Relief from Chronic Pain

“The pain levels are so intense every day that I feel nauseated and unable to think of anything else. This pain creates a brain fog, making it hard to concentrate on daily life and the responsibilities that go with it.”

—Massage client and chronic-pain sufferer
Kim Anderson of Youngstown, Ohio

by Kim Miller-Mirolli, D.C.

According to the Centers for Disease Control and Prevention, chronic pain is the leading cause of disability in the United States. Chronic pain is widely believed to represent disease itself. It can be made worse by environmental and psychological factors, and it's described as a pain that persists for weeks, months or years.

Chronic pain is debilitating and often becomes the defining factor in clients' lives. Without the hope of relief, many clients lose the ability to eat, sleep, work and function normally. Chronic pain can cause clients to alienate those around them, and it sometimes leads to drug addiction, irritability and depression.

Pain is an extremely unpleasant sensation triggered by the central nervous system to let us know something is wrong, and the ability to experience pain is critical for our survival because it makes us immediately aware of injury to the body. When pain registers in the brain, the body does everything to protect itself, thus reducing further harm. After an injury the healing process begins, and once completed the pain response should end.

However, with chronic pain the message of pain itself never ends. This ongoing and constant pain is a mystery to researchers in the chronic-pain field, and there is relative uncertainty in how to treat it.

Types of chronic pain
An important finding in chronic-pain clients is that they experience higher-than-normal pain levels due to a chemical imbalance found in the central nervous system. This imbalance results in a higher quantity of a group of neurons called substance P.
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Deep-pressure massage feels good to chronic-pain clients because it releases endorphins, which are natural painkillers for the body.

Substance P neurons are located in the outer layer of the spinal cord and run the entire length of it, and their sole function is to communicate pain to the brain from the spinal cord. Research has shown that clients diagnosed with chronic pain are known to have an abnormally high quantity of these pain neurons. This causes pain levels in chronic-pain clients to be highly exaggerated and extremely intolerable. Excessive levels of substance P automatically produce excessive levels of pain. Chronic pain in the muscles delivers a pressure equal to 2,000 pounds per square inch. This pressure registers as pain with the substance P neurons, which then deliver the response to the brain through the spinal cord.

Massage practitioners must have a clear understanding of chronic pain in order to treat these clients. Chronic nonmalignant pain or general somatic pain is described as pain from your skin and muscles that is localized by the brain. Normally somatic pain gets better in a few days. Chronic Myofascial Pain Syndrome is considered somatic pain, but it never goes away. Pain from this syndrome is described by clients as a gnawing, persistent, deep-in-the-muscle, throbbing pain.

Common causes

What causes an individual to experience chronic pain? What is chronic pain? These are questions that need to be

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answered clearly in order for the massage practitioner to understand how to address clients who suffer from chronic pain.

These are the clients who request an undue amount of deep-pressure therapy, constantly saying throughout the session that you can “go deeper,” while you know you’re giving all the pressure you possibly have to give.

“I feel like I have turned to cement inside—all of my muscles feel like bricks or stone, and when you touch my tissue I can barely feel that you are there unless you push down real hard,” explains massage client and chronic-pain sufferer Rex Galliguilo of Hoschton, Georgia. “The deep pressure gives me a relief and a break from this 24-hour [pain].”

Chronic-pain clients experience an abnormal level of muscle tension caused by shortened and tight muscle tissue resulting from the elevated substance P levels that transmit pain to the brain. When the brain perceives pain, the sympathetic nervous system is activated automatically and tightens the muscles, constricts the pupils, elevates the heart rate and slows digestion. This is the body’s response when it goes into fight-or-flight mode.

Sustained muscle tension is what causes chronic-pain clients to hurt; however, without a certain amount of muscle tension in the body we wouldn’t be able to breathe, stand or walk. When muscles contract for movement, tension is produced, but when the muscle is no longer in use, the fibers should relax and lengthen. If this does not happen, a residual tension remains in the muscle, and this excess tension causes improper functioning of the musculoskeletal system and the central nervous system.
Research shows massage and bodywork are effective in addressing pain. Visit www.massagemag.com and click on "Massage and Bodywork for Pain Relief" to learn more.

Mechanical effects
Chronic muscle tension of a lasting nature gradually increases in intensity. The mechanical effects of chronic tension are as follows:
1. Causes hypertension/high blood pressure and contributes to cardiovascular pathologies.
2. Causes unrelenting pain.
3. Causes dysfunction of muscle and its movement by shortening the muscle fascia and fibers.
4. Constricts blood and lymph flow.
5. Causes decreased bodily sensations.
6. Causes acidosis in the muscle tissue.

When a muscle moves or contracts, it burns a type of food called glycogen, which is supplied by the nourishment of blood and lymph flow. Glycogen then stores itself in the muscle until it's needed.

When glycogen burns, it breaks down into a substance known as pyruvate. Enough oxygen must be available in the muscle to convert pyruvate to carbon dioxide and water, which are then expelled from the lungs. Pyruvate will convert to a toxic substance known as lactic acid when oxygen is not available. Increased and abnormal amounts of lactic acid become known as acidosis.

Principles of Chronic Pain

Chronic pain is rooted in six principles, according to psychological and physiological research. If one or more of these principles is present, a person will likely develop chronic pain resulting in a cascade of symptoms in the musculoskeletal system.

1. Childhood traumatic events. Such events are significantly related to chronic pain. Statistical logistic regression showed patients who were female with an alcoholic parent (non-narcotic) were more likely to show signs of chronic myofascial pain and fibromyalgia.

2. Spinal cord injuries. Chronic pain always follows spinal cord injuries, including vertebral fractures, disc bulges and spinal disc rupture/herniation.

3. Muscle strain. This can be due to over- or under-active muscles.

   Over-activity would best be described as a repetitive-motion type of injury. In this type of injury, your client is repeating the same movement pattern for several hours of the day without a proper break for the muscles to relax from the constant motion. These muscles are in a constant shortened and hypertonic state, as they are being used without a significant break in the activity.

   Under-activity would best be described as loss of use due to lack of activity—these muscles are in a state of atrophy from nonuse and therefore are weak—causing a form of muscle strain from the lack of use and weakness.

4. Nutritional deficiencies. All muscle mass requires a certain amount of proteins, carbohydrates and vitamins to work in the best interest of muscle.

5. Hormonal/physical changes. These play a key role in chronic pain. Menopause, hypoglycemia, increase in obesity and lack of use are just a few examples.

6. Repetitive stress. The sympathetic nervous system, which is best known as our fight-or-flight response, is activated every day, throughout our day. When our brain perceives stress, it registers with our sympathetic nervous system, and our bodies automatically gear up by constricting our pupils (to see more detail) and tightening our muscles (as if to flee). In this phase, we experience feelings of anxiety, depression, nervousness and fatigue.

   —Kim Miller-Mirolli, D.C.
When a muscle is chronically tight and does not relax following a contraction, restriction of blood flow and lymph flow result, causing acidosis. Without the proper circulation of blood and lymph flow, waste products build up and a nutritional deficit occurs in the tissue.

The role of deep pressure

"My pain feels so deep, everything hurts to the point of consuming my every waking hour," says massage client Barbara Jones of Palm Coast, Florida. "The only relief I get is from deep-pressure massage."

Why does deep-pressure massage work in giving chronic-pain clients relief? When deep pressure is applied to chronic muscle tissue and then released, the effect on circulation is like crimping and releasing a hose. The pressure releases the blood and lymph flow to make its way into this necrotic tissue, providing it with the nourishment (specifically, oxygen) it needs.

This increased flow will also carry waste products, such as lactic acid, out of the muscle and fascia and into the bloodstream. It will be obvious that blood is flowing into the area being worked because it will turn red and produce heat.

Deep-pressure massage feels good to chronic-pain clients because it releases endorphins, which are natural painkillers for the body. With the release of these endorphins, the client experiences a euphoric break from his pain for a period of time. Notable relief is experienced after a session, and so a maintenance program of at least once a week is recommended.

Through this deep-pressure massage, you are lifting the 2,000 pounds of pressure bearing down on the client's muscle and fascia, causing increased nourishment to the tissue, elongating the tissue and providing a feeling of well-being the client might not have felt for years.

According to research by Janet Travell, M.D., a pioneer in the area of myofascial pain syndrome, deep-tissue massage has been found to work better than other therapies in providing relief that can last when following a maintenance program designed for your client's individual needs.

Palpating pain

What does chronically painful muscle/fascia tissue feel like to the practitioner? Most therapists who have worked with chronic-pain clients describe their tissue as feeling brittle, crunchy, deeply tight, restricted, cold and immovable. Most therapists also describe these clients as being tough to work on because they require so much pressure during a session.

Correctly taught and performed, deep-pressure massage does not have to affect the therapist in this manner. Correct use of elbows, hands and body weight to administer this deep pressure is highly effective and brings about exceptional relief for clients suffering from chronic pain.

Kim Miller-Mirolli, D.C., L.M.T. is a specialist in chronic pain and conducts seminars and workshops throughout the United States. She has used neuromuscular therapy and trigger-point therapy for 17 years in treating chronic clients. She incorporates these hands-on modalities in her chiropractic clinics and teaches it as owner/director of Georgia Massage Institute. She can be reached at kandd23@yahoo.com.