

PAIN

What's the Problem, and How Do You Diagnose It?

Pain in HIV+ people can range from a minor ache or two all the way up the scale to truly excruciating agony. In those with serious (and improperly treated) pain, the result can be a life that is filled with not only ever-present misery, but also exhaustion and depression, the two accompanying symptoms that almost always go hand in hand with pain. A major part of this problem is not just the pain itself, but the fact that too many HIV+ people have found few options for significant help, and few if any medical care providers who seem to truly understand the problem or are willing to try to provide help. “The best kept secret in AIDS is the excruciating pain that so many HIV+ people are living with. Yes, people are living longer with HIV, but they’re living in pain,” says Richard Jermyn, DO, a physiatric physician (a specialist in physical medicine and rehabilitation) who is the founder and director of the University of Medicine and Dentistry of New Jersey's Comprehensive Pain Center Clinic, the only center of its kind in the U.S. dedicated entirely to the treatment of HIV pain. Dr. Jermyn says that HIV-associated pain is frequently severe, and yet most often under treated, or not treated at all.

Understanding why pain is so often improperly treated, and thus a chronic problem for so many HIV+ people, may help those in pain know how to increase their chances of getting help. Several factors have contributed to inadequate pain management. First, there has long been a fundamental lack of understanding of how pain is created in the body and why it needs to be aggressively treated. Second, there have been a lack of governmental mandates, at both the federal and state levels, on how pain should be treated. Third, a fear situation has been created on the part of many physicians who are afraid that writing prescriptions for pain medications may lead to being brought before review boards or having their licenses threatened. Fourth, some physicians lack awareness about the broad range of options for pain relief. This is not surprising since less than one percent of physicians have been trained as pain specialists, and medical schools and textbooks give the subject of pain very little attention. Fifth, in too many cases, the person living with pain may fail to report it, and their medical providers may fail to ask about it. Sixth, prejudice based on race or sex or class may affect the likelihood that proper pain medications, including the opiates that are frequently the most effective pain meds, will be prescribed.

Studies by Richard Payne, M.D., have shown that minorities are up to three times as likely as others to receive inadequate pain relief, in many cases because their reports of pain and requests for treatment of it are interpreted as addictive drug-seeking behavior. In another study, William Breitbart, M.D., found that women with HIV are twice as likely as men to be under treated for pain. Pain specialists say that women are often not aggressive in seeking pain medication, or convey their requests in tearful ways that are dismissed as “hysteria.” Last but definitely not least, there is a groundless fear of addiction (see discussion below) that makes physicians hesitate to order the opiate drugs that are often the most effective pain meds, and makes even those with serious chronic pain reluctant to take them. The combination of all of this has left many HIV+ people in misery.

Changes in some of these may help HIV+ people in need of pain treatment. Reflecting a growing understanding of the nationwide failure to properly treat pain in the U.S., the first national standards requiring pain assessment and control in all hospitals and nursing homes were implemented by the Joint Commission on Accreditation of Healthcare Organizations (a national health care review board) in January 2001. Since then, the Maine legislature has mandated aggressive treatment of pain for its citizens, and other states are considering similar laws. Such bureaucratic changes may finally help adjust attitudes that have long contributed to pain’s being ignored or under treated.

Recent science is leading to a new understanding of how chronic pain is created. Unlike ordinary or short-term pain—which is a desirable function of a healthy nervous system since it signals the person to pay attention to an injury or other problem—chronic pain is a disease of the nervous system that produces abnormal changes in the brain and spinal cord. With functional imaging, scientists are beginning to be able to see brains in action, and observe the nature of pain's pathology. In addition to the changes that have been seen in the central nervous system, researchers know that pain causes the release of hormones like cortisol that can adversely affect both the immune system and kidney function. This helps to explain why studies have shown that people who are properly treated for surgical pain (usually with morphine) have actually healed more quickly after surgery. Animal research has even shown that adequate cancer pain treatment may improve the chances for survival.

The most important finding that has come from the new research on pain is that improper treatment may lead to permanent pain, while proper treatment could make it a short-term problem. To increase the chances that proper pain treatment will be requested and obtained, it is crucial that HIV+ people and their physicians know that any failure to treat pain can turn what might have been temporary discomfort into a life of chronic suffering. Dr. Jermyn explains it this way. “When a nerve is injured, which happens often due to the effects of HIV or drugs, the brain is constantly bombarded with pain signals. After a while, the brain says ‘Enough’ and resets its thermostat so the switch just stays on. From then on, there’s always pain.” It won’t matter if the original cause disappears because the brain will continue to signal “pain, pain,

pain” because that switch has been permanently thrown to the “on” position. Dr. Jermyn explains that if you treat pain aggressively early on, you’ll always have better control of that switch. But, he says, “if you don’t properly treat it or if you wait too long to treat it, you greatly increase the chances of a transition into chronic pain.”

An improved understanding of addiction and the risk (or not) that may be created for it when opiates are used for pain relief is also very important for improving the chances for proper pain treatment. Although many studies have consistently shown that appropriate treatment of pain with opiates virtually never (far less than one percent of the time) leads to addictive behavior, treatment with these drugs has long remained controversial and many physicians refuse to prescribe them in the ways needed. Dr. Jermyn has little patience with that attitude. He says, “An addict is someone who inappropriately takes drugs to get high. Many studies have shown that drugs used for the appropriate treatment of pain do not create addiction. They may create physiological dependence, but that just means that when they no longer need the med, they’ll have to step it down slowly. There is no long-term harm.”

Dr. Jermyn is passionate in his insistence that appropriate use of meds, including opiates, must be offered to all. He believes that the reluctance to prescribe pain meds appropriately, especially in those with any history of recreational drug use, may actually lead to addiction problems. “It’s ironic that physicians are afraid to treat pain in those with addiction history. I say that if you don’t treat them, you’ll send them back to the streets to get their drugs. They know where to find them. So it’s the failure to treat pain that actually leads back to addiction.”

Dr. Jermyn recommends careful monitoring of those with addiction histories who are prescribed opiates. At his Comprehensive Pain Center, people given such prescriptions are instructed that they must do more, not less, on the meds. In other words, with pain relief should come the improved ability to function in the world that will allow a greater range of activities and improved interactions with family and friends. To assess this, Pain Center personnel interview not only the med-takers, but their families and friends. And on each clinic visit, staffers observe clients carefully. “We can tell by how they’re dressed when they come in,” says Jermyn. “At first, when they’re in pain, they’re disheveled. They don’t dress well, and don’t look good. After proper treatment, they come back and they’ve washed their clothes because now they feel up to doing it. They’re dressed well. They look better. Sure, every now and then we get fooled but eventually we find out.” And then because of the initial contract they sign with the clinic, any person discovered to be misusing or selling meds must immediately go into inpatient detox. And those people are extremely rare exceptions.

It is hoped that the new understanding of how pain works and how little risk of addiction there actually is, combined with the new treatment mandates, will encourage previously reluctant physicians to be more willing to treat pain, and more aggressive in the way they treat it. The bottom line for HIV+ people is to know that a “stiff upper lip” is not a good idea. Pain is always harmful to the body, and improper treatment can lead to permanent harm. It should always be treated.

The methods for diagnosing pain are very limited. There are no definitive diagnostic pain tests, and no machines that will tell you if nerve cells are firing off pain signals. Even pain researchers use decidedly low-tech assessments—your reaction to nylon fibers pressed into your skin, how soon you detect heat in a glass plate, or whether you respond differently when pricked in varying locations. For the most part, physicians in daily practice simply rely on a patient’s word. Keeping a pain diary that provides answers to simple questions can help provide a diagnosis of the level of pain and the most appropriate treatment. When pain comes and goes, record details about it every time it occurs. If pain is chronic, then make a point to assess the pain several times each day. Overall, try to provide answers to these questions:

- Where does it hurt?
- When does the pain happen?
- How long does the pain last?
- How intense is the pain? Rate the severity on a scale of one to ten.
- Is the pain there all the time, only occasionally, or something in between?
- Does the pain prevent normal life activities?
- Is there any activity or event that seems to trigger the pain? For each pain occurrence, note what was going on in your life at that time.
- Does the pain affect your sleep or your mood?
- Does anything make the pain better or worse?
- What words might describe the pain? Does it feel like aching, pounding, burning, crushing, stabbing, throbbing, pinching, pulsing, on the surface or deep down, dull or sharp, prickling, pins and needles, shooting, gnawing, darting, tenderness, or what?

Keeping a pain diary that notes all of the above can help physicians understand what’s happening, and help them justify prescription medications for pain relief.

Down the line, we may have better diagnostic approaches. Researchers have only recently begun to use MRI and PET scans to image the cells that pain activates in the brain. The current technology is too primitive to identify where pain is starting in individual cells, but it can show the approximate areas of the brain where pain is being processed. Although

this science is young, the scans have already shown that the same areas of the brain are producing both physical sensations and emotions. That's a finding that comes as no surprise to pain specialists who have long known that chronic pain and depression go hand in hand. In part, that's because of biochemical changes in the brain where the serotonin supply (the body's feel-good chemical) is rapidly used up in pain sufferers, leading to depression. Ultimately, it is hoped that such imaging may be able to identify who is really in pain, and how extensive it is.

The other important aspect of diagnosis related to pain is to aggressively look for all contributing pain causes so that anything treatable can be addressed. Dr. Jermyn believes that far too many people are suffering because the comprehensive workup that might have identified all the causes was never done.

What are the Causes?

Pain has multiple possible causes in HIV disease, and in many people, there may be more than one factor contributing to its development.

□ **Neuropathy is the most common cause of HIV-associated pain.** This nerve damage can be caused by HIV (and the body's responses to it) and by many drugs. Thought to occur in almost half of all people living with HIV, neuropathy can result in numbness, burning, tingling, over-sensitivity, and sometimes severe pain in the hands, feet, arms and legs. The symptoms may range from extremely mild (perhaps just a small amount of numbness or tingling in the toes) to quite severe (agonizing feelings of burning and severe pain that may occur from nothing more than a sheet touching the leg). With more extreme neuropathy, many will experience chronic severe burning pain in the extremities. Some people will experience sharp shooting pains that travel up the legs, a condition that may occur more frequently when the person is at rest. Foot pain can sometimes be so severe as to make walking difficult.

□ **HIV itself is an underlying cause of pain.** It can cause or contribute to not only neuropathy, as discussed above, but also muscle and joint aches and pains, back pain, shoulder pain, arm and wrist pain, leg pain, and so on through the whole body. HIV may damage multiple nerves in a given area (as happens with peripheral neuropathy) or may cause injury to one specific nerve, sometimes as the result of HIV-induced inflammation. This might cause carpal tunnel syndrome (pain in the wrist), or scapular winging, a condition in which one shoulder will appear to be dropped, or will be sticking out from the back, causing shoulder and mid-back pain. In addition, the immune suppression that HIV can cause may ultimately lead to pain when the body becomes vulnerable to opportunistic infections and cancers which themselves are sources of pain.

□ **Pain can result from many different infections and cancers.** Included as possible infectious pain causes are toxoplasmosis, cryptosporidiosis, or infection with herpes zoster, MAC or CMV. Cancers that often cause pain in HIV+ people include Kaposi's sarcoma (KS) and lymphoma. Because some of these are more difficult to diagnose, their possible contribution to pain may be missed for quite some time. For example, lymphoma may sometimes compress the nerves coming down from the neck to the arm, resulting in numbness in the arm and paralyzed shoulder muscles that result in agonizing pain. Too often in such situations, the person may be referred to a physical therapist when what is needed is treatment for the cancer. There are countless such examples but the bottom line is to always aggressively seek diagnosis for any pain in any location.

□ **Drug side effects are another source of pain.** This may result from HAART medications or many other drugs which cause toxicity which affects the nerves which in turn creates pain.

What are the possible treatments?

The first must for effective treatment of pain is identification of all the possible contributing causes, to the greatest extent possible, followed by treatment that can improve or eliminate as many of these as possible. When causes cannot be eliminated and the pain remains, the therapies listed here may greatly help as part of a total approach to controlling and managing pain. Because the largest percentage of HIV-associated pain is neuropathic, we would strongly encourage anyone who has pain thought to be caused by that to read the *Neuropathy* section and consider using the therapies discussed there. Note that certain therapies that may be very useful for neuropathic pain are *not* discussed here.

As you look at this list of therapies, you will see that there are quite a few beyond standard pain medications. Most pain experts believe that combining such therapies as appropriate pain medication, mind/body techniques, relaxation approaches, physical therapy, spiritual counseling, exercise and others discussed here provides the best chance for improving and managing pain. Combining such an integrated approach with appropriate antiretroviral therapies has been shown to work very well for pain relief by Dr. Richard Jermyn and his colleagues at the Comprehensive Pain Center Clinic. Dr. Jermyn says, "I can honestly say that everyone gets some help. The contract that incoming patients sign says that if after four months they are not getting better, we will refer them back to their primary physician. But we never have to do that. Everyone is helped."

Key Therapies

Please refer to the *Neuropathy Section and Muscle Aches and Pains Section* of this *Guide* for detailed information on nutritional and botanical treatments for various forms of pain.

Suppressing HIV. Because both HIV itself and HIV-caused immune suppression which leads to opportunistic infections and conditions can be important causes of pain, HAART therapy is an important preventive measure for pain. By suppressing the virus and improving immune function, you both stop HIV from causing nerve damage and, by improving immune function, decrease the chances of secondary infections that could attack the nerves. So beginning HAART medications in those who have not yet done so may be important to prevent or stop the worsening of pain. However, there may be a Catch 22 in this. Since neuropathy is a major cause of pain in HIV+ people and a number of the most commonly used HAART meds can cause neuropathy, choices will need to be made carefully, and constant monitoring take place to watch for the development of neuropathy in anyone beginning or continuing HAART.

For those with pre-existing neuropathy (prior to beginning HAART) or other problems that indicate that HIV may be adversely affecting nerves, it may be particularly important to try to choose antiretrovirals that are less likely to cause nerve damage. On the list of drugs that it may be best to avoid if possible are the antiretrovirals d4T (Zerit®), ddC (Hivid®), and ddI (Videx®).

Drug switches. For those who develop pain as the result of neuropathy, it will be very important to determine if antiretrovirals or other drugs are contributing. If so, it will be extremely important that drugs (antiretrovirals or others) that are causing peripheral neuropathy be stopped immediately after the beginning of symptoms, if possible. Any delay in cessation may result in permanent problems. It has usually been the case that when causative meds are stopped shortly after symptoms begin, the pain and numbness will be likely to subside over time, and will eventually be completely eliminated. This process may take a number of months, but in the end, the neuropathy and the symptoms it causes will fade away.

However, failure to immediately cease the use of problematic drugs may greatly reduce the chances for complete reversal of symptoms. It appears that the longer the nerve damage continues, the less likely it is that the symptoms caused by it will disappear. Too many people have ended up with permanent pain, numbness, and burning because drug discontinuation was delayed. It is very important to report any symptoms that might indicate neuropathy to your physician immediately. It is equally important for physicians to seriously consider drug switches, where possible, in order to stop the nerve damage quickly. HIV-knowledgeable physicians are usually very aware of this, and won't hesitate to consider changing meds. For those stuck with less knowledgeable docs, this may not be the case so educating the physician on these facts may be crucial. [For more information, see *Neuropathy*.]

Pain medications. For anyone in pain, adequate treatment of that pain will be very important. Because neuropathy is the cause of a large percentage of the pain experienced by HIV+ people, please note that medications that specifically work for neuropathic pain are discussed in *Neuropathy*. Please refer to that section for neuropathy pain treatment information.

For all other pain, it is generally recommended that the World Health Organization (WHO) four-step approach to drug treatment of pain be used. In general, it is thought best for medications on each step of the WHO ladder to be given in the maximum tolerated doses before moving up to the next step. Where there is chronic pain, it is thought best to treat around the clock in order to prevent pain. If necessary, the usual meds can be augmented by short-acting drugs in order to treat breakthrough pain. With all these drugs, individual responses may vary and will be the best guide for proper med use.

The choice of specific pain meds should take into consideration a number of factors. First, discuss with your physician any possible interactions with other drugs you are taking before beginning any pain med. Second, consider any other medical conditions you have and the effect that certain pain meds, most of which have side effects that could be serious, may have on them.

□ Step One: try acetaminophen or a non-steroidal anti-inflammatory drug (NSAID) such as aspirin, naproxen, sulindac, or ibuprofen. These are most effective for mild pain. Possibilities include: ibuprofen (200-600 mg, 3-4 times per day); aspirin (500-1,000 mg, every 4-6 hours); or naproxen (500 mg initial dose, followed by 250-375 mg, every 6-8 hours). When one NSAID doesn't work, another might. Long-term use can cause gastrointestinal bleeding and should be avoided, if possible. Those with low platelets, kidney dysfunction, or low serum albumin levels (common in those with wasting) should not take NSAIDs. Those with gastric Kaposi's sarcoma should either take them with an antacid or avoid them.

Note that for those with liver problems, acetaminophen (Tylenol) would be inadvisable. For those with ulcers, gastrointestinal bleeding problems, intestinal Kaposi's sarcoma, low platelets, kidney dysfunction or low serum albumin levels (common in those with wasting), aspirin and other NSAIDs would be inadvisable.

In general, unless any such issues make it problematic, aspirin or buffered aspirin is probably the best choice for this first step in pain treatment. Tylenol (acetaminophen) significantly lowers the body's level of the antioxidant glutathione. Since glutathione levels are already too low in HIV+ people, worsening this is not a good idea. In addition, the lowered levels of glutathione already present in those living with HIV may significantly increase the chance for acetaminophen toxicity. Even in doses considered to be in the routine therapeutic range, it is known that acetaminophen can cause liver injury in people with a tendency for glutathione deficiency. Aspirin also lowers glutathione, but to a much lesser extent than acetaminophen.

If you are taking either aspirin or acetaminophen long-term, the use of the nutrients that help normalize glutathione levels is very important. Included are alpha-lipoic acid, N-acetyl-cysteine (NAC), glutamine, and vitamins E and C. Appropriate doses would be NAC (500 mg, three times daily; always take with food to prevent gastrointestinal irritation); glutamine (5,000 to 10,000 mg daily, spread across four doses; a powdered form is best; mix in water or juice and take on an empty stomach); vitamin E (800 to 1,200 IU daily); vitamin C (because individual needs vary widely, recommended dosages range from 1,000 to 6,000 mg or more daily, with doses spread across the day and taken with meals; note that amounts in excess of individual tolerance can result in gas and diarrhea; if you develop sudden watery diarrhea when you begin or increase a vitamin C dose, know that this may be the cause.); selenium (200 to 400 mcg daily); SAME (S-adenosyl-L-methionine; 800 to 1,600 mg daily); and alpha-lipoic acid (200 to 400 mg, taken three times daily, preferably on an empty stomach; note that a time-released form is very important because alpha-lipoic acid has a very short half-life in the bloodstream; by using products that release the alpha-lipoic acid gradually over time, you increase the total time that the nutrient will be available and working in the body.) For much more information on these nutrients and their usefulness in restoring glutathione in HIV+ people, see *Mitochondrial Support and Protection Against Oxidative Stress* in the *Counteracting Inflammation* section.

Always remember that long-term use of aspirin or other NSAIDs can cause damage to the intestines and gastrointestinal bleeding. In general, it is always best to only use such meds when you absolutely need them to reduce pain, and avoid long-term use, if possible.

□ Step Two: if NSAIDs are not enough, try using a weak opiate derivative either alone or along with a Step One agent. Possibilities include codeine alone (30-60 mg); codeine (30 mg) with acetaminophen (325 mg); hydrocodone (5 mg) with acetaminophen (325 mg); or oxycodone (5 mg) with acetaminophen (325 mg). Any of these combos would be repeated every 4 to 6 hours.

□ Step Three: if the above are inadequate, switch to a stronger opiate such as hydromorphone, transdermal fentanyl patches, levorphanol, morphine sulfate (intravenous), sustained-release morphine sulfate (oral), or meperidine. The minimum daily dose that affords pain relief should be used.

□ Step Four: at any point during the preceding steps, add adjuvant therapies to boost the effectiveness of the other drugs. At the top of this list, due to good effectiveness with few side effects, is gabapentine (Neurontin), starting at 100 mg daily and going as high as 3000 mg daily, taken in 1 to 3 doses. As is discussed above, Neurontin may also sometimes be effective when used as a sole agent. Other boosters include antihistamines like hydroxyzine (Vistaril); butyrophenones like haloperidol (Haldol) and pimozide (Orap); psychostimulants like methylphenidate (Ritalin), dextroamphetamine (Dexedrine), and pemoline (Cylert); amine precursors like tryptophan; selective serotonin re-uptake inhibitors such as fluoxetine (Prozac), paroxetine (Paxil), and sertraline (Zoloft); and heterocyclic and non-cyclic antidepressants like trazadone (Desyrel) and maprotiline (Ludiomil).

Custom compounded (many topical) pain medications are also a consideration. At Life Science Pharmacy all pain medications are compounded in the pharmacy. They do not use acetaminophen (which could further deplete glutathione and harm the liver) and often add a medication called naloxone to combat the side effects of the drugs. Often ketoprofen 20% gel is used either locally or transdermally, or both. They also compound different pain meds for different types of pain. For neuropathic pain they have found baclofen/amitriptyline gel applied twice or three times per day to be beneficial. They also use acetyl-carnitine gel and compound topical versions of non-steroidal anti-inflammatory drugs which eliminates the gastric upset and bleeding problem. This allows their use for long periods of time without any GI issues. They prefer controlled release medications to keep a person out of pain around the clock. They also use compounded acetyl-d-glucosamine sublingual drops for all joint issues. **They can be reached at 845-781-7613.**

Acupuncture or acupressure. There have been many anecdotal reports of the successful elimination of pain with acupuncture. Naturopathic physicians strongly recommend it as a therapy for both acute and chronic pain. In some cases, an initial series of treatments may lead to long-term improvement. In others, there may be a need for long-term continuation of treatments from one to several times weekly in order to maintain pain relief. Where acupuncture is not available, acupressure—in which energy points are pressed or massaged—may be another possibility for giving pain relief.

Anxiety and depression treatment. Pain specialists know that almost anyone with chronic pain will eventually develop anxiety and depression. This does not result simply from the sufferer's thoughts or fears about the pain, but rather from the physiologic consequences of it. The neural circuitry that relates to both pain and depression is the same. The hormones like serotonin and the endorphins that normally support good feeling and happiness may be adversely affected by pain. Functional-imaging scans reveal similar disturbances in brain chemistry in both chronic pain and depression. It appears that chronic pain uses up the serotonin that is needed to counter depression and anxiety. In HIV+ people, there are multiple reasons why depression and anxiety may occur, even without pain. The addition of pain may simply worsen this. For all these reasons, it will be very important for HIV+ people suffering from chronic pain to also seek treatment for anxiety and depression. [For more information on the other causes of anxiety and depression and possible treatments, see *Depression, Anxiety, Nightmares, Insomnia, and Other Mental Problems.*]

Mind/body techniques. An immense amount of research has shown that the mind has a powerful effect on the body, and that using mind/body techniques can greatly improve many physical conditions. Using distraction, visualization, guided imagery, and self-hypnosis may all help modify the perception of pain and the way in which it is experienced. Distraction may be as simple as setting up in advance activities that will draw your attention, away from the pain and toward an experience of happiness. With visualization and imagery, you picture a process that will reduce your pain—for example, you imagine breathing into the pain and having each out breath ease the pain slightly. By repeating such imagery over and over it appears that you actually help program the body to change. Self-hypnosis may work in similar ways to reprogram the body. Many pain control programs teach such techniques, and there are many audiotapes or videocassettes available to help you learn them. [For more information, see *NYBC's Self-Care Guide.*]

Modification of activities and behaviors. By keeping the pain diary suggested above, it may be possible to identify when pain is more likely to occur, what is likely to trigger it, or how long a certain activity can be continued before pain occurs or worsens. Using this kind of information, you can change certain behaviors and plan your activities in ways that may be less likely to promote pain, as well as help ensure that your day will include the things most important to you.

Physical therapy and exercise. Both exercise and physical therapy can be very useful for those with chronic pain. Stretching and massage may help with some kinds of muscle pain. The use of TENS (transcutaneous electrical nerve stimulation) and electroacupuncture machines that do electrical stimulation of the body may help reduce some pain. Any regular exercise will be beneficial for all the reasons that it works for anyone—increasing fitness, reducing anxiety and depression, boosting self-esteem, improving sleep, and so on. For many people in pain, aquatic therapy may be one of the best possible exercise choices. It causes no pain-causing pressure while bringing the benefits of increasing endorphin levels (the brain's natural pain medications) and improving circulation. The latter may be particularly important for increasing blood supply to the nerves and muscles in ways that may help.

Podiatry. Podiatry, treatment of the feet, may be very helpful for those with foot pain. Based on a consultation with a podiatrist, the use of orthotic shoes or shoe inserts may help you walk with less pain. There may be benefits higher up in the body, as well, since walking abnormally—which people with foot pain may do—can result in strains in the back and leg muscles. With help to walk more normally, these problems may be prevented. Many people with neuropathy have reported significant benefit from the use of orthotic shoes or inserts.

Relaxation, breathing techniques, and meditation for pain. Breathing exercises, yoga, meditation, and anything else that helps to decrease stress, relax the body, and program it toward healing can be useful for those in pain. Stress can greatly affect pain perception. Such stressors as anger, anxiety, and sadness can all intensify pain sensations. The increased pain, of course, then becomes another stressor, and a vicious circle that perpetuates pain is created. By interrupting that self-perpetuating cycle with relaxation exercises, breathing techniques, and meditation you may greatly help with the management of pain.

Yoga classes will usually teach two things that may be particularly useful for this, deep breathing and meditation. Training in breathing techniques may be extremely useful for people living with pain. By learning to breathe properly, and use deep, peace-making breaths to help relax the body at any time when pain is felt can actually help to reduce the experience of pain. Deep breathing has also been shown to help reduce stress and anxiety, two common accompaniments to pain.

One of the best short and simple guides to breathing for health is *Breathing: The Master Key to Self Healing* by Andrew Weil, M.D. This is available as a two-tape or two-CD set, with accompanying study guide. This provides simple instructions and leads you through a variety of breathing exercises and techniques. The goal is to help you learn to take deep breaths that fully expand the lungs, achieve a slow, quiet rhythm in breathing, and develop exhalations that last as long as inhalations. Dr. Weil, an internationally recognized expert on an integrative approach to healing, believes that learning to breathe properly and use specific breathing exercises for specific purposes can contribute greatly to all healing, including the management of pain and the stress and anxiety that may accompany it. The two-tape set is \$16.00 and the two-CD set is \$21.00. They are available at www.drweilselfhealing.com.

Meditation is another important way to relax the body, eliminate stress, and focus the body on relaxation and healing. Many people with chronic pain have reported benefits from daily meditation. [For more information, see *NYBC's Self-Care Guide*.]

Sleep improvement. It has been estimated that from half to almost three-quarters of those with pain problems will suffer from sleep disorders. The stress and fatigue created by this can actually increase the perception of pain, which in turn will worsen sleep, and so on and so on. Doing whatever is necessary to help improve sleep is very important. [For more information on ways to improve sleep, see *Depression, Anxiety, Nightmares, Insomnia, and Other Mental Problems*, and *NYBC's Self-Care Guide*.]

Spiritual healing. Many people find that the experience of prayer or spiritual counseling, especially from those who share their belief system, can be stress-relieving, peacemaking sources of support that can help with any illness or condition, including pain.

Other possibilities..

DLPA. The non-nutrient D-phenylalanine has been shown to have pain-relieving and anti-inflammatory effects in both human and animal research. It is thought to work by inhibiting the breakdown of chemicals in the brain called enkephalins. Enkephalins function as neurotransmitters or neuromodulators at many locations in the central nervous system, and play a part in pain perception and mood. Various studies have shown that D-phenylalanine may help relieve such varied types of pain as chronic back pain and dental pain. The nutrient L-phenylalanine does not have these effects, although research has shown that it may relieve depression. The product most commonly available is a mixture of equal parts of D-phenylalanine and L-phenylalanine, and is labeled DL-phenylalanine (DLPA). There have been many anecdotal reports of relief from chronic pain (such as arthritis or fibrositis) with the long-term use of DLPA. There have been no studies of DLPA used in the treatment of HIV-associated pain, and few anecdotal reports (which may simply be because the entire topic of pain is little discussed in the HIV world). However, for those who wish to avoid long-term use of pain meds and would like to try an alternative possibility, DLPA taken in doses of 1500 mg daily is considered generally safe. It is generally recommended that dosing be started with one 375 mg capsule daily, and then gradually increased, as needed, up to the possible high end of 1500 mg daily. **WARNING:** note that L-phenylalanine (whether found in DLPA or alone) should never be taken in combination with MAO inhibitors since the combination could dangerously increase blood pressure. There have also been a handful of reports of elevated blood pressure in people on L-phenylalanine who were not on MAO inhibitors so it would be a good idea to always monitor blood pressure in anyone taking DLPA or any product that contains L-phenylalanine. People who have the inherited inability to metabolize L-phenylalanine and thus suffer from phenylketonuria (PKU) should, of course, also avoid L-phenylalanine. In addition, it is thought that L-phenylalanine might promote the growth of pre-existing pigmented melanoma (although it would not cause melanoma) so anyone who has been diagnosed with melanoma should avoid the substance.

WARNING: Just say no to nerve severing. In the past, physicians have sometimes ordered nerve cutting as a treatment for pain, based on the belief that severed nerves could not transmit pain. Researchers have found that this is absolutely not true. Although cut motor nerves can be counted on to cause paralysis, cut sensory nerves are different. They may stay dead and cause only numbness. But in a nightmare for those who have undergone such procedures as a way to gain improvement in pain, sensory nerves may at times grow back irregularly or begin firing spontaneously, causing stabbing, electrical, or shooting sensations. This is definitely a place where the cure may be worse than the problem. Just say no.