
- Cortisone injection
 - Ultrasound guided in office
 - Diagnostic
 - Therapeutic
- Botox
 - Limited role
- There is a plethora of publications related to the treatment of "Piriformis Syndrome"

Endoscopic Sciatic Neurolysis Prone Position

"Ischial Based"

Indications

- No spinal etiology
 - MRI negative
 - No response with epidural injection
- Confirmed with diagnostic/therapeutic injection into deep gluteal space
- Failed conservative measures
 - PT - piriformis stretching
 - Injection
 - Nsaids
- No GTPS

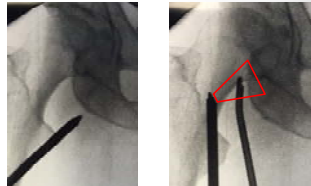
Endoscopic Sciatic Neurolysis

- Prone position
- Jackson table
 - Hips slightly flexed for instrument maneuverability.
 - Fluoro easily under pelvis.
- Mark gluteal crease prior to prep
 - Optional



Access

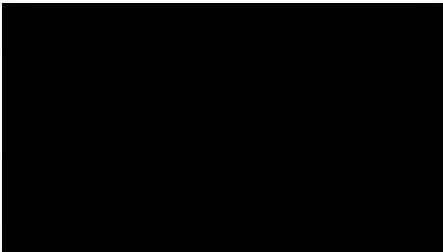
- Posterolateral portal first
 - Aimed at ischium, away from sciatic nerve.
- Fluoro guided.
 - Tactile feedback.
- Establish deep gluteal space
 - HS tendon as lighthouse
- 70 degree scope



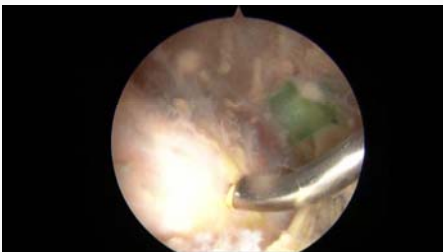
Sciatic Neurolysis



Severe Fibrosis



Cutaneous nerves



Rehab

- WBAT
- Crutches for up to a week
- PT if slow progression

Outcomes

- Martin et al.
 - 35 patients, 28 women, 7 men.
 - 20 reported trauma
 - 21 required narcotic pain meds
- mHHS - Preop 54 Postop 78
- VAS - Preop 6.9 Postop 2.4
- Postop narcotic use in 2 patients, (unrelated to DGS)
- 83% reported no sit pain, able to sit for >30 mins.
- 5 patients did not do well. mHHS 53.5.
 - Previous hip surgery, medical comorbidities, traumatic injury.
 - 3 were prior to aux Posterolateral portal.

Ischial Based Outcomes Too soon....

- 8 butts in 7 patients, 1 bilateral.
- 18 month study period.
- No complications.
- 4 hips lost to follow-up.
 - Attempted to reach at 3 months, 6 months. Report doing well with improved symptoms.
- 1 patient < 3 months postop
- 3 patients with 3 month post op PRO scores.
 - Satisfaction - 8.7
 - VAS - 7.5 to 4.3

Summary

- Low risk, outpatient procedure for sciatic nerve entrapment in deep gluteal space.
- Advantage of dealing with concomitant HS pathology.
- Tremendous capability to help a "lost" group.
- More clinical follow-up needed to support this technique.

Thank You