



# THE PAIN JOURNAL

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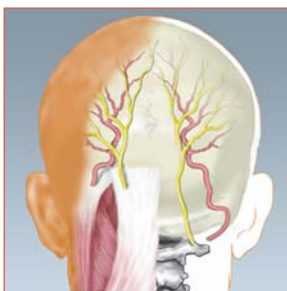
## Occipital Nerve Stimulation for Chronic Intractable Headache Syndromes

*An Original Contribution by Allan Vrable, D.O.*

More than 32 million Americans, 70% of whom are women, suffer from migraines and lose about 157 million workdays each year, according to the National Headache Foundation. Many sufferers progress to a chronic condition, experiencing headaches more than 15 days per month. It is estimated that approximately 40,000 people in the U.S. do not respond to existing treatments, and many may be candidates for occipital nerve stimulation (ONS).

What is occipital nerve stimulation? ONS involves delivering a small electrical charge to the occipital nerve to prevent migraines and headaches in patients who have not responded to medications. ONS is not effective for all patients, and a trial of occipital nerve block injections is often a good indicator of ONS suitability for specific patients.

ONS treatment involves implanting a neurostimulator under the skin at the base of the head. The neurostimulator delivers electrical impulses near the occipital nerves via insulated lead wires tunneled under the skin. The basic hardware of the ONS systems consists of a lead with electrodes and contacts which is connected to a separately implanted impulse generator by a wire.



Dr. David Dodick summarized the progress of ONS research in June, 2008: "Over the past six years, occipital nerve stimulation has emerged as a potential treatment option for a variety of different intractable primary headache disorders...Open-label prospective studies and

case series evaluating the efficacy and safety of ONS in patients with medically refractory chronic migraine, chronic cluster headache, and hemicrania continua have been reported."

Neurostimulation, including ONS, is not yet FDA approved for the treatment of migraine disease or other headache disorders, but the clinical trials are progressing. A Mayo Clinic study involved 16 patients, 13 females aged 21 to 52. Of the 16 patients, nine underwent bilateral stimulator placement. Patients... ➔ *continued on page 3*

## Patient Success: Free of Pain that Crippled Her Life

*An Abdominal Peripheral Nerve Stimulation as retold by Jeff S. Berger, D.O.*

Shannon\* could not take the pain any more. The sharp, burning pain in her stomach had taken over her life and she saw no way out. After removal of a rare form of stomach cancer, Shannon was left with a constant searing pain on either side of her surgical scar. She was told the symptoms were related to nerve damage at the site of her wound and was provided with no definite time frame or prognosis for recovery. Shannon grew distraught over her increasing dependence on the Percocet to get through her day. The pain consumed her life and with no end in sight it eventually destroyed her will to live. She attempted to overdose on her pain medications and was admitted for inpatient psychiatric care at Wilmington Hospital... ➔ *continued on page 4*

\*Patient's name has been changed in this article to protect identity and privacy.

*Current and cutting-edge information on treating spine and pain related disorders.*



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### MASPP OFFICE LOCATIONS:

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Bear, DE / 302-392-6501
- 101 Chesapeake Blvd., Suite D  
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- Delmarva Surgery Center  
101 Chesapeake Blvd., Suite C  
Elkton, MD / 443-245-3470
- [www.midatlanticspine.com](http://www.midatlanticspine.com)

**NATIONAL HEALTH EVENTS****January 2009**

Cervical Health Awareness Month  
[www.nccc-online.org/awareness.php](http://www.nccc-online.org/awareness.php)

National Birth Defects Prevention Month  
[www.marchofdimes.com](http://www.marchofdimes.com)

National Blood Donor Month  
[www.aabb.org](http://www.aabb.org)

National Glaucoma Awareness Month  
[www.preventblindness.org](http://www.preventblindness.org)

National Radon Action Month  
[www.epa.gov/radon/rnactionmonth.html](http://www.epa.gov/radon/rnactionmonth.html)

Thyroid Awareness Month  
[www.thyroidawareness.com](http://www.thyroidawareness.com)

**February 2009**

AMD/Low Vision Awareness Month  
[www.preventblindness.org](http://www.preventblindness.org)

American Heart Month  
[www.americanheart.org](http://www.americanheart.org)

National Cancer Prevention Month  
[www.mdanderson.org](http://www.mdanderson.org)

National Children's Dental Health Month  
[www.ada.org/goto/ncdhm](http://www.ada.org/goto/ncdhm)

National Wise Health Consumer Month  
[www.healthylife.com](http://www.healthylife.com)

Give Kids A Smile Day (Feb. 6)  
[www.ada.org/prof/events/featured/gkas](http://www.ada.org/prof/events/featured/gkas)

National Wear Red Day (Feb. 6)  
[www.nhlbi.nih.gov/health/hearttruth](http://www.nhlbi.nih.gov/health/hearttruth)

National Women's Healthy Heart Campaign (Feb. 6)  
[www.sistertosister.org/fairs/atlanta.php](http://www.sistertosister.org/fairs/atlanta.php)

Congenital Heart Defect Awareness Week (Feb. 7-14)  
[www.tchin.org/aware](http://www.tchin.org/aware)

National Donor Day (Feb. 14)  
[www.organdonor.gov](http://www.organdonor.gov)

National Eating Disorders Awareness Week (Feb. 22-28)  
[www.nationaleatingdisorders.org](http://www.nationaleatingdisorders.org)

**Healthy Advice Q&A**

*Patient questions answered by Frank J. E. Falco, M.D.*



**Q:** *What are some the complications with Osteoporosis? – Susan K., Milford, DE*

**A:** Vertebral compression fractures are the most common complication of osteoporosis. There are approximately 700,000 vertebral compression fractures per year in the U.S. that result in spinal deformity, acute/chronic pain, disability, and reduced vital respiratory capacity. Vertebral compression fractures lead to decreased physical function, restricted activities of daily living, sleep disturbances, early satiety, psychological disturbances, and reduced pulmonary function. Subsequent risk of additional vertebral fractures increased after the first fracture. Women with a vertebral fracture have a higher mortality rate adjusted for age. Patients with vertebral fractures are also likely to have COPD and pneumonia complications.

**Q:** *What treatment option do I have for Osteoporosis? – John W., Smyrna, DE*

**A:** Kyphoplasty is a minimally invasive procedure that restores vertebral body height, provides fracture stability and reduces pain associated with vertebral compression fractures. The procedure involves placing a balloon catheter through a needle introducer into the vertebral fracture, inflating the balloon, and injecting cement into the cavity. The indications for kyphoplasty include an osteoporotic or malignant spinal compression fracture, persistent back pain, progressive vertebral collapse, spinal deformity and a correct diagnosis from imaging studies. Clinical studies have demonstrated that kyphoplasty is a highly effective treatment for compression fractures and provides correction of spinal deformities with significant pain relief, improved quality of life and increased physical function.

**Q:** *What is Interstitial Cystitis? – Erik H., Annapolis, MD*

**A:** Interstitial Cystitis is a chronic inflammatory condition of the bladder wall of unknown etiology. While it strikes any age, race or gender, women are most commonly afflicted, with more than 700,000 cases in the U.S. Common symptoms include urinary frequency, urgency, and pain. The frequency of urination can be astonishing and disabling in severe cases (up to 60x in a 24-hour period). Urgency can be associated with pain, pressure, and/or spasms. Pain is often located in the pelvis, bladder, urethral, or vaginal areas. After diagnosing, treatment includes diet, nutritional supplements, oral medications, physical therapy, bladder instillation techniques and surgery.

**Q:** *What are the differences between osteoarthritis and rheumatoid arthritis? – Janice M., West Chester, PA*

**A:** Osteoarthritis, also known as degenerative joint disease, is the most common type of arthritis and occurs when joint cartilage breaks down in a joint. The diminishing of cartilage causes bones to rub against one another, inflicting pain and inflammation. Pain medication, steroid injections and physical therapy are common treatments. Rheumatoid arthritis is a chronic, inflammatory type of arthritis and is the most disabling type of arthritis. The linings of multiple joints are affected, but body organs can also be affected. Pain medication and steroid injections are common treatments.

*Health Tip: For migraines, rest in a quiet, dark room and minimize noise, light and odor.*

## Occipital Nerve Stimulation for Chronic Intractable Headache Syndromes


*Continued from page 1 -- written by Allan Vrable, D.O.*

...experienced an average decrease in pain of 54%. Six patients had no change or less than 50% reduction in pain, eight reported 50 to 95% pain relief and two had complete relief.

The first double-blind controlled trial of occipital nerve stimulation for so-called intractable headache was recently presented at the American Academy of Pain Medicine's 25th Annual Meeting in Hawaii. The study "ONS for treatment of intractable migraine headache: three-month results from the ONSTIM feasibility study" investigated nerve stimulator devices in 68 patients suffering from severe headaches at least 15 days each month despite conventional treatments. The treatment consisted of a stimulator device implanted surgically in the abdomen, with electrical leads threaded up the patient's back and terminating adjacent to the occipital nerve at the base of the skull.

In 29 patients, the level of stimulation was under the patients' own control, allowing them to increase or decrease the current to optimize the degree of pain control. The stimulation was set at a fixed level in 16 patients. Seventeen patients were managed with conventional therapies. One of the inclusion criteria for the trial was reduction in pain following occipital nerve block, in an attempt to identify patients most likely to respond to the stimulation therapy. To validate this approach, the first eight patients who failed the nerve-block test in the ancillary treatment group, also received adjustable implants. Patients were evaluated after three months of treatment, during which they kept headache diaries in which they recorded the number and severity of headaches.

The responder rate reached statistical significance, both in adjustable versus preset and versus the medically managed group. Responses were defined as either a decline in headache days per month of at least 50% or a drop in overall pain intensity of at least three points. Responder rates were as follows: adjustable stimulation: 39%, preset stimulation: 6%, and no stimulation: 0%. Somewhat to the researchers' surprise the ancillary group responded as well to adjustable stimulation as did those who passed the initial nerve-block test. Among the five patients in this group who completed their diaries, two showed clinical responses. The group showed a mean 40% reduction in headache days per month and a mean reduction in overall pain intensity of 1.9 points. These findings suggest that response to occipital nerve block "may not be predictive of response to occipital nerve stimulation therapy." Adverse effects in the study included lead migration in 12 patients and worsened headaches in 9% of the adjustable-stimulation group, 41% of those assigned to preset stimulation.


ONS is a new promising treatment option for patients with intractable headaches that respond poorly to traditional treatments. It is a safe, effective, and completely reversible procedure that should be utilized in the appropriate patient population. As research papers continue to surface, ONS will become a mainstay treatment option for the patient with chronic intractable headache syndromes. 

Saper J, et al "Occipital nerve stimulation for treatment of intractable migraine headache: 3-month results from the ONSTIM feasibility study" *AAPM* 2009; Abstract 155. • Magis D et al. "Occipital nerve stimulation for drug-resistant chronic cluster headache: a prospective pilot study." *The Lancet Neuro* 2007; DOI:10.1016/S1474-4422(07)70058-3. • Burns B, et al "Treatment of hemispheric continua by occipital nerve stimulation with a bion device: long-term follow-up of a crossover study" *Lancet Neurology* 2008; DOI: 10.1016/S1474-4422(08)70217-5. • Dodick, David W., MD. "Occipital Nerve Stimulation." Platform Presentation. American Headache Society's 50th Annual Scientific Meeting. Boston. June 27, 2008. • Goadsby, Peter J., MD. "Neurostimulation in primary headache syndromes." *Expert Rev. Neurotherapeutics* 7(12), 1785-1789 (2007).

## Self-Help Pain Relief: Headache Triggers

*Over 45 million Americans suffer from chronic recurring headaches*

According to the National Headache Foundation, there are over 150 diagnostic headache categories. The cause of headaches may be hereditary and sometimes can be triggered by eating certain foods, environmental factors, and even fatigue or dehydration. If you experience recurring headaches, it is important to see a doctor and to keep track of your possible triggers. If you can find what is triggering your headaches, you may be able to make a change to help prevent headaches from recurring. If that is not possible, your physician will be able to develop an individual treatment plan just for your type of headache; it is important to share any known triggers with your physician.

To find your triggers, write and track what you did before a headache. Common food triggers include: aged cheese, alcohol, chocolate, citrus fruits, cured meats, not enough water or liquid consumption (dehydration), MSG, NutraSweet, nuts, onions, salty foods, or lack of food (skipped meals). Activities associated with triggers include: excessive exercise or physical activity, eyestrain, fatigue, menstruation, medication use/missed dosages, and sleep deprivation. Environmental triggers include: exposure to secondhand smoke, strong odors from household chemicals or perfumes, exposure to certain allergens, stress, pollution, or lighting and weather change. 

### RECOMMENDED RESOURCES

"10 Simple Solutions to Migraines: recognize triggers, control symptoms, and reclaim your life" by Dawn A. Marcus. *Read this if you have headaches caused by a number of factors.*

"The Headache Prevention Cookbook: eating right to prevent migraines and other headaches" by Mark A. David. *A collection of recipes to help headache sufferers avoid triggers.*

"Migraine and Other Headaches" by William B. Young. *Written for patients by the American Academy of Neurology.*

Identifying Headache Triggers Worksheet [http://www.achenet.org/assets/Identifying\\_Headache\\_Triggers\\_Worksheet.pdf](http://www.achenet.org/assets/Identifying_Headache_Triggers_Worksheet.pdf)

*Health Tip: When exercising, you need to drink extra water to compensate for fluid loss.*


## MASPP News: New Patient Library

*A Chronic Pain Library for MASPP Patients*

Economic times are tough now and it is hard to find anything for free these days. According to a recent article from *The Wall Street Journal* (1/15/09), “Folks are flocking to the library” more than ever for cheap entertainment and, of course, access to free information.

MASPP now offers a free library service to our patients. The library was created to provide our patients and their families with free access to health information. The books are not designed to lecture. They are not designed to replace a doctor’s advice, but rather become a good friend you could curl up with and even help you to realize you can still live a happy and fulfilling life with pain.

What is great about this program is that patients don’t have to leave the MASPP office to check out a book! Book lists will be available for all patients, and all books will be kept behind the receptionist window at the Elkton office. Patients can check out books to read while waiting or request to check out books to read at home with a lending period of two weeks.


Check it out today! MASPP health sciences librarian, Stephanie Erhart, MLIS, is managing the new patient library service. If you are interested in learning more or would like to make a book suggestion or even a book donation please contact Stephanie at [serhart@midatlanticspine.com](mailto:serhart@midatlanticspine.com). 

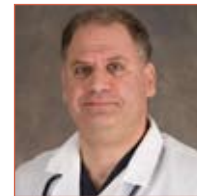
## MASPP Staff: Meet Dr. Frank Falco

*High Accolades All Along the Way*

Dedicated and diligent, Dr. Falco often can be found in a MASPP office from sunrise to sunset, patiently spending quality care time with patients who he genuinely cares about. While he is an innovative pioneer and widely-recognized expert in spine disorders and pain medicine, he remains easy to talk to and is admired and well-liked by peers and patients alike.

Dr. Falco grew up in a tight-knit Italian family, one of three siblings, and excelled in academics and athletics. Voted “most congenial” and “most likely to succeed” by peers, he earned a Bachelor of Chemical Engineering degree from Villanova University, top in his class. His volunteer work at a hospital inspired him to enter medicine. He graduated from Temple University Medical School in Philadelphia and completed a physical medicine and rehabilitation (PM&R) residency at Temple University Hospital as Chief Resident followed by fellowships with Southeastern Orthopedic Associates and Georgia Spine and Sports Physicians.

Today, he is quadruple board certified and licensed in several states as the founder, CEO and a principal of MASPP. He credits his parents as his role models and his family as his greatest achievement. He enjoys spending time with family and friends, watching sports and movies, and traveling. 



*Join online discussions on pain. Visit our “Life Without Pain Is Possible” blog.*

<http://lifewithoutpainispossible.blogspot.com/>

### PAIN LECTURE SERIES

Fridays • 7:30-8:30 a.m.  
Union Hospital, Elkton, MD  
*Open to the public; Free*

January 9  
*Management of Chronic Headaches and Neck Pain*

January 16  
*Electrodiagnostic Evaluation in the Pain Patient*

January 23  
*Epidemiology, Economic Impact and Sociology of Pain*

January 30  
*Meditation and Spirituality for the Pain Patient*

February 13  
*Management of Pain in Children and the Elderly and Gender Issues in Pain Mgmt*

February 20  
*Principles of Neural Stimulation and Trigger Point Injections*

February 27  
*Mgmt of Chronic Facial Pain*

## Patient Success: Free of Pain that Crippled Her Life

*Continued from page 1 -- written by Jeff S. Berger, D.O.*

During her admission, she was evaluated by a pain management doctor who recommended a new technology known as peripheral nerve stimulation for her pain.

The technique involves implantation of cylindrical electrode leads just under the skin to electrically stimulate the region of the affected nerves. Stimulation of these nerves replaces the sensation of pain with a more pleasant tingling or buzzing sensation. The electrodes are connected to a small battery powered pulse generator implanted nearby.

Moments after implantation, Shannon was free of the painful, burning sensation that had crippled her life for the past eight months. Within a day, she was off of all of her pain medications and back at the hair salon. Today, she remains pain free and has returned to the active lifestyle she is accustomed to. 



*Health Tip: A mattress can impact neck pain; choose one fairly firm with good back support.*