

## Taking the Myths Out of Pudendal Nerve Entrapment Surgery

(Sequel to Taking the Shame Out of Pudendal Neuralgia)<sup>1</sup>

By Violet Matthews, RN, BSN, Secretary, Health Organization for Pudendal Education [www.pudendalhope.org](http://www.pudendalhope.org)

Imagine someone with chronic pelvic pain or genital pain so severe that sitting, having sex, or holding a job becomes impossible. Unable to maintain normal relationships, this person may lose hope and fall into despair because no one understands. Finally, the patient is given a diagnosis of pudendal neuralgia due to possible pudendal nerve entrapment (PNE) that may require surgery; but for patients with PNE, making a decision about pudendal nerve decompression surgery can be very confusing. While some physicians recognize the value of PNE surgery, it is not unusual for patients with PNE to be told that surgery will not help them and that they will have to learn to live with severe pelvic pain for the rest of their lives. Many patients who are considering PNE surgery have exhausted conservative treatments such as physical therapy, medications, or nerve blocks, and are still living in serious debilitating pain. Hearing conflicting opinions from health care providers may leave a patient who has chronic genital pain wondering where to turn. More educational information is needed to dispel some of the myths related to surgical treatment of PNE.

### **Myth # 1**

**Surgery should not be considered an option for people with PNE because it is too risky and its efficacy has not been established.**

There continues to be disagreement in the medical world as to whether surgery should be an option for patients with pudendal neuralgia. In some instances patients are worse after surgery, and in approximately one-third of patients, there is no improvement.<sup>2</sup> Naturally, these patients continue to seek medical treatment after surgery which may cause some health care providers to question the efficacy of PNE surgery. Some post-operative patients who have had ligaments cut during surgery have reported developing sacroiliac joint dysfunction, piriformis syndrome, levator ani muscle spasm, and coccyx pain after pudendal nerve surgery. Other patients have reported new problems such as penile/clitoral numbness or pain in areas they did not experience before.

Despite the risks, according to publications in peer reviewed literature and anecdotal evidence from numerous patients, surgery can often bring significant relief in a patient's pain levels, and many patients experience dramatic improvements that allow them to resume a normal life. The challenge for the diagnostician is to determine which patients are most likely to have a positive outcome, but to date (September 2011), there is no test proven to offer 100% accuracy.<sup>3</sup> History and physical examination remain important in the diagnosis. Traditionally,

pudendal nerve blocks have been used as a tool to diagnose a possible entrapment,<sup>4</sup> but there are occasional reports of patients who have become permanently worse from pudendal nerve blocks. While still used by some physicians, the value of a pudendal nerve motor latency test (PNMLT) in the diagnosis of pudendal neuropathy has not been established.<sup>5</sup> Recently, a special type of 3 Tesla Magnetic Resonance Imaging (MRI) has shown some promise in locating specific sites of entrapment. When a patient is deemed to be a possible surgery candidate based on the clinical exam, history, PNMLT, 3 Tesla MRI, and response to nerve blocks, the patient, in consultation with physicians, then faces the decision of which type of PNE surgery to choose.

## **Myth #2**

### **There is a “best” approach or protocol for pudendal nerve decompression surgery.**

The pudendal nerve lies deep in the pelvis, and accessing all sites of possible entrapment presents a challenge to the surgeon. There are five basic approaches to pudendal nerve decompression surgery, but there is no consensus in the medical community as to which approach is best because there are several possible sites of entrapment. The transgluteal approach is the most widely used approach to pudendal nerve decompression because it offers the surgeon the best visualization of the nerve at the most common sites of entrapment.

#### **1. Perineal Approach**

The first pudendal nerve decompression surgeries were recorded by Shafik in 1994<sup>6</sup> and were performed for the treatment of erectile dysfunction (ED) using a transperineal approach in which a para-anal incision was made and the inferior rectal branch of the pudendal nerve was followed to the pudendal (Alcock’s) canal. A slit was made in the canal to release the pudendal nerve, and six of the seven patients had a subsequent improvement in erectile dysfunction. In a later publication,<sup>7</sup> Shafik reported success in the treatment of vulvodynia, using a similar surgical approach.

Since then, Beco<sup>8</sup> and de Bisschop<sup>9</sup> have published results of perineal surgery, and both have reported that a majority of patients have significant improvement in pain levels.

With the perineal approach, a small incision is made in the perineum, and part of the nerve can be accessed without ligaments being severed, although access to the ligaments at the ischial spine, a common site of entrapment, is limited and requires a rectoscope.

#### **2. Trans-Gluteal (TG) Approach**

In 1998 Robert, et al<sup>10</sup> published on results of 150 transgluteal surgeries in which the pudendal nerve is accessed via an incision in the gluteal muscle and the sacrotuberous ligament. He reports that 45% were cured and an additional 22% improved. Robert describes several sites

of entrapment along the course of the pudendal nerve including at the “ligamentous pinch” between the sacrotuberous and sacrospinous ligaments, at the piriformis muscle, the falciform process of the sacrotuberous ligament, or in the fascia of the obturator internus muscle at the Alcock’s canal.

Robert’s team published the results of a randomized controlled trial in 2005,<sup>11</sup> reporting that after one year, 70% of the surgical group were improved versus 13% of the non-surgical group.

Popeney, et al<sup>12</sup> published results of 58 cases of PNE surgery in 2008, reporting that in using the transgluteal approach as described by Robert, 60% of patients had greater than 50% improvement.

Based on Vleeming’s research demonstrating the importance of the sacrotuberous (ST) ligament in stabilizing the sacroiliac joint,<sup>13</sup> some physicians who wish to preserve the integrity of the ST ligament to prevent possible post-operative pelvic instability offer a modified TG approach that spares the ST ligament or replaces it with cadaver tendon as described by Hibner.<sup>14</sup> Some surgeons make a vertical instead of a horizontal cut in the ligament and suture the ligament after the nerve is decompressed.

### **3. The Trans-Ischio-Rectal-Fossa (TIR) Approach**

In the TIR approach as described by Baurant in 2003,<sup>15</sup> a small (5 cm) incision is made in the posterior wall of the vagina in women or between the anus and scrotum in men. The sacrospinous ligament is accessed by dissection of the ischio-rectal trench and pushing aside the rectum. In most cases the sacrospinous ligament is sectioned to release the nerve between the ligaments at the ischial spine. With this approach, access to the sacrotuberous ligament is limited, requiring an endoscope. Baurant reported that at 6 months, 66% were asymptomatic or satisfied with their improvement, and at one year this number increased to 86%.

### **4. The Laparoscopic Trans-Peritoneal Approach**

Possover published results of using a laparoscopic approach for Alcock’s canal decompression surgery and reports success in 15 out of 18 patients.<sup>16</sup> Using the laparoscopic approach as described by Possover allows neurolysis of the sacral plexus, focusing primarily on the proximal and medial portions of the pudendal nerve.

### **5. The Dorsal Nerve Approach**

In 2005 Hubry, et al<sup>17</sup> described a possible site of entrapment distal to the urogenital diaphragm at the dorsal branch of the pudendal nerve. Recently, several surgeons have begun performing nerve release surgery on the dorsal nerve of the penis and clitoris, but as of September 2011, no results have been published on this approach.

### **Myth #3**

**PNE decompression surgery is like any other surgery. If you have not improved soon after surgery, the procedure should be considered a failure.**

Unfortunately, it can take many months for nerves to heal, and autonomic, motor, and sensory function may never be complete.<sup>18</sup> During the recovery period, patients may require significant amounts of pain relief medication for an extended period of time while healing takes place. For unsuccessful surgeries, patients will require pain control for indefinite periods of time.

### **Considerations before Choosing PNE Surgery**

It is easy to see why patients with pudendal neuralgia agonize over the decision as to whether to opt for pudendal nerve decompression surgery and which surgery approach to choose.

Having spoken with hundreds of pudendal neuralgia patients, I believe there are two key considerations that must be remembered when deciding on PNE surgery.

1. Has the patient tried conservative therapies first (unsuccessfully), and has his or her illness taken away abilities to function, to enjoy life, and to have normal relationships?
2. Is the patient fully informed as to the advantages and disadvantages of each surgical approach, of the risks involved, and thereby mentally prepared for the possibility of an unsuccessful outcome?

Patients undergoing PNE surgery desperately need the non-critical support of family, friends, and health care providers. If the procedure is not successful, they don't need to hear "you should not have done that." They just need someone to give them hope and help them in their search for a way to silence the pain.

---

<sup>1</sup> <http://www.medicalnewstoday.com/releases/54832.php>

<sup>2</sup> Robert R, Brunet C, Faure A, Lehur PA, Labat JJ, Bensignor M, Leborgne J, Barbin JY. Surgery of the pudendal nerve in various types of perineal pain: course and results. *Chirurgie*. 1993-1994;119(9):535-9.

<sup>3</sup> Labat JJ, Riant T, Robert R, Amarenco G, Lefaucheur JP, Rigaud J. Diagnostic criteria for pudendal neuralgia by pudendal nerve entrapment (Nantes criteria). *NeuroUrol Urodyn*. 2008;27(4):306-10.

<sup>4</sup> Thoumas D, Leroi AM, Mauillon J, Muller JM, Benozio M, Denis P, Freger P. Pudendal neuralgia: CT-guided pudendal nerve block technique. *Abdom Imaging*. May 1999;24:309-12.

<sup>5</sup> Ricciardi R, Mellgren AF, Madoff RD, Baxter NN, Karulf RE, Parker SC. The utility of pudendal nerve terminal motor latencies in idiopathic incontinence. *Dis Colon Rectum*. Jun 2006;49(6):852-7.

<sup>6</sup> Shafik A. Pudendal canal decompression in the treatment of erectile dysfunction. *Arch Andol*. Mar-Apr 1994;32(2):141-9.

<sup>7</sup> Shafik A. Pudendal canal syndrome as a cause of vulvodynia and its treatment by pudendal nerve decompression. *Eur J Obstet Gynecol Reprod Biol*. Oct 1998;80(2):215-20.

<sup>8</sup> Beco J, Klimov D, Bex M. Pudendal nerve decompression in perineology: a case series. *BMC Surg*. Oct 2004;4:15.

<sup>9</sup> de Bisschop E, Nundlall, R. Surgical decompression of pudendal nerve by transperineal approach using a probe with a small balloon. *J Gynecol Obstet Biol Reprod (Paris)*. May 2011;40(3):225-30.

- 
- <sup>10</sup> Robert R, Prat-Pradal D, Labat JJ, Bensignor M, Raul S, Rebai R, Leborgne J. Anatomic basis of chronic perineal pain: role of the pudendal nerve. *Surg Radiol Anat.* 1998;20(2):93-8.
- <sup>11</sup> Robert R, Labat JJ, Bensignor M, Glemain P, Deschamps C, Raoul S, Hamel O. Decompression and transposition of the pudendal nerve in pudendal neuralgia: a randomized controlled trial and long-term evaluation. *Eur Urol.* Mar 2005;47(3):403-8.
- <sup>12</sup> Popeney C, Ansell V, Renney K. Pudendal entrapment as an etiology of chronic perineal pain: diagnosis and treatment. *NeuroUrol Urodynam.* 2007;26(6):820-7.
- <sup>13</sup> Vleeming A, Stoeckart R, Snijders DJ. The sacrotuberous ligament: a conceptual approach to its dynamic role in stabilizing the sacro-iliac joint. *Clin Biomech.* Nov 1989;4(4):201-3.
- <sup>14</sup> Hibner M, Desai N, Robertson L, Nour M. Pudendal neuralgia. *The Journal of Minimally Invasive Gynecology.* Mar-Apr 2010;17(2):148-53.
- <sup>15</sup> Baurtant E, Bisschop E. Modern algorithm for treating pudendal neuralgia: 212 cases, 134 decompressions. *J Gynecol Obstet Biol Reprod (Paris).* Dec 2003;32(Pt 1):705-12.
- <sup>16</sup> Possover M. Laparoscopic management of endopelvic etiologies of pudendal pain in 134 consecutive patients. *J Urol.* Apr 2009;181(4):1732-6.
- <sup>17</sup> Hruby S, Ebmer J, Dellon AL, Aszmann OC. Anatomy of pudendal nerve at urogenital diaphragm – new critical site for nerve entrapment. *Urology.* Nov 2005;66(5):949-52.
- <sup>18</sup> Burnett MG, Zager EL. Pathophysiology of peripheral nerve injury: a brief review. *Neurosurg Focus.* Jun 2004;16(5).

Violet Matthews is a director and secretary for the Health Organization for Pudendal Education (HOPE), a tax exempt charitable organization, and has been a member of a Pudendal Neuralgia forum since 2004. Having suffered with Pudendal Neuralgia, she has seen an 80% improvement in quality of life since PNE surgery in 2004 and has returned to work as a registered nurse. Married with two children, Ms. Matthews resides in Southwestern United States. You can find more information at [www.pudendalhope.org](http://www.pudendalhope.org) and community support at <http://pudendalhope.org/forum/>.