Unlocking Chronic Pain: The Mystery of the Trigger Point

Learn what they are, how they develop, and how to find relief

by Gracie Yuen, D.C.

Chronic Pain is a nemesis that afflicts many people.

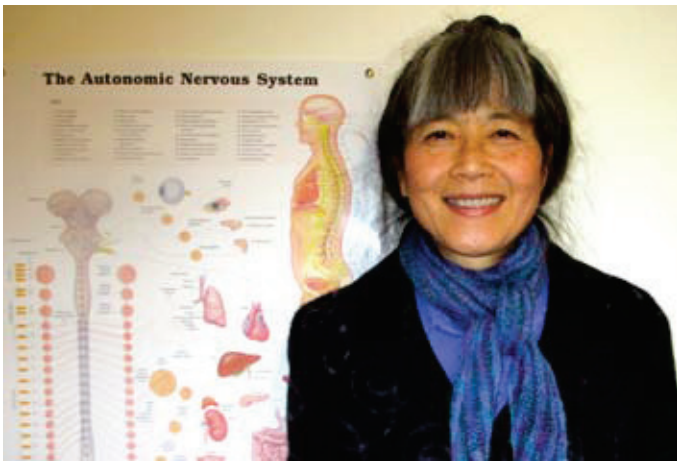
Consider these scenarios:

Ted, 72,
has struggled with lower back pain for years. It prevents him from getting a good night's sleep, and when he walks or stands for just 10 minutes, he gets an excruciating pain down his right leg that makes standing difficult. X-rays showed that he had some lumbar stenosis, so he had back surgery that helped a little at first, but now his pain is worse.

Melinda, 32,
was rear-ended in a motor vehicle accident five years ago, and has had terrible headaches, neck pain, and stiffness ever since. She also has poor concentration and difficulty finding her words. She has moved to part-time in her job as a legal secretary. Seeing a chiropractor helped her some at first, but she still struggles, especially with headaches.

Don, 65,
has been having more and more difficulty climbing stairs, and getting up and down from a chair due to chronic knee pain. His legs just feel weak. He was told that he has moderate osteoarthritis in his knees and that he needs to lose weight. Just doing his daily tasks is a chore.

Karla, 40,
has been working in a lab hunched over a microscope, but now has so much neck and arm pain with numbness and tingling going down to her hands that she has had to go on disability. Along with taking pain medication, she struggles with depression and is now on an anti-depressant.



Dr. Gracie Yuen

What do these four individuals have in common? They all have a mysterious pain that remains long after having been to numerous conventional and alternative doctors and practitioners. They have tried everything they can think of, only to be left with their pain medications, which help some, but don't get to the cause.

What they don't know is that there exists a very common but little known cause of pain that often lurks in the tissues and goes unnoticed during imaging or when lab tests are done. It has been studied and elucidated at great length by astute medical doctors of the past and present, but is largely neglected by the medical community of late.

This pain lurking in the tissues is not a serious condition, but it can completely hijack a life for long periods of time. Amazingly, it has a fairly straightforward remedy. When treated properly, the relief can be absolutely stunning.

Let's explore chronic pain and, specifically, the cause of this little known mysterious and enigmatic pain, and what can be done about it.

What Is Pain, Who Gets It and Why?

Pain is an unpleasant feeling that is conveyed to the brain by sensory neurons. Discomfort is a way of signaling actual or potential injury to the body.[1] Chronic pain is defined as persistent pain, either continuous or recurrent,

that affects patients' well-being, level of function, and quality of life,[2] and is considered "chronic" when it lasts more than three to six months.[3]

Pain is a large public health problem. Forty-three percent of American adults, an estimated 100 million in 2010, suffer from chronic pain. This number accounts for more people than those with diabetes, heart disease, stroke, and cancer combined. A committee formed by the Institute of Medicine to study and report on pain stated in 2010 that the "magnitude of the pain suffered by individuals, and the associated costs, constitute a crisis for America, both human and economic."[3]

In 2013 the number of opioid pain reliever prescriptions (hydrocodone, oxycodone, morphine and others) dispensed by U.S. pharmacies reached almost 207 million.[4] The cost of medical treatment and lost productivity has been estimated conservatively at $560 to $635 billion annually (equal to $2,000 for every person in the U.S.). The CDC reported in 2010 that 28% of U.S. adults reported low back pain in the last three months, and 16% reported severe headache or migraine. Disability from all causes has been estimated to cost $300 billion annually, with the pain-related conditions of arthritis and back/spine problems being the top two causes of disability.[3]

"Pain is the body's way of telling us that something is not right and something should be done."

The reported number of people in chronic pain is on the rise in the U.S. due to the following reasons: the increasing age of the population and the attendant diseases associated with chronic pain (diabetes, cardiovascular disease, arthritis, cancer and others); the obesity epidemic (with its associated chronic conditions, including osteoarthritis and joint replacements); modern medicine that can save the lives of those involved in catastrophic injuries and increase lifespan, but cannot guarantee a pain-free existence afterwards; and people undergoing surgical procedures that may result in developing chronic pain.[3]

Pain is the body's way of telling us that something is not right and something should be done. Common causes of chronic pain include migraine and other headaches, arthritis and other joint pain, trauma or postsurgical pain, low back pain, and other musculoskeletal disorders, including nerve/cord compression or damage, fibromyalgia, shingles infection, sickle cell disease, ulcers, IBS, blood clots, endometriosis, chronic interstitial cystitis, vulvodynia, heart disease, cancer, stroke, and diabetes.[3]

Myofascial Pain Syndrome

Tucked away in the list under "musculoskeletal disorders" is a condition called "myofascial pain syndrome." This is defined as a regional pain syndrome of any soft tissue origin characterized by the presence of myofascial trigger points, which cause sensory, motor, and autonomic symptoms, the most outstanding of which is pain.[5] A myofascial trigger point is a discrete, hyperirritable nodule in a taut band of skeletal muscle that is palpable and tender during physical examination.[6] The nodule is painful on compression and can give rise to characteristic referred pain, referred tenderness, motor dysfunction, and autonomic phenomena.[5]

Voluntary (skeletal) muscle accounts for almost 50% of body weight and is the largest single organ of the human body. There are about 700 muscles in the human body,[7] any of which can develop trigger points. The severity of pain can range from a painless latent trigger point (only painful when pressure is applied) to an agonizing, unrelenting, and debilitating active trigger point that can make life absolutely miserable.

The pain of a myofascial trigger point can be just as severe as any other pain that may be experienced from broken bones, heart attack, arthritis, or the passing of a kidney stone. Trigger points are not life threatening, but they can devastate a person's quality of life. This is an important topic because if a diagnosis of myofascial pain syndrome is overlooked, a patient may be sent for all types of procedures and imaging, sent to countless doctors, have surgery, and/or be relegated to taking prescription drugs for the rest of his or her life, and still be in horrific chronic pain.[5]

So, how prevalent are these myofascial trigger points? One neurologist at a community pain medical center found that upon examining 96 patients, there was myofascial trigger point involvement in 93% of the cases, and in 74% trigger points were the chief cause of the pain.[8] At a comprehensive pain center, clinicians found 83% of 283 consecutive patients to have a primary diagnosis of myofascial pain syndrome.[9] In a survey of 200 asymptomatic young adults, latent trigger points were found in 54% of the females and 45% of the males in the shoulder girdle muscles.[10]

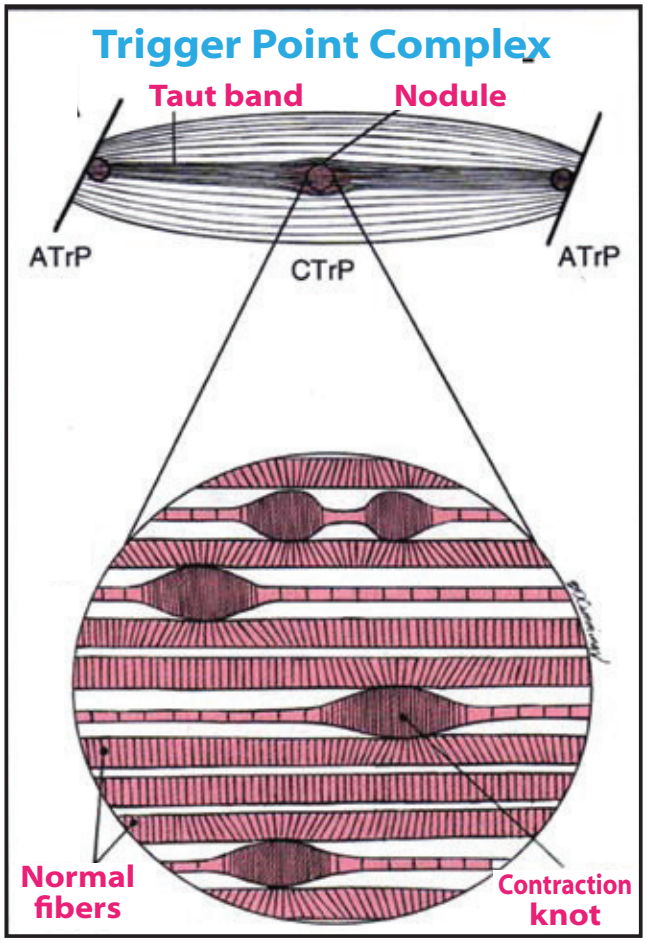
Janet Travell, M.D., a pioneer in the field who spent almost 50 years observing, studying, and elucidating the trigger points of myofascial pain syndrome, thought they were extremely common and often missed.[5] As a chiropractor, I would agree that trigger points are very common, and I find them in virtually everyone who comes to

see me with a pain complaint.

Travell and Simons have noted the following common initial pain diagnoses that actually at times have turned out to be caused by trigger points: angina pectoris, appendicitis, facial neuralgia, migraine, back pain, bicipital tendinitis, chronic abdominal wall pain, dysmenorrhea, earache, epicondylitis, frozen shoulder, postherpetic neuralgia, C6 radiculopathy, subacromial bursitis, TMJ, tennis elbow, and Tietze's Syndrome, among others.[5]

What Are Trigger Points?

So what exactly are these mysterious points? Trigger points are made up of muscle fibers that are not contracting and relaxing properly, which are "stuck" in contraction and deemed the "taut band." They are hyperirritable and excessively sensitive to stimuli.



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An active trigger point always causes pain, with or without compression; the pain is often dull, achy, and poorly localized, but it can also be sharp. Numbness, tingling, or burning may be present, and the pain can be acute or chronic. When compressed, it will often reproduce the patient's pain, and this pain may refer to distant regions of the body. This contributes to the mysterious nature and confusion of this type of pain. For instance, trigger points in the gluteus minimus muscle may refer pain from the low back to the hip, down the thigh and leg, and to the ankle, mimicking symptoms of lumbar stenosis. It prevents full lengthening of the muscle and weakens the muscle.

Other motor disturbances that can occur with an active trigger point include: spasms in other muscles, decreased coordination in the involved muscle, and a decreased ability of the muscle to perform work. Autonomic phenomena that can occur are: abnormal sweating, persistent tearing, cold symptoms, excessive salivation, and goose bumps on the flesh. Other symptoms may include loss of balance, dizziness, ringing in the ears, distorted weight perception when lifting objects, and sleep disturbance. Latent trigger points are similar to active ones except that the pain is experienced only when the point is compressed.[5]

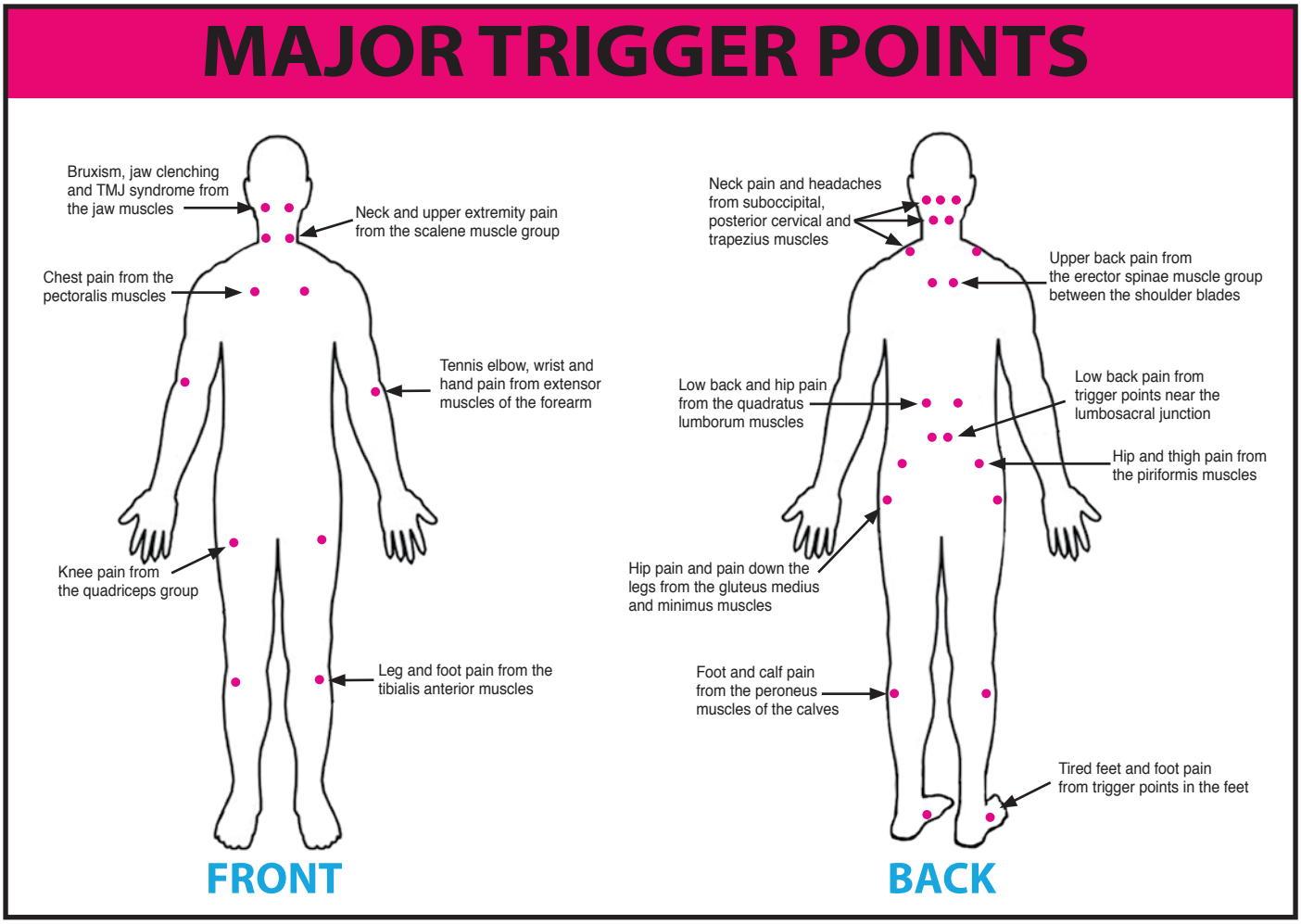
How Do Trigger Points Develop?

How trigger points develop has been a subject of much speculation and discussion and is still not fully understood. Some sort of muscle overload and overuse resulting in muscle injury is thought to be the initiating factor, and can stem from being unaccustomed to exercise, or doing exercise that leads to muscle fiber damage or postural stress.

Then there is a complex series of events involving the sympathetic nervous system, capillary constriction, decreased oxygen in the area, decreased pH, numerous pro-inflammatory substances that are released that increase pain, and changes in the activity and breakdown of the neurotransmitter acetylcholine involved in muscle contraction. There is thought to be an energy crisis due to the lack of oxygen, leading to persistent muscle contraction and the taut band. Information regarding pain is transmitted to the spinal cord and brain where it is processed and then can cause pain to be felt in an area distant from the trigger point ("referred pain"). It is not understood how this referred pain happens.[5,6,11]

Investigators have been curious to study the biochemicals associated with active trigger points. It has been found that the pro-inflammatory chemicals bradykinin, substance P, calcitonin gene-related peptide (CGRP), tumor necrosis factor alpha (TNF-α), interleukin 1β (IL-1 β), IL-6, IL-8, serotonin, and norepinephrine are all significantly elevated at the site of active trigger points and in general in persons who have trigger points. The pH of the tissues has been found to be significantly lower in persons with active trigger points than in those without them.[12]

These trigger points can remain in the body for decades or indefinitely, and go completely undiscovered, causing pain and suffering all the while. The good news, though, is that they can also be eliminated from the body



The chart above shows the locations where trigger points can develop due to stress, whether caused by muscle overload, overuse, injury or bad posture.

in conservative and noninvasive ways. The muscle fibers in the taut band can go back to contracting the way they are supposed to, oxygen and circulation can return to the area, and inflammation can decrease. Pain can be eliminated if this is the cause. Range of motion and function can return.[5, 13]

Why is it that you may not have heard of this before? Dr. David Simons, M.D. has stated that "Muscle is an orphan organ. No medical specialty claims it. As a consequence, no medical specialty is concerned with promoting funded research into muscular causes of pain, and medical students and physical therapists rarely receive adequate primary training in how to recognize and treat myofascial trigger points."[14]

Even though Dr. David Simons and Dr. Janet Travell were both medical doctors who produced the first definitive textbook on the diagnosis and management of myofascial pain *(Myofascial Pain and Dysfunction: The Trigger Point Manual)* back in the 1980s, the medical community has largely ignored it. Myofascial pain syndrome is taught in chiropractic schools, but to get proficient at releasing trigger points requires extra training, study, and experience.

How To Approach This Problem

When I was in school we were taught that a person can have "tics and fleas"; this means that you can have more than one condition at the same time. You can have arthritis or stenosis showing up in your imaging, but you can also have myofascial trigger points (or some other condition) at the same time. The question is: which one is causing your pain? If you have something abnormal showing up on imaging, many times it is assumed that this must be the cause, but how do we know for sure where the pain is coming from? Did anyone check for myofascial trigger points?

Well, if surgery is recommended and you opt for the surgery and your pain goes away, great; that must have been it. But, if the pain does not go away after surgery and physical therapy, maybe that wasn't it. Maybe there is a hidden cause that has not yet been explored. How about checking for myofascial trigger points? Better yet, check

for them *before* you have the surgery.

For someone experienced in this field, trigger points are not difficult to identify, there are few contraindications to treatment, and the treatment can be simple. The important thing is to find the offending muscle, which may be far away from the site of pain and not readily apparent. The great thing about this type of treatment is that is that it can be very gentle and not disrupt any arthritic or replaced joints, or stenosis in the spinal canal; no twisting or thrusting has to be done to the spine or joints. (You can even learn to do it on yourself, however, there are some contraindications that you will want to read up on it first.)

If You Have Trigger Points...

1. **Find a practitioner** (chiropractor, osteopath, trigger point therapist, naturopath, acupuncturist, massage therapist, or physical therapist) who knows about myofascial pain syndrome and is good at releasing trigger points. Methods employed include manual therapies, such as trigger point therapy, ART, Graston, muscle energy techniques and others, dry needling, ultrasound, low-level laser therapy (LLLT), and my personal favorite, high-speed vibration therapy (Rapid Release Technology, or RRT).

   RRT is a fairly new technology developed about four years ago. It uses a massage device that vibrates at a specific frequency that relaxes muscles and safely breaks up trigger points, thus eliminating the pain they generate, and restoring proper contraction and strength of muscles. In a typical treatment, after examination, I use this device for a few minutes on each of the areas where there are trigger points. It is usually a pleasant, relaxing experience for the patient. I would restore motion to the spine through gentle mobilization and possibly gentle adjustments. Other modalities may be used such as soft tissue massage or low level laser therapy.

   A treatment usually lasts 40 minutes, but could be shorter or longer. Depending on the severity of the case, a problem can be taken care of in one session; however, a series of many sessions over a period of weeks to months may be needed. You can learn about RRT and find a practitioner at rapidreleasetech.com. Another site to find myofascial trigger point therapists is myofascialtherapy.org (they may or may not use RRT). I cannot guarantee the level of expertise of any of the practitioners on these sites, but it is a starting point.

   If you are a "do-it-yourself" type, I highly recommend the book *The Trigger Point Therapy Workbook, 3rd Edition* by Clair Davies and Amber Davies. This book will teach you all about trigger points, and how to find and release them yourself. (This is also a good reference book for clinicians.)

2. **Improve your general health** by eating and sleeping properly, fasting, keeping stress under control, and exercising. This may be enough on its own to reduce and eliminate your chronic pain, as this will help bring down your general level of inflammation and make the pH in your tissues less acidic. You may need some extra help in the form of some type of manual or other therapy. We have found at TrueNorth that the combination of fasting, rest, proper diet, and muscle/chiropractic/trigger point work is a great way to eliminate chronic pain for many patients.[15]

3. **Learn how to use your body** in such a way that these trigger points are less likely to form. Be aware of your posture as you go through your usual activities. Your health practitioner can help you with this. A great website is foundationtraining.com. It has lots of free video clips to help you learn to be pain-free and strong from Dr. Eric Goodman D.C.

"The great thing about this treatment is that it can be very gentle ."

Myofascial pain syndrome from trigger points is a very common condition that has incapacitated millions. If you are suffering from chronic pain, make sure you rule out this perplexing but benign condition. You may be pleasantly surprised.

Patient Results

All of the individuals at the beginning of this article were able to gain significant improvement by eliminating their myofascial trigger points. (See Major Trigger Points chart on page 19.)

Ted's low back pain and radiating leg pain was coming from trigger points in his quadratus lumborum and right gluteus minimus muscles. When these were fully released, he got relief from his pain. He also stopped taking his pain meds. Melinda's headaches and neck pain were coming from trigger points in her upper trapezius and posterior neck muscles. When these were completely released, her headaches and neck pain went away. Her concentration and word-finding also improved. Don's knee pain was coming from trigger points in his bilateral quadriceps muscles. His pain went away and strength returned to his thighs when the trigger points were eliminated. He could do stairs again! Karla's neck pain and radiating pain, and numbness and tingling down to her hands were coming from trigger points in her posterior neck and scalene muscles. This all resolved when the trigger points were eliminated and she learned proper posture, biomechanics and core training. (These examples are fictional, but based on actual patients.) NHA

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Dr. Yuen utilizing high-speed vibration therapy (Rapid Release Technology, or RRT) to release a trigger point.

Gracie Yuen D.C. started seeking answers to her own health problems in the 1990s, including chronic respiratory infections, allergies, fatigue, and a genetic anemia. She read *Fit for Life* and started reading *Health Science* magazine cover to cover. Her own health turned around as she changed her diet, fasted, and rested. She then decided to obtain a B.S. degree in Nutritional Sciences from the University of Wisconsin-Madison, and went on to complete a Doctor of Chiropractic degree from National University of Health Sciences in 2010. She has been working at TrueNorth Health Center for five years. She credits Divine Providence with leading her on this remarkable journey and bringing her where she is today.