

Painful Awareness:

The physical forms and types of the pain experience

By Ralph R. Stephens, LMT | © 2009 All rights reserved

The most common reason people see a healthcare provider is to gain relief from pain. Pain is an interesting phenomenon. What is pain? Pain is a word we use to express an experience. This experience is subjective. Pain is a “signal” that something is not right in the body. Pain may be related to tissue damage and pain stimuli or it may not be. Pain is an unpleasant experience in the body that is filtered through our mind and emotions, and as such is experienced differently and expressed differently from individual to individual. This article will probably not provide a definitive understanding of pain but does seek to come close to expressing the reality of pain and the expression of pain as it occurs in actual human experience. The following discussion of pain comes primarily from definitions developed by the International Association for the Study of Pain. It is presented to help massage therapists better understand the types of pain presented by patients and hopefully stimulate creative thought regarding more effective ways to address mechanical pain with manual therapies

Scientists can identify the causes of pain, and can analyze the biochemical, electrical, and molecular behavior of pain in nociceptors, but pain is an emotion, expressed as a feeling, and is therefore a psychological experience resulting from physical stimuli.

Patients can report the subjective complaint of pain in the absence of known tissue damage or pathophysiological causation and in the presence of an obvious objective presentation of tissue damage; there may be no pain! The experience of pain cannot always be tied to a physiological cause, but rather it is a psychological expression. The stimulation of activity by noxious stimuli is not always pain, the subjective expression of pain, is pain. **Pain is a psychological state.**

As massage therapists, we see all types of pain and the majority of this article will discuss the physical forms and types of the pain experience. However, we must always keep in mind that the body is merely a symptom of the mind and that there are many

psychological aspects to pain, especially chronic pain. When soft tissue therapy does not bring about the desired reduction of pain complaints, we may have to change our methods or refer the patient to some form of counseling.

There are four types of pain:

- Neurological
- Chemical
- Emotional
- Myofascial

Neurological pain is typically the result of nerve compression, nerve entrapment, disease or degeneration. Examples of disease and degeneration would be neuropathy and multiple sclerosis. Compression or entrapment is pressure on a nerve from osseous or cartilaginous structures (bones, discs) causing pain that follows the distribution of the nerve being pinched. True sciatica is an example of this type of pain when caused by a protruding lumbar disc pressing against a nerve root. Pressure can also be placed on a nerve due to muscle spasm, over stretching or distortion of the fascia, or scar tissue adhesions. True sciatica is also an example of this type of pain when caused by spasms in the gluteal muscles, usually the piriformis, entrapping the nerve as it passes through the muscle. Sciatica is a type of radiating pain that is felt along a nerve pathway and weakens the specific muscles controlled by that nerve. Radiating pain often follows dermatomes. For example, an injury to the shoulder joint capsule often refers sensation distally in the arm. However, injury to the acromion-clavicular joint typically refers pain into the chest. These joints have different dermatomes. Radiating pain typically travels distally, does not cross the mid-line, the distance it travels is proportional to the severity of the injury, and the pain pattern follows the embryological pathways called dermatomes.

Chemical pain is usually caused by proteolytic enzymes liberated from inflammatory or damaged cells. Chemicals that are released from the area of damaged or abnormal tissue lower the pain threshold and initiate nerve stimulation that the brain will interpret as pain. These chemicals include:

1. Bradykinin
2. Histamine
3. Prostaglandins
4. Substance P

Emotional pain is very real but very difficult to describe as it varies greatly from one person to another. It is sometimes called psychogenic pain – pain that is associated with psychological states.

Myofascial pain is also called soft tissue pain or somatic pain. It is primarily the result of muscle spasm or soft tissue strain. It takes two primary forms, ischemia and trigger point pain, both of which respond positively to massage therapy.

Ischemic tissues are blood deficient. They are painful upon palpation or when called upon to work (contract) or sometimes when called upon to move in any way. Ischemic tissue is likely to fatigue rapidly. Ischemic tissue in a small (localized) area is called a "tender point", abbreviated as TeP.

Trigger points are usually locally tender and also cause the person to feel sensations someplace other than the exact location of the trigger point. This is called referred pain. The referred pain from trigger points mimic many painful conditions like sciatica, headache, tendonitis and carpal tunnel syndrome. Trigger point is abbreviated as TrP.

These factors can be put into two major categories of pain: mechanical pain and non-mechanical pain. Massage therapists can be very effective when the pain is mechanical in nature. **Mechanical pain** is typically alleviated or exacerbated by a specific posture or movement. If movement, lack of movement, or position helps, soft tissue therapy is most likely indicated. Most mechanical pain is nociceptive in nature. More on this below.

Non-mechanical pain is often constantly present and nothing makes it significantly better or worse. Especially, spinal motions do not correlate with the pain. Usually massage does not significantly reduce non-mechanical pain. This is a good sign the cause of pain may be visceral or pathological. Visceral problems with the esophagus, kidneys, gallbladder, intestinal tract, other organs and glands, tumors and cancer can cause non-mechanical pain in the low back for instance. Treating visceral pain that is referred to a superficial location along segmental or embryological tracks is “ a fools errand”. For example, prostate infection in the male can cause significant low back pain that is aggravated by movement, particularly flexion, but that does not respond positively to soft tissue therapy or Chiropractic manipulation. It is in the interest of the patient to refer them to a physician for diagnosis if the pain seems to be non-mechanical. When in doubt, refer it out.

Nociceptive Pain is the result of the irritation of a nociceptor. This is a common pain experience in myofascial tissue and the joint complex (ligaments). A nociceptor is a biological sensor that is found in almost all tissues. They are pain receptors that are reactive to noxious (bad) stimuli. Nociceptive stimulation is experienced psychologically

as pain. Noxious stimulation is any cause or stimulus that is damaging to tissue. Since almost all body tissues contain nociceptors, noxious stimuli can cause the subjective experience of pain that originates from almost all tissue types. Nociceptors are the body's biological sensors of abnormal tissue conditions related to abnormal temperature, mechanical, or chemical stimulation.

Here is the application to massage therapy of all this information. To relieve a patient's pain, we should not cause additional stimulation to the nociceptors. Most people consider pain to be a stress and stress initiates or further stimulates the sympathetic response. We should be eliciting a parasympathetic response with massage. Nociceptive stimulation of any kind, including pain provoking massage techniques such as some myofascial release protocols which was found by Melzack and Wall to increase and prolong both patient pain and recovery are not productive. Massage techniques that provoke pain responses in tissue must be minimized or avoided. You cannot inflict relaxation on someone!

Instead, massage techniques that produce nociceptor inhibition and stimulate the body's endogenous pain sedating mechanisms, including mechanoreceptors, is a much more pleasant and effective way to reduce the patient's pain complaint. Medical massage, although deep and specific, is very conscious of a "Less pain, more gain" philosophy and thus is very popular with all but the most masochistic of patients. When you can help people out of pain, you will become very busy, and you will never run out of people in pain.

Conventional medicine prides itself on its advancement of drugs and surgery for the treatment of pain, and while these advances are important, all too often they result in causing chronic intractable pain, addiction, and disability. Touch therapy is virtually ignored by modern medicine as "pseudo science", and technically viewed as beneath the allopathic or osteopathic physician's practice of medicine. Nothing could be further from the truth. The ability to assist the healing process by using nothing but the human hand, to alleviate pain and suffering through educated touch, is the highest possible practice of medicine. Health care literally is in your hands.