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## PHANTOM PAIN IS NO PHANTOM

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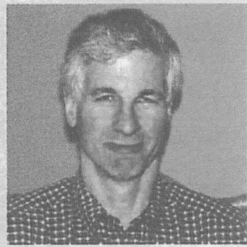


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# PHANTOM PAIN IS NO PHANTOM



► By Jeff Fredrick, MS, CPO

PHANTOM PAIN—WHAT DOES IT IMPLY? TO THE UNINITIATED PATIENT OR FAMILY MEMBER, IT CONNOTES A CONDITION IN WHICH THE PAIN EXPERIENCED IS NOT REAL. IT REVEALS SOMETHING PSYCHOLOGICALLY SINISTER AND THREATENING—A KIND OF MEDICAL DELUSION. IT LIMITS PATIENT MOTIVATION AND FAMILY/FRIEND SUPPORT BY LABELING A PATIENT AS WEAK, PRONE TO IMAGINE OR EXAGGERATE, OR EVEN AS A HYPOCHONDRIAC. AT THE LEAST, THE TERM DIMINISHES THE LEGITIMACY OF SUFFERING—A BAD MODALITY TO CONNECT TO ANY FORM OF MEDICAL INTERVENTION OR PHYSICAL REHABILITATION.

**S**o, just how real is phantom pain, and how viable a concern for the prosthetic practitioner? Is it a primary consideration in the post-op medical management of the new amputee, or a secondary prosthetic rehabilitation issue? Where does phantom pain belong in the clinical team?

## WHAT IS PHANTOM LIMB PAIN?

- ▶ Phantom limb pain refers to pain felt in an absent limb.
- ▶ Phantom limb sensations, which are not painful, also may be felt in an absent limb.
- ▶ Stump pain is pain felt only in the residual of the amputated limb.  
*Amputees often experience all of these at the same time.*
- ▶ Virtually all amputees have phantom sensations. Three quarters of amputees develop phantom pain. Most of these develop pain in the first few days after amputation. However, phantom pain may start after months or even years. Pain can last for many years, but sometimes gets better as time passes.
- ▶ Phantom pain usually comes in bursts. Only a few people have constant pain. Some have several attacks each day, others less than one a week. Phantom pain often is described as shooting, stabbing, or burning. The pain often is felt at the end of the limb, in phantom fingers or toes.
- ▶ The missing limb often feels shorter (telescoping). The phantom limb may feel as if it is in a distorted and painful position. The pain can be intensified by stress, anxiety, and weather changes.

—From the Pain Relief Foundation and The Walton Centre Pain Team, Walton Centre for Neurology & Neurosurgery, both in the United Kingdom. For further information, visit [www.painreliefoundation.org.uk](http://www.painreliefoundation.org.uk) or [www.thewaltoncentre.co.uk](http://www.thewaltoncentre.co.uk)

A case in point: An active, well-muscled patient, age 36, presents with a mid-shaft transfemoral amputation consequent to MVA/motorcycle trauma. His residual limb is badly scarred, freshly grafted, and edematous. The patient is in extreme distress from phantom pain and is demanding pharmaceuticals at a rate and intensity unsettling to his physician and family. Their concerns are legitimate, but their response to the problem lacks relevance in helping the patient overcome his discomfort. Worse still, his credibility is eroding in the very support group that must sustain him. Further evaluation reveals no complaints of any discomfort at all in the residual limb. The freshly scarred epidermis, grotesquely contorted muscle bellies, and blood-red graft sites have never been any concern to him at all!

## UNDERSTANDING THE PROBLEM

We can't propose a solution until we fully understand the problem. Levels or magnitudes of pain are difficult to describe from one human to another; some variables can be wholly subjective. Few would argue that ten minutes absorbed in a favorite recreational activity seem much shorter than as many moments under the invading pliers of a root canal. Obviously, in our patient's particular experience, whatever phantom pain technically is, or is not, it is more significant and real than the discomfort normally associated with postoperative repair of a badly traumatized extremity—something we all can imagine. This patient's lack of complaint where a significant level of pain is reasonable and expected should form our baseline of understanding regarding his ability to self-manage and tolerate discomfort. His obsession with pain in his amputated foot should be a wake-up call

*continued on Page 40*



## Phantom Pain . . . continued from Page 38

regarding the significance and reality of the suffering he is sustaining. Most important to note, it appears to be anything but imagined. It is significant enough to completely occlude or diminish any complaint where evidence or rationale for pain should actually exist by even the most subjective standard.

What is pain anyway? There is a simple answer when you think about it. Pain is a well-developed biological system designed to protect vulnerable, protoplasmic life forms from more molecularly dense objects they encounter in their environment. The system is implicitly designed to demand the complete focus of the organism. No matter how much energy goes into ignoring its unpleasant stimuli, by definition it cannot be ignored—and must not be, if the organism is to survive.

Diabetes, a new scourge in our time, underscores the importance of pain: no pain, no survival! Short-circuit the protection system, and the most efficient guarantee of longevity packs up and leaves town.

Getting a rudimentary grip on the physiology of pain is a starting point, and premise number one is that no pain can be overcome or ignored. The focus here is on “pain,” not “phantom.” Ignoring or failing to validate any pain variant is not a luxury we can afford as prosthetic clinicians. Sadly, prosthetic rehabilitation patients often receive virtually no counseling regarding the nature and extent of phantom pain by any member of the clinical team. More often still, the only treatment modality available is pharmaceutical intervention, which can complicate functional outcomes with dependence.

What can we do about it? For starters, we can face the issue accurately and realistically, with a simple but sound understanding of effects. Clinically, a simple two-tiered approach has proved most effective in our practice. During daytime hours, create distractions and re-focus attention off pain. During nighttime, break the cycle with sleep.

Let's explore the problem with the help of our patient.

“Look at Uncle Ed—he's got phantom pain,” a bedside nephew whispers, rolling his eyes.

“Your amputated foot hurts?” I ask matter-of-factly.

“Yes,” he complains, with an embarrassed look of suffering in his eyes, “Weird, eh?”

“Actually, not weird,” I tell him.

“Not weird?” he responds.

“Not at all,” I continue. “Think of it this way. There is an electric wire that runs from your brain to your big toe—we call it a nerve. If I drive a screwdriver through the toe—right through the nail bed, the skin, muscle tissue, and bone—so hard it penetrates a half inch into the floor, it will send, let's say, a four-volt charge along that wire.”

The nephew is suddenly really listening.

“On the other side of your body, the same kind of wire runs from your brain, but obviously ends at your amputation site. Everything that goes on in your body is either chemical and/or electric, including healing. So let's imagine that while your residual limb is healing, swelling and shrinking, closing and stretching, some of the electricity that promotes the process jumps across two synapses or nerves and sparks a charge on what's left of the great toe wire. Let's say it is a four-volt charge as well. When it hits the pain receptacles in your brain, your brain can't tell any difference between the screwdriver still pinning your toe to the floor, and the toe that isn't there.”

Our patient wrinkles his brow with a sad realization that maybe he isn't crazy after all. “It still hurts,” he finally says, resigned to the reality of his suffering even more since he now realizes it isn't “in his head.”

“But there is something we can do about it,” I offer. “You have been working all these years just dreaming of time off to do what?”

“A million things,” he answers.

“How many of them don't require two legs?”

*continued on Page 42*


## SON CREATES INNOVATIVE PAIN SOLUTION FOR FATHER

In 1969 Frieder Kempe, president of the Farabloc Development Corporation, Coquitlam, British Columbia, Canada, began a quest to find a solution to combat the phantom pain of his father, Rudolf Kempe, a World War II veteran and amputee. The result of Frieder's work is a patented, lightweight cloth designed to shield the wearer from electromagnetic fields (EMF) in the high-frequency range that can cause damage at the cellular level. Farabloc Development Corporation was formed in 1983.

Farabloc consists of a series of ultra-thin steel fibers woven into a nylon fabric, which is custom-made into wraps or garments, such as socks, gloves, jackets, blankets, and limb covers for amputated areas. The garments are worn or placed over the painful area and are intended to block irritating high-frequency radiation, allowing soothing low-frequency waves to pass through.

While not a cure for chronic pain, Kempe says many users

testify to the soothing effect of the low-frequency electromagnetic waves that flow through the Farabloc EMF filter. Clinical studies conducted by Professor G. L. Bach in Germany and the University of British Columbia (UBC) School of Rehabilitation Medicine in Canada indicated pain relief. The UBC study also found a reduction in the level of enzymes known to produce pain and cramping in muscles. According to Kempe, the anti-inflammatory effect of the Farabloc electromagnetic shield is among the additional benefits revealed by the Canadian study.

In a demonstration at the recent Amputee Coalition of America (ACA) conference in Minneapolis, Minnesota, Kempe showed the EMF blocking capability of the fabric by wrapping a wireless telephone in the cloth and then just exposing the screen to show “no signal” penetrating the cloth and reaching the antenna.  QUICK FIND: EDINVS0806

For further information on Farabloc and clinical studies involving the fabric, visit [www.farabloc.com/mstud.html](http://www.farabloc.com/mstud.html)

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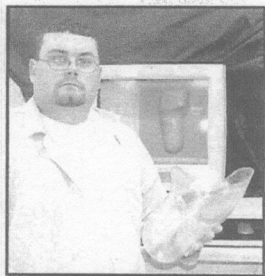
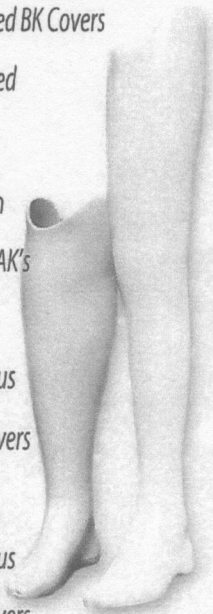
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## Phantom Pain . . . continued from Page 40

"Well, there are some books I have wanted to read, and I suppose I can hunt and fish near the jeep or from my four-wheeler...."

My response is obvious. I engage the patient in these and any other activities as the initial step in my prosthetic rehabilitation strategy.

It turns out our patient is able to get outside on crutches more than he thought he could. He gets so busy, much of the day passes with less focus on his pain—at least compared with when he reclined on the sofa all day driving his wife nuts with his complaints.

### BREAKING THE NIGHTTIME PAIN CYCLE


Nighttime management of pain is always a bit trickier—a different beast altogether. Some people react to pain medication with varying degrees of insomnia. This is just what we don't need to break the cycle. I recently have suggested the substitution of a strong sleeping pill in the place of nighttime pain meds. Breaking the cycle of discomfort is the common wisdom in pain management.

Years ago it was believed the more times you were stung by a bee or wasp, the less it affected you. It is now held that the opposite is true. The more you are stung, the more vulnerable to the venom you may become. It's the same with pain in general. Remember, the system is designed so the conscious organism cannot overcome it. The more pain our patient experiences, the longer and more chronic the duration, the less he may be able to resist it. In other words, the more pain a human organism suffers, the more natural, biological coping mechanisms (serotonin levels, among others) are depleted, not strengthened. This makes sense if survival is the rationale for the design.

Our patient cuts down on daily meds and pops a sleeping pill a few nights and returns. He reports his first good night's sleep since the accident. Nighttime—instead of a slow odyssey of heightened suffering when all support friends and family are sleeping—represents a break in the pain cycle, a reprieve, an escape, a time to recharge, as sleep is intended to be.

Phantom limb pain is anything but phantom. Maybe we should start referring to it as amputation-intensive pain, inorganic pain, or something even more specific? Any kind of pain registered by the brain is chemical/electric, concrete, organic—a systemic form of innate protection wired into the human body to ensure that it survives. When it is in so-called phantom mode, it registers defense impulses to a brain that cannot distinguish the topography or length of the nerve that has delivered the signal. The brain is traumatized, but has no means of protecting the extremity in order to evade or disconnect the assault. If anything, the mere existence of phantom pain should register as a particularly harsh reality for any patient to face.

### WHO MANAGES PATIENT PAIN?

In most urban locations there are physicians and pain management clinics equipped to address phantom pain. However, too often other members of the clinical team do not feel pain management is part of their repertoire of modalities, and phantom pain management is relegated to the prosthetist by default. At least, by virtue of providing a prosthesis, the prosthetist seems like the practitioner most directly connected to the complaint. So, it behooves prosthetic clinicians to recognize how much phantom pain can diminish their efforts to rehabilitate affected patients. It may become their responsibility to access community, clinical team resources toward a meaningful, realistic strategy to help patients cope with post-trauma or post-operative phantom pain. If unavailable, they must develop a competent and effective strategy of their own. Failure to do so may convince the chronic sufferer that amputation is a condition that cannot be overcome, and a return to normal life does not inevitably wait for them on the other side of the prosthetic rehabilitation process.  QUICK FIND: EDPP0806

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