

**DATE OF STUDY:**

**May 12, 2010**

**Site Name and Equipment:** Open System Imaging Pasadena, CA GE 1.5T, MRI Scanner

**INDICATION:** This is a 38-year-old woman suffering from pelvic neurologic symptoms.

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**FINDINGS:** These images demonstrate the course and caliber of the lumbar and sacral spinal nerves, the lumbosacral plexus and pudendal nerves. Adequate image quality is provided throughout. There are no significant artifacts impairing image interpretation.

The lumbar and sacral spinal nerves are generally normal in course, caliber and contour as they traverse the proximal and distal foramina. Tarlov cysts are noted bilaterally at the S2 level being 1.1 cm in diameter on the right and 7.0 mm in diameter on the left. Note is also made of intrauterine structures; there are complex in organization and cystic intrauterine pregnancy should be ruled out and if this is negative then gynecological evaluation may be warranted to assess the nature of the cystic features and the intrauterine space. The piriformis muscle appears to be bipartite in structure bilaterally and there is evidence of passage of some nerve components between the piriformis segments. Formal sciatic imaging will be indicated if there are symptoms referable to sciatic nerve at the level of the sciatic notch. The pelvic floor musculature is markedly asymmetric with the right side demonstrating thickening and flattening compared to the left. The psoas muscles are symmetric in size and shape. The piriformis muscles are slightly asymmetric being larger right than left and the obturator internus muscles are asymmetric being larger, right than left. On the medial aspect of the obturator internus muscles there is no significant venous dilatation; however, the pudendal neural structures are prominent throughout the neural tree on the right side and the abnormality appears to originate above the level of the ischial spines. On the left side, only almost proximal elements of the pudendal nerve below the level of the ischial spine are involved, as well as portions of the pudendal nerve above the ischial spine.

**IMPRESSION: IRRITATIVE CHANGES WITHIN THE PUDENDAL NERVE BEGINNING ABOVE THE LEVEL OF THE ISCHIAL SPINE BILATERALLY,**

**RIGHT GREATER THAN LEFT WITH THE RIGHT SIDE AFFECTING THE ENTIRE NEURAL TREE, SPLIT PIRIFORMIS MUSCLE BILATERALLY, INTRAUTERINE CYSTIC AND HETEROGENEOUS FINDINGS WARRANTING FURTHER EVALUATION AND EVIDENCE OF PELVIC FLOOR MUSCLE SPASM ON THE RIGHT SIDE. THESE FINDINGS WILL BE CONSISTENT WITH THE BILATERAL, RIGHT GREATER THAN LEFT, PUDENDAL NERVE ENTRAPMENT SYNDROME WITH THE PATHOLOGY COMMENCING ABOVE THE LEVEL OF THE ISCHIAL SPINE.**

**THREE- DIMENSIONAL RECONSTRUCTION AND ANALYSIS:**

**STUDY:** Soft-Tissue MRI Neurography, three dimensional reconstruction and analysis.

**TECHNICAL:** 3D Multiplanar Reformations, image overlay assembly and optional maximum intensity projections were performed on an Advanced Voxar 3D Workstation.

**FINDINGS:** These images demonstrate the course and caliber of the pudendal neurovascular bundles using multiplanar reformat techniques to provide an overview.

On the right side there is significant increased image intensity and caliber affecting the entire pudendal nerve tree commencing above the level of the ischial spine and extending through the distal branches. On the left side there is no abnormality appreciated above the level of the ischial spine and involving some of the more proximal branches below the ischial spine, but not the most distal branches.

**IMPRESSION: BILATERAL IRRITATIVE CHANGES WITHIN THE PUDENDAL NERVE BEGINNING ABOVE THE LEVEL OF THE ISCHIAL SPINE WITH MORE EXTENSIVE INVOLVEMENT ON THE RIGHT SIDE THAN ON THE LEFT.**

**ADDENDUM:** These images demonstrate a small amount of hyperintensity which may reflect irritation for retained fluid just anterior to the sacro-coccygeal joint in the vicinity of the impar ganglion. There is no evidence of fibrosis in the area, however, there are some fibrous attachments between the area of the sacro-coccygeal joint and components of the pelvic floor and descending colon. This is a common anatomical variant and no clear pathological significance.

Signed:

A handwritten signature in black ink, appearing to read 'A. Filler', is positioned above the printed name.

Aaron Filler, MD, PhD  
Neurography Institute Medical Associates