

FPN News

the FOUNDATION for
PERIPHERAL NEUROPATHY®

DEDICATED to REVERSING the IRREVERSIBLE

FALL/WINTER 2014

A MESSAGE FROM THE EXECUTIVE DIRECTOR



In this issue of FPN News, we have dedicated many of the articles on the importance of patient engagement. A patient's greater engagement in healthcare contributes to improved health outcomes. The old models of care, where physicians tell patients what to do and try to motivate them to change, do not work. Because patients' day-to-day decisions have a tremendous impact on their health, they must be active, informed participants in the health care process. Dealing with chronic illness such as peripheral neuropathy, requires two things. First, a team with you at the center. Second, active, involved participants—especially an active, involved patient.

Studies have shown when patients are encouraged to be more involved, and when their physicians are less prescriptive, patients have better outcomes. This approach can be more efficient because the health care team is addressing the patient's agenda first—and the patient's agenda is, after all, the real reason for the visit.

FPN is here to help empower you, the patient, with education; from our website to our newsletters, we will guide you to becoming an active and engaged patient.

We also want to help others by *Sharing Your PN Experience*. In past newsletters, we have shared a variety of inspiring patient stories. We hope to continue with these stories, but, we need your help. We are seeking individuals willing to share their personal experiences with PN, including how you learned about your PN, what treatments you have tried, and how you have adjusted, physically and emotionally to live the best life you can while coping with PN. Your story like Steve's in "MY PN" will be featured on our website and publications.

If interested, please email us at info@tffpn.org and indicate how long you have had PN, the type of PN you have (if known) and contact information, including a phone number. A representative from the Foundation will contact you. Your story can remain anonymous.

As this year comes to close, we want to wish you and your family a healthy and happy holiday season. We hope you will choose to make your year-end charitable donation, to the Foundation for Peripheral Neuropathy.

Warmest Wishes,

Pam Shlemon

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PAIN MANAGEMENT PROGRAMS Interdisciplinary Management of Chronic Pain

For many people, living with pain is a way of life. To neuropathy patients, living a full and active life may seem impracticable. But, do you know it is actually possible to increase your level of functioning and quality of life while reducing your sense of suffering? The key, like anything in life, is to have the right skills, direction and support.

We understand that it's difficult to move forward once painful peripheral neuropathy has entered your life. Chronic neuropathic pain requires changing how you think about your disorder, and opening your mind to new approaches to wellness. Most importantly, it requires you to move beyond the compliant role of patient, waiting for someone else to find a solution, and into the more active role of a person who is coping with his or her own pain.

How does one go about getting the right skills? First, you need to understand your own health. So, prepare yourself before your doctor's visits; do your homework; write questions down; ask your doctor to speak slowly; and ask him/her to explain medical jargon in plain language. If you do not understand, keep asking until you do. Make sure you obtain a copy of all of your medical records. Bring a relative or friend to

(CONTINUED ON PAGE 3)



MY PN

My name is Steve, I am 63 years old and I have been living with idiopathic neuropathy for 2 years. My symptoms are moderate with burning feet, tingling in my hands and feet and numbness. Shortly after retiring, I noticed that my left foot would tingle when I walked. I thought little of it, assuming the tingling was due to tight shoes, some cold weather, or lots of walking. But then the tingling spread to my right foot, then my hands. Naturally, I searched the web for "tingling hands and feet" and up popped peripheral neuropathy. This disorder struck an immediate response because my mother suffered from PN and used a walker and leg braces the last 10 years of her life. I immediately panicked assuming I inherited this disorder and that I was shortly destined for a more constrictive life. I was naturally angry—only 3 months into my long planned retirement, I was faced with a difficult health issue. I was scared, angry, and confused.

I made the rounds of doctors and went through tests to find the cause, including a painful nerve test. The results showed I probably had idiopathic small fiber PN, or damage to the small nerves in my hands and feet but with no identifiable cause (or idiopathic neuropathy). I also learned that my PN was probably different than the motor neuropathy my mother suffered from and not inherited.

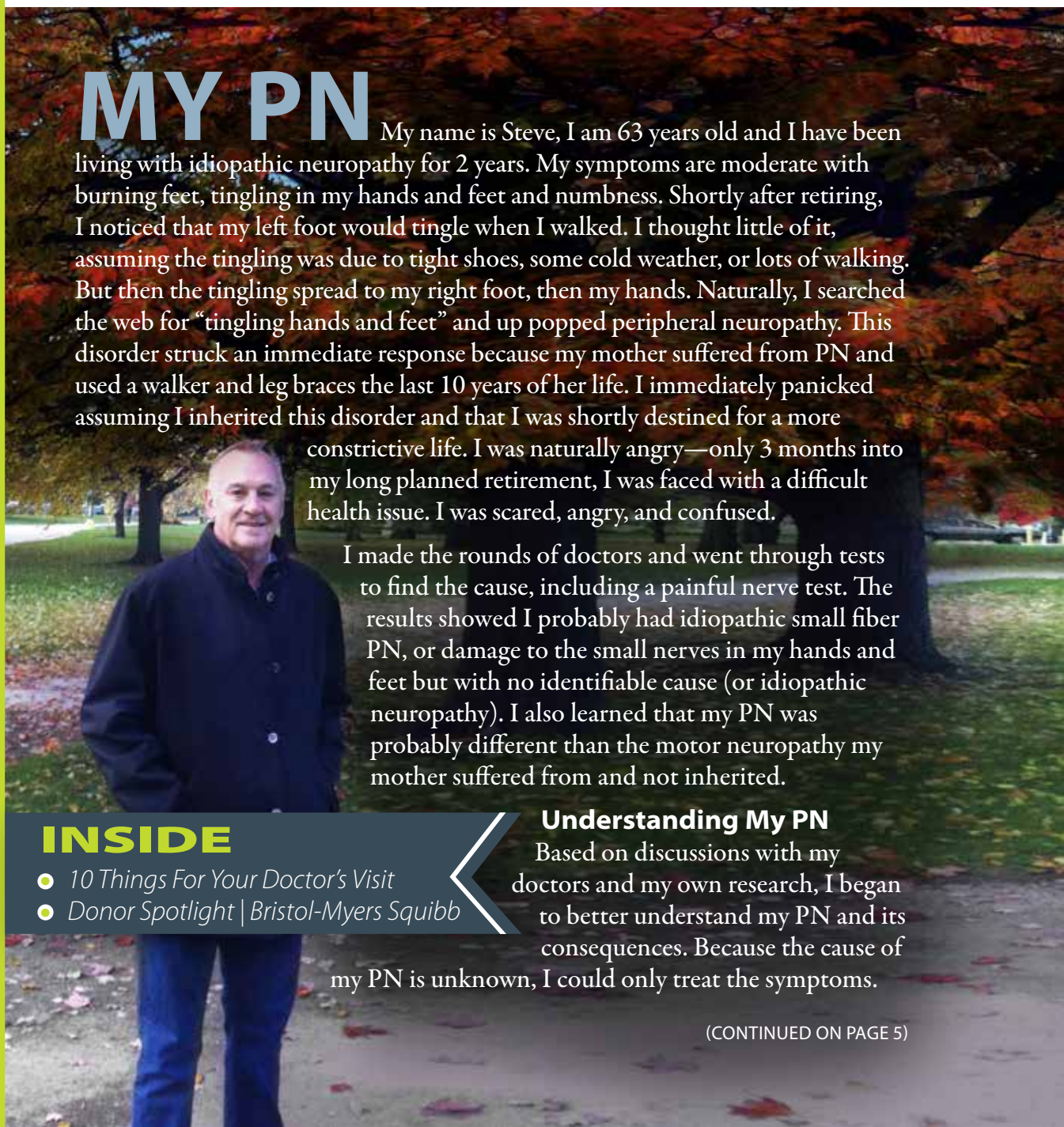
INSIDE

- 10 Things For Your Doctor's Visit
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Understanding My PN

Based on discussions with my doctors and my own research, I began to better understand my PN and its consequences. Because the cause of my PN is unknown, I could only treat the symptoms.

(CONTINUED ON PAGE 5)



STRATEGIES FOR CANCER TREATMENT RELATED PERIPHERAL NEUROPATHIES

Chemotherapy-induced peripheral neuropathy (CIPN) is characterized by numbness, tingling, and pain in a stocking glove distribution. Studies of CIPN have demonstrated that numbness and tingling tend to be more common than pain. Symptoms often begin while patients are receiving chemotherapy and can persist for years. CIPN can have detrimental effects on patients' quality of life and functional ability, as well as lead to increased healthcare expenditures.

CIPN neuropathy can vary from a mild problem that resolves with the end of treatment to a chronic severe life-altering syndrome. The

pathophysiology behind CIPN is not fully understood and, most likely, differs between agents. Platinum chemotherapeutic agents seem to interact with DNA and lead to apoptosis of dorsal root ganglion (DRG) neurons. Taxanes interfere with microtubules and therefore can disrupt axonal transport. Recently, there is evidence that the acute neuropathy syndromes associated with chemo agents paclitaxel and oxaliplatin may predict the development of chronic neuropathy.

Multiple agents have been studied for the treatment of CIPN. Many of the investigated agents are commonly used in the treatment of non-CIPN neuropathic pain. However, few agents have proven efficacy in the treatment of CIPN. The evidence for each agent will be reviewed below with emphasis on larger clinical trials.

ANTIDEPRESSANTS

Duloxetine a serotonin-norepinephrine reuptake inhibitor (SNRI) antidepressant that is the first line of intervention for CIPN

Venlafaxine A SNRI that has been effective for treating CIPN and can be considered an alternative to Duloxetine; however, in certain dosages, 150-220 mg/day, studies have found Venlafaxine to have a negative effect on those with diabetic and other forms of neuropathy

Nortriptyline/Amitriptyline tricyclic antidepressants (TCA) determined to be effective in treating non-CIPN neuropathic pain; in limited studies, these agents did not improve sensory neuropathic symptoms for CIPN. Due to the limited nature of previous studies, recent ASCO guidelines state it is reasonable to try them for CIPN. Nortriptyline is recommended over Amitriptyline as the later has greater toxicity issues

GABAPENTINOIDS

Gabapentin an antiepileptic agent, which has been found effective in the treatment of a variety of neuropathic pain symptoms; considered the first line of treatment for neuropathic pain

Pregabalin another antiepileptic medication, which has proven effective in treating non-CIPN pain. More multiple phase studies need to be conducted before ascertaining the effectiveness of pregabalin in the treatment of CIPN

Opioids commonly used for the treatment of chronic pain, this class of agents including morphine, hydromorphone, fentanyl, and oxycodone, has limited study data to determine their efficacy in the treatment of CIPN symptoms

OTHER AGENTS

Topical Amitriptyline, Ketamine, +/-Baclofen preliminary data suggests these topical agents may be beneficial in the treatment of neuropathic pain; currently, the results of various studies present contradictory findings. In one study, participants experienced the greatest improvements in tingling, cramping, and shooting/burning pain in the hands. At this time, there are no known toxicities or systemic toxicity for these topical medications

Alpha-Lipoic Acid a beneficial treatment for diabetic neuropathy (DPN); a number of small studies investigating the effectiveness of ALA have found it did not prevent toxicity leading to CIPN

Acetyl-L-Carnitine effective in treating DPN; has not shown to be beneficial for CIPN or the prevention of CIPN. In fact, one study found ALC increased CIPN in taxane-induced neuropathy by 24 weeks

EMERGING THERAPIES PHARMACOLOGIC

Topical menthol a cooling agent that can be used as a topical analgesic; preliminary studies found a possible benefit for the treatment of CIPN

Capsaicin a high-concentration capsaicin patch (8%) has proven a potential benefit in the treatment of localized neuropathic pain

NONPHARMACOLOGIC

Scrambler therapy a device that provides noninvasive cutaneous electro-stimulation with a goal of substituting "non-pain" information for "pain" information; the few, small trials that have been conducted indicated the possible effectiveness of the scrambler for the treatment of CIPN

NONPHARMACOLOGIC INTERVENTIONS

Exercise Some evidence has indicated strengthening exercise programs are effective in increasing the strength of tested muscles; currently, no trials have been conducted to investigate the efficacy of exercise in the treatment of CIPN. However, it has been demonstrated to be effective in treating diabetic neuropathy and can be a useful part of pain management strategies

Acupuncture In small studies, acupuncture has produced positive preliminary data; more studies need to be conducted to determine if it is beneficial for CIPN, but acupuncture has shown to be safe and possibly effective in the treatment of CIPN

Source: *Current Treatment Options Oncology*

news Briefs

New mechanism in pain management discovered

It's in the brain where we experience the unpleasant sensations within the neurons of the brain. For years, researchers have been exploring the significance of calcium channels and the peripheral nervous system on the development of chronic pain conditions. At the Canadian Institutes of Health Research (CIHR), Neuroscientist Gerald Zamponi, PhD, and his team have discovered a mechanism that can reverse chronic pain. Their research has revealed pain signals in nerve cells can be turned off by disrupting the communications of a specific enzyme using calcium channels, a group of important proteins that control nerve impulses.

According to Dr. Zamponi, "Chronic pain can be a debilitating condition that affects many people and is often poorly controlled by currently available treatments. Therefore, new treatment avenues are needed. Our discovery opens the door towards new treatments, and based on the data that we have so far, it is a viable strategy." Zamponi and his team are analyzing over 100,000 molecules, with the anticipation that one could stop the enzyme's communications. Possibly, if the right molecule can be identified, they could develop a new drug. At this time, two viable molecules have been found to be painkillers in animals.

Source: Hotchkiss Brain Institute

CLINICAL TRIALS

The Nutritional Benefits of Metanx in Patients with Diabetic Peripheral Neuropathy

(MEDIAN) [NCT01990092]

This study will evaluate the short-term and long-term safety and nutritional benefits of Metanx® for those with mild to moderate diabetic PN.

Sponsor Pamlab, Inc.

Contact Page Young

Locations Various in the following states – AL, AZ, AK, CA, CT, FL, GA, LA, OH, PA, TX, VA

985-867-5788
pyoung@pamlab.com

Peripheral Neuropathy Research Registry

The PNRR is actively enrolling PN patients and collecting data that will be used by researchers to: –understand the disease, –improve diagnosis of PN, –develop new effective treatments, –disseminate knowledge to researchers and clinicians, and –find a cure.

The PNRR is focused on chemotherapy-induced, diabetic, idiopathic, and HIV/AIDS neuropathies. To enroll, please contact one of these sites:

Beth Israel, Boston, MA
617-632-0899

Johns Hopkins, Baltimore, MD
443-287-0627

Icahn School of Medicine at Mount Sinai, New York, NY
212-241-0784

Northwestern University, Chicago, IL 312-695-7950

your visits. Remember to **ASK QUESTIONS!** The goal is to educate yourself enough so that you only need to utilize your doctor for guidance and directions. If you are willing to take an active role in your own healthcare, you will move from a patient to an active person.

Direction should come from a team of healthcare providers. However, obtaining a direction from one physician will not provide you with all of the guidance and direction required to help you along your path of wellness.

The expectation of finding the one medication or treatment that will take away the pain caused by your neuropathy is usually unlikely. While there are many medications and treatments that do reduce some pain, a one-step approach isn't the most effective. Try working with your health care team to find the combination of strategies that will reduce your suffering and increase your level of functioning.

The American Chronic Pain Association uses the analogy of a car with four flat tires. You can't put air in just one tire and expect it to move forward when only one tire is functioning. Consider what else could fill the other three "tires" to keep you moving on the path to wellness.

The necessary combination of therapies and interventions will be different for each person, so it's important that you take an active role in the process.

Treatment of patients with pain requires attention to psychosocial and behavioral factors, as well as understanding the extent of an individual's underlying physical pathology. An interdisciplinary approach addresses the many facets of pain and can meet the many demands of peripheral neuropathy.

An interdisciplinary team of health care providers working directly with the person with

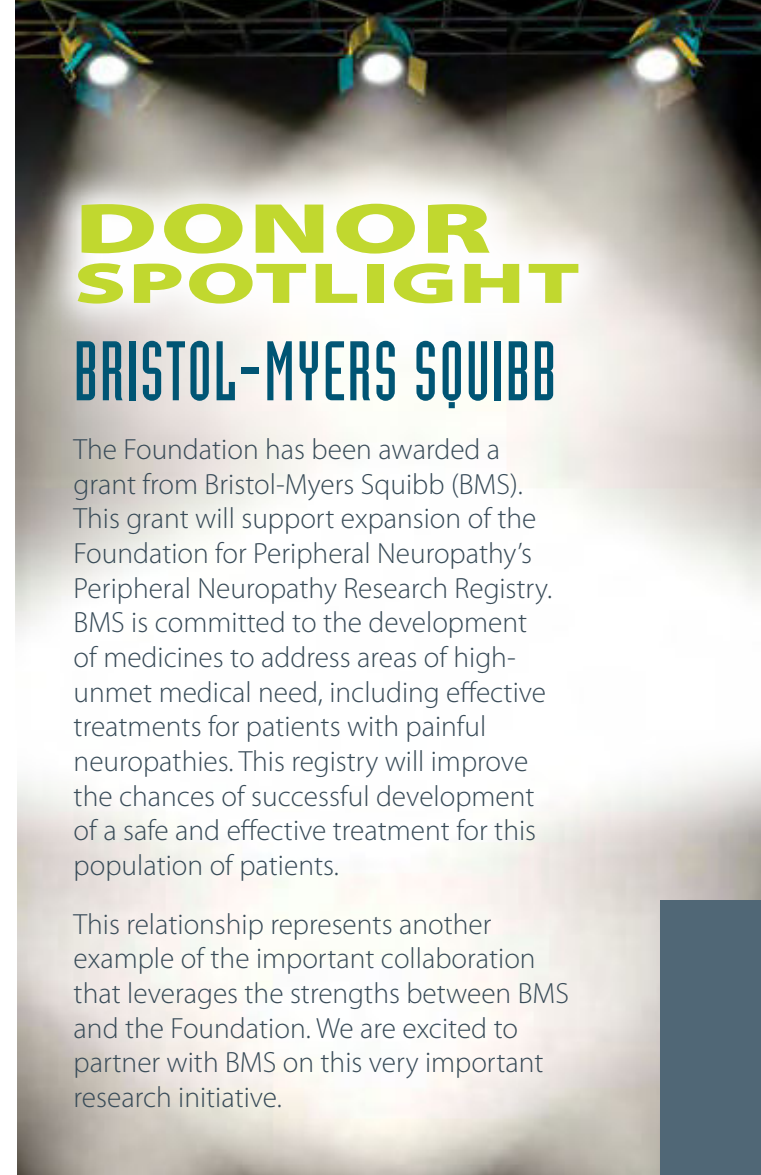
pain can employ a variety of measurements, interventions, and strategies for self-management. The team can design a complete program from assessment, treatment, communication and education to follow-up. The treatment is never focused on just the pain, but takes a holistic approach. Remember, who you are and how you feel is as much a part of shaping your treatment as is your physical self.

The interdisciplinary teams are made up of:



Each discipline involved in the interdisciplinary team has a valuable base of knowledge and a set of discrete skills that complement each other. Although roles may overlap, team members are collaborators and partners, not substitutes for each other. Interdisciplinary teams encourage complementary roles and responsibilities, conjoint problem solving, and shared accountability that when blended together make for treatment option(s) that allows the patient to make progress.

Biofeedback, physical therapy, counseling, support groups, nutritional counseling and a host of other approaches are a few other



DONOR SPOTLIGHT

BRISTOL-MYERS SQUIBB

The Foundation has been awarded a grant from Bristol-Myers Squibb (BMS). This grant will support expansion of the Foundation for Peripheral Neuropathy's Peripheral Neuropathy Research Registry. BMS is committed to the development of medicines to address areas of high-unmet medical need, including effective treatments for patients with painful neuropathies. This registry will improve the chances of successful development of a safe and effective treatment for this population of patients.

This relationship represents another example of the important collaboration that leverages the strengths between BMS and the Foundation. We are excited to partner with BMS on this very important research initiative.

ways to "fill your tires." These approaches include ways to strengthen and relax the body, to use your mind and feelings more productively, and to connect with others to find support. Maybe these approaches could fill your tires.

Just as you maintain your tires to move ahead, you need to maintain your wellness. Pain management is similar: it's the combination of strategies that can keep us moving forward. It's a team approach where you, as the person with the pain, take an active role in your health, and is the most effective way to live fully in spite of your pain.

—10 THINGS—

10 THINGS TO ALWAYS BRING TO YOUR DOCTOR'S VISIT

Preparing ahead of time can help you and your doctor make the most out of all-too-brief appointments.

MEDICAL CARD Unfortunately, nationally accessible medical records do not exist, yet. Your card should include medical problems, surgeries, doctors' name(s), insurance information, allergies, and current medications.

CHANGES to your medical record: For example, recent test results so they can be discussed during your appointment.

MEDICATIONS Yes, the actual containers! All of them! Put them all in a bag to bring with you. If you've stopped taking a medication, tell your doctor. Being honest with your doctor is the only way to make sure you are taking the best medication for your diagnosis.

LIST OF ALTERNATIVE THERAPIES Most doctors are not experts in herbal therapies, but it's useful for them to know what you're taking in case they may interact with your other medications. Keep a list of fish oil, vitamins, and supplements that you're using, and a record of any visits to chiropractors, naturopaths, or other practitioners.

JOURNAL OF YOUR SYMPTOMS Keep daily track of your story. Note what each symptom is like throughout the day and weeks. Vivid details of your symptom experience will help your doctor determine a course of action or change in your treatment plan.

LIST OF YOUR QUESTIONS Brainstorm before your appointment, and start with the most urgent; don't forget about your emotional health—it influences your physical health. Don't leave your doctor's office without asking questions and getting them answered!

NOTEBOOK AND PEN Your doctor may not always have writing equipment readily accessible. Write down things that don't make sense, ask for clarification, and ask your doctor to spell words you don't recognize. At the end of the visit, ask for a verbal summary. Make sure you write down and understand your plan or ask your healthcare provider if you can use your recording device on your smartphone to record their summary.

FAMILY MEMBER OR FRIEND s/he can help remind you of your questions and concerns, give you support, and is another measure to help ensure your doctor answers all the questions you have.

BEFORE LEAVING YOUR APPOINTMENT Ask how to reach the doctor if you have questions or concerns—by email? By phone? What hours are best? How soon can you expect a response? **Don't leave if you're uncertain about your diagnosis or treatment plan.**

Reference: Dr. Leana Wen

Using the Arts as an Integrative Treatment for Pain

PART 1 [OF A TWO-PART SERIES]

In this first-of-a-series, we will highlight the benefits of *Music Therapy as an Integrative Treatment for Pain*.

There are many ways to classify pain. The most common way is

to relate pain to its source or to associate it with a diagnosis. Another

way to categorize pain according to its intensity and/or duration. Typically, acute pain can be mild or severe and may last a moment, weeks, or months. It is thought to be shorter-lived (less than six months) than chronic pain. Chronic pain, in contrast, may be considered a disease state. It is pain that outlasts the normal time of healing, if associated with a disease or injury. The therapy of chronic pain must rely on a multidisciplinary approach and should involve more than one therapeutic modality.

Music therapy is a common and growing treatment remedy for people in pain. For acute episodes during a pain crisis and for lingering pain resulting from a chronic condition, music therapy is becoming a well-known analgesic. It is an effective therapy as an in-the-moment treatment for an increasingly pain-stricken population.

Therapists use music to promote healing and enhance quality of life for their patients. It may be used to encourage emotional expression, promote social interaction, relieve symptoms, and for other purposes.

Music has been used in medicine for thousands of years. Ancient Greek philosophers believed that music could heal both the body and the soul. Native Americans have used singing and chanting as part of their healing rituals for eras. The more formal approach to music therapy began in World War II, when U.S. Veterans Administration hospitals began to use music to help treat soldiers suffering from shell shock.

Scientific studies have shown the value of music therapy on the body, mind, and spirit of children and adults. A number of clinical trials have shown the benefit of music therapy for short-term pain, including pain from cancer. Some studies have suggested that music may

help decrease the overall intensity of the patient's experience of pain when used with pain-relieving drugs. Music therapy can also result in a decreased need for pain medicine in some patients, although studies on this topic have shown mixed results.

Other clinical trials have revealed a reduction in heart rate, blood pressure, breathing rate, insomnia, depression, and anxiety with music therapy. No one knows all the ways music can benefit the body, but studies have shown that music can affect brain waves, brain circulation, and stress hormones. These effects are usually seen during and shortly after the therapy.

Music therapy is an established health profession that uses music and the therapeutic relationship to address physical, psychological, cognitive and/or social functioning for patients of all ages and disabilities. This treatment is a powerful and physically noninvasive medium and unique outcomes are possible when interventions are directed to reduce pain, anxiety, and depression. These outcomes appear to be mediated through the individual's emotional, cognitive, and interpersonal responsiveness to the music and/or the supportive music therapy relationship. Music therapists offer services in hospitals, clinics, physical rehabilitation and outpatient programs, senior centers, among others.

What Do Music Therapists Do?

Music therapy utilized in the treatment and management of pain conforms with the expectations and requirements inherent in the medical model of treatment. Music therapy programs are based on individual assessment and collection of extensive data for the development of complex patient histories and client-centered treatment plans. Patient objectives are specific and relevant to medical diagnosis, course of treatment, and discharge timeline.

Once goals and objectives are established, music therapists use music activities, both instrumental and vocal, designed to facilitate changes that are non-musical in nature. Through a planned and systematic use of music and music strategies, the music therapist provides opportunities for:

- **Anxiety and stress reduction**
- **Positive changes in mood and emotional states**
- **Nonpharmacological management of pain and discomfort**
- **Active and positive patient participation in treatment**

Functioning as members of an interdisciplinary team, music therapists also evaluate the patients during the course of treatment, implement changes that are indicated by the patient's response, and document benefits in medical, not musical, terms.

What can you try at home? LISTENING TO MUSIC

BREATHING WITH FAMILIAR MUSIC If pain is not extreme, breathing deeply to slow, flowing melodies may be effective. When pain is severe, however, music with a strong beat is advisable to guide a regular and predictable tempo for breathing. Inhaling deeply and exhaling short puffs of air accompanied by fast, rhythmic music is another helpful focusing technique.

IMAGERY AND MEMORIES Imagining beautiful images or meaningful memories evoked by music, or identifying music that brings up beautiful places in the imagination, may transport a person far away from the source of pain and elicit a sense of peace. Music that is associated with wonderful times, people, and places can evoke the same pleasant sensations that were originally experienced. With closed eyes, the listener pays particular attention to changes in the senses that come about with that memory.

ACTIVELY CREATING MUSIC OR IMPROVISING ON INSTRUMENTS Playing instruments offers a physical release that can be cathartic. Musical improvisation offers an expressive outlet for inner experience that often communicates better than words. The challenge of creating beautiful music hones concentration onto something positive outside of pain.

MOVING TO MUSIC Finding ways to move and dance to music exercises the whole body, while also working out tension. When pain exists in on part of the body, it is likely that other areas of the body will be tight, and surrounding muscles will contract. Moving and dancing allows a freedom that competes with the rigidity of pain.

SINGING Singing is the body's natural instrument. Singing out a song with a full complement of dynamics conveys feelings while requiring attention to the notes, lyrics and interpretation, turning one's focus and attention away from pain.

Music therapy offers a plethora of techniques for changing the perception of pain. Music therapy may provide coping strategies for both acute and chronic pain, and in randomized controlled trials has been found to be effective.

Music therapy is a safe, benign and potentially effective integrative treatment that is indicated for many different kinds of pain and painful circumstances.

How Can You Find a Music Therapist or Get More Information?

American Music Therapy Association

8455 Colesville Road, Suite 1000

Silver Spring, MD 20910

Phone: (301) 589-3300

Fax: (301) 589-5175

Web: www.musictherapy.org

Email: info@musictherapy.org





I will probably never know what caused my PN.

I was relieved to learn that further nerve damage would probably be slow growing, that I could lead an active life, and the odds of severely impaired mobility were low.

However, I also learned that nerves do not repair themselves from damage. Therefore, my nerve damage is probably permanent.

I realized I had to find strategies and activities to help me live indefinitely with some level of chronic pain. I accepted that there was not going to be any magic medicine, doctor or organization that could solve my PN or give me all the answers. I had to take responsibility for learning how to live with PN.

Living with My PN

Over the past several years, mostly by trial and error, I have learned some things that work best for me. My symptoms are alleviated, not eliminated.

TREAT THE WHOLE BODY PN is more than just taking a pill—it requires lots of different interventions. I use diet, exercise, medication, foot treatments and vitamins to alleviate my symptoms.

FIND PATTERNS OF SYMPTOMS

I kept a journal, noting the severity of my PN at different times of the day and under

different circumstances. This helped me to adjust my day accordingly.

TRY VARIOUS MEDICATIONS AND DOSAGES

With my doctors, I experimented with medications to find the right medications and dosages with the fewest side effects. I also take Metanx, a vitamin combination.

COLD LASER TREATMENTS Based on my doctor's recommendation, I tried these treatments on my feet, which seemed to help quite a bit. Although research* is preliminary, initial results are encouraging.

TREAT THE FEET I use Urea lotion for dry, cracked skin and occasionally a topical lotion to reduce pain. I swear by Ecco Bion tennis shoes. I also only wear wool socks to help with moisture.

EXERCISE! My experience has been that when my circulation is good, my PN is better.

ACCEPT BAD DAYS I can go for weeks feeling pretty good, and then all of a sudden have a bad day. On these days, I take it easy and try to relax without too much stress.

AVOID THE COLD Bitter cold weather has a very negative effect on my hands and feet—probably due to reduced circulation. Living in the Midwest, cold weather has been my biggest challenge.

AVOID SCARE STORIES AND CHARLATANS

There are lots of really scary PN stories online and too many “specialists” offering magic cures. Be careful and cautious: seek expert advice.

IT'S NOT ONLY YOU Your family, spouse, and loved ones may be affected by your PN, however indirectly. Your need to adjust your life to live with PN can affect their lives as well.

My PN is Personal

PN is a personal disorder—it seems to affect us individually with highly variable symptoms and severity. My advice is to use good old trial and error to find what works best for you—there is no single solution. My symptoms have not disappeared, but I am keeping them under control the best I can. I don't know which of the things I do make a difference—I do know that trying to control my pain takes daily and incessant effort.

And support the Foundation for Peripheral Neuropathy! It is the best—if not only—advocacy and support organization for PN sufferers.

**There is some evidence that cold laser treatments can help heal damaged nerves or allow for new healthy cells. Cold laser treatments use energy from light to treat damaged nerve cells. These treatments stimulate the nerves through increased circulation and may result in healing of damaged tissue. Whereas the research on cold laser treatments is preliminary, there is initial evidence that treatments can reduce pain, restore sensation, improve balance, and decrease risk of ulceration.*

complementary THERAPIES

HEAL YOUR NERVES WITH NUTRIENTS

Many vitamins and minerals have been proven by scientific research to be strong weapons against nerve damage, and they are essential for nerve repair and healing. Here are a number of nutrients to help you battle your way to good health:

ALPHA-LIPOIC ACID converts glucose to energy; has a significant role in lowering blood sugar levels and increasing the efficiency of insulin.

Good Sources Spinach, broccoli, beef, brewer's yeast, and some organ meats, e.g. kidney and heart

VITAMIN C plays a crucial role in protecting nerve cells from oxidative damage; works as a natural anti-inflammatory; helps protect and restore the myelin sheath of nerves; the body does not make vitamin C on its own and does not store it either

Good Sources Cantaloupe, orange, grapefruit, Kiwi, mango, papaya, pineapple, strawberries, raspberries, blueberries, cranberries, watermelon, broccoli, Brussels sprouts, cauliflower, green and red peppers, spinach, cabbage, turnip greens, sweet and white potatoes, tomatoes, winter squash

VITAMIN E protects the membranes of nerve cells and fights free radicals in your cells

Good Sources Wheat germ, barley, oats, rye, rice, bran and saw palmetto; palm oil, safflower oil, peanut oil, soybean oil, cocoa butter, rice bran, wheat germ

N-ACETYLCYSTEINE (NAC) an amino acid; the lymphocytes and liver use NAC to detoxify chemicals and other toxins that enter the body; has shown to be highly effective in detoxifying environmental pollutants, heavy metals, tobacco smoke, and

alcohol; it has also been shown to reduce nausea in chemo patients.

Good Sources Not found in food; available forms are an aerosol spray (prescription), liquid solution (prescription), topical solution, and tablets or capsules

GAMMA LINOLEIC ACID (GLA) an omega 6 fatty acid; important for many physiological functions; the body uses GLA to build healthy nerve structure and maintain healthy nerve function

Good Sources Borage oil, evening primrose oil, black currant

ACETYL-L-CARNITINE (ALC) proven to have neuroprotective properties; expedites nerve regeneration; improves nerve conduction velocity; prevents and slows down the onset and development of cardiac neuropathy in diabetic patients

Good Sources Flaxseed oil, sunflower oil

OMEGA 3s essential fatty acids; can help regenerate nerves and nerve tissue; an anti-inflammatory; protects nerves from injury

Good Sources Salmon, sardines, anchovies, tuna, halibut, cold-pressed fish oil



VITAMIN Bs—

the body does not store vitamin B; they help the body convert carbohydrates into glucose; the most helpful are B1, B3, B5, B6, and B12

B1 — involved in the production of DNA

Good Sources Wheat germ, brown rice, rice bran, oatmeal, millet, legumes, raw nuts, mushrooms, Brussels sprouts, asparagus, peas, cabbage, broccoli, avocados, raisins, green leafy vegetables

B3 helps your body repair and regenerate skin and nerve cells

Good Sources Beets, brewer's yeast, organ meats, salmon, swordfish, tuna, sunflower seeds

B5 known as the “anti-stress vitamin” it supports adrenal function and steroid hormone production; helps counteract stress and enhance metabolism

Good Sources Organ meats, brewer's yeast, egg yolks, fish, chicken, whole grains, cheese, dried beans

B6 necessary for more than 100 enzymatic reactions in the body; plays a significant role in the production of neurotransmitters

Good Sources Brewer's yeast, fish, poultry, meat, beans, eggs, sunflower seeds, spinach, carrots, sweet potatoes, peas, bananas

****if you are taking Levodopa, B6 might reduce its effectiveness****

B12 helps the body make red blood cells; assists in the production of DNA and RNA. Best Source: animal products

Good Sources Kombucha, whole grains, sweet potatoes, bananas, lentils, beans, molasses

LETTERS FROM FANS

"I feel it is hard to cope emotionally at times with this new situation and daily challenges and I have hardly had any advice on how to tackle the recovery period. Thank you for providing information on your website to help those of us suffering and can't find answers from our own medical professionals...so frustrating. Many thanks." *Rita*

"I just want to take a minute to THANK the Foundation. An organization who saw and ACTED on our need for deeper research into this baffling disease that's been IGNORED long enough....So, THANK you again for awakening the medical research folks to find some ANSWERS for us." *Anna L*

"I am a 32 year old woman and three months ago I was diagnosed with peripheral small fiber neuropathy induced by herpes simplex. I have looked around online to find an association in London or in the UK, but I can't find any."

"Many thanks for the brilliant website."



Like us on Facebook.com/
TheFoundationForPeripheralNeuropathy
and become a fan.

WWW.FOUNDATIONFORPN.ORG



the FOUNDATION for
PERIPHERAL NEUROPATHY®

485 Half Day Rd., Suite 350
Buffalo Grove, IL 60089

*Our mission is to dramatically improve the lives of
people living with Peripheral Neuropathy.*

The Foundation for Peripheral Neuropathy will be the catalyst for advancing innovative therapeutic developments and accelerating a cure for painful neuropathies by funding collaborative efforts of leading scientists and physicians. We will strive to raise awareness of peripheral neuropathy through outreach programs to patients, their families and healthcare professionals.

MAKE A
difference TODAY

Every contribution is significant. You can support The Foundation for Peripheral Neuropathy through:

- **Donations to the Annual Fund**
Annual Fund gifts are used to underwrite immediate needs and to fulfill the mission and vision of the foundation.
- **Memorial/Tribute/Honor Gifts**
Provide a special way to celebrate the memory of a loved one, a birthday, anniversary, wedding, holiday or an occasion of significance for someone you love.

- **Major Gift Contributions**
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