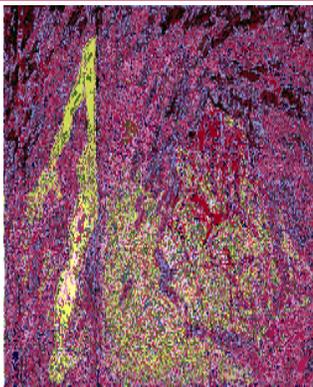




Chronic Pain and Women's Health Newsletter

PAIN 101 (Part 2) - When Pain Goes Wrong



In the normal person with a functioning nervous system, the pain begins from an injury such as stubbing your toe. The fast pain fibers fire and send a sharp, fast pain signal to your brain causing you to pull your foot back to avoid further injury. After hopping around and sitting down for a bit the slow pain fiber signals hit your brain and you start to

experience the throbbing, aching pain. This pain lasts for a while. You may even try rubbing your toe (stimulating the sensation nerves and short circuiting the pain signal to the brain) or putting ice on your toe (acts to slow down the pain signal to the brain). You then protect your foot for a while to avoid stubbing your toe again until you are healed in a few days to weeks.

The normal pain experience, even though it is not pleasant, is a vital protective mechanism. It makes you avoid actions that may further injure you. It also helps with the healing process. When the pain system is functioning properly, discomfort is felt briefly during the healing process. Sometimes, however, this pain process be-

comes abnormal. This can lead to a lot of discomfort.

When Pain Goes Wrong

Once you have been injured, the body sends inflammatory chemicals to the area. Some are there to help heal the damage and some are there to cause you to feel protective pain that keeps you aware of the injured area so that you don't damage it further. If this inflammation persists, the nerves start to influence their uninjured neighbor nerves causing them to fire pain signals as well. Once these signals bombard the nervous system and brain over time, the pain response malfunctions and starts to treat all nerve signals as painful. Over time this reaction actually leads to

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TMJ-Jaw Pain

If you were asked "What is the most used joint in the body?", you would likely think of the hips, knees, or maybe even the finger joints. Most people do not realize that the jaw joints are some of the most frequently used joints in the body. They are used con-

stantly during the day for talking, chewing, and yawning. It is no wonder that people experience debilitating pain and dysfunction in these joints considering the amount of wear and tear they go through.

Known in medical terms as

the **temporomandibular joints** or **TMJ**, people can experience a lot of jaw, face or neck pain from dysfunction at these joints. Common terms used for this dysfunction are **Temporomandibular Dysfunction (TMD)**, **Jaw Pain**, or

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**Clemens Physical
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Coming Soon!

- ☺ Pain 101 Continued
- ☺ How to Help Pain
- ☺ Non-Drug Treatment of pain
- ☺ Headaches
- ☺ More of your Questions Answered

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TMJ Cont:

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TMJ.

A unique feature to the this joint is that it is a bilateral joint (on both sides) and opening and closing your mouth causes both sides to move. You cannot move one side independently of the other (whereas you can move, say, your right hip independently of your left hip). Another unusual aspect of the TMJ is that it has a disc, or cushioning piece of cartilage, that acts as a shock absorber. Abnormal movement of this disc is often what you are experiencing when you hear a pop or click when moving your jaw.

Due to the unique aspects of this joint, and the detrimental effect poor posture and stress have on it, many people experience pain at some time in their lives.

Common signs and symptoms of

TMD include clicking or popping, jaw pain, neck pain, inability to open the mouth, or pain with eating. Due to the location of the joint you may get pain that "refers" to another location giving you ear pain, tooth pain, or headache. (see Winter 2007 newsletter for more on referred pain)

Normally, even if you experience pain in this special joint, it will only last for a few days to a couple of weeks. If pain persists longer than that you may be at risk for developing chronic pain due to initiation of an abnormal



It is important to seek the right help if jaw pain persists.

pain cycle. (see PAIN 101 this issue)

It is important to rule out ear infections and tooth problems before considering a diagnosis of TMD. If jaw pain persists, you should get treatment as soon as possible to short-circuit the abnormal pain cycle. The most successful outcome uses multiple types of treatment. These may include some things you can do on your own including heat or cold packs and eating softer foods. Your dental professional can help fit you with a bite splint to wear to help stabilize the joints. A physical therapist who specializes in the treatment of TMD can help treat the muscle tightness and spasms, modify your posture, and teach you techniques to relax and decrease the effects of stress.

Keep your eye out for more details on types of treatment in future newsletters.

Research: Does your pain come from Mom and Dad?

Researchers at Harvard Medical School have found a gene that appears to control a molecule that affects how much we feel pain. Clifford Wolfe studied rats to find the genes that switched pain on or off in lab rats. They were able to narrow the genes down to three from 1500 related to pain. They found the GCH1 gene which, when activated produces a protein that makes BH4, a molecule which excites sensory nerves.

Once they found the genes in rats, they researched it in humans. Sure enough, they found that people with a

variant of GCH1 that made less BH4 had less pain complaints after surgery. They also found that people who had two copies of the pain protective form of GCH1 were the least sensitive to painful lab experiments.



What can rats tell us about pain?

These findings open up new ideas for the treatment of pain. Some of the proposed ideas include the ability to predict those who will experience more pain after surgery so that they can be given more pain medication. Another possibility is new drugs targeted at the GCH1 gene or the production of BH4 to reduce the likelihood of pain in those people who are genetically predisposed to pain. All of this brings scientists closer to being able to help us deal with pain.

PAIN 101 (Part 2) When Pain Goes Wrong Cont:

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The abnormal pain cycle is self-perpetuating

changes in the nervous system that allows even non painful sensations to be perceived as painful. Therefore even light touch or clothing can be registered by the brain as pain. This is especially true if the nerve is the structure that has

been damaged.

This also means if you are unfortunate enough to get caught up in this vicious pain cycle, tests to deter-

mine what is wrong may be negative. This is because the original damage has healed and the pain is continuing due to damage and excessive stimulation of the pain nerves. The brain sees "pain" due to the incorrect feedback from the nerves.

It is important to address pain issues as soon as possible. The more a person experiences chronic pain, the more their nervous system rewires itself to



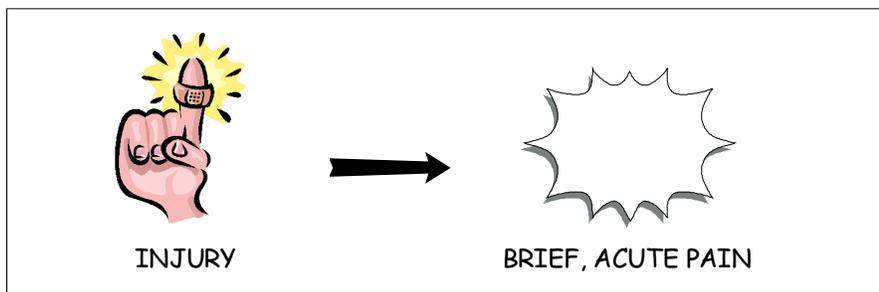
Medical tests may not show any problems with people in chronic pain.

experience pain. This amplifies the experience of pain. The faster you can use the combinations of medicines and mind-body techniques to short circuit the process, the faster you can improve.

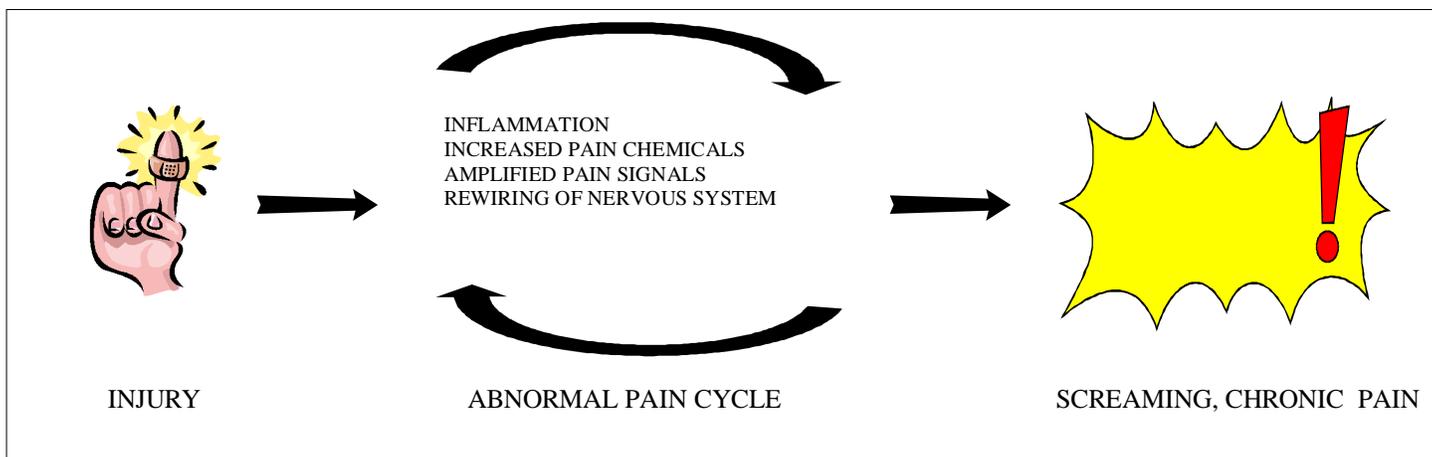
This is not to say that if you have had pain for a long time that your situation is hopeless. Getting on the right combination of treatments can help.

In the next issues of the newsletter, PAIN 101 will cover things that make pain worse and treatments that help pain.

Normal Pain Response (fig 1)



Abnormal Pain Response (fig 2)





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Helping People Who Hurt



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The content of this newsletter is provided for informational purposes only and is not intended to diagnose or suggest treatment for individuals. Please see your health care provider regarding your specific needs.

Fibromyalgia
Chronic Pain
Headaches
Bladder Control
Pelvic Pain
TMJ (Jaw Pain)
Osteoporosis
Biofeedback
Tai Chi, Pilates, Yoga
Manual Therapy