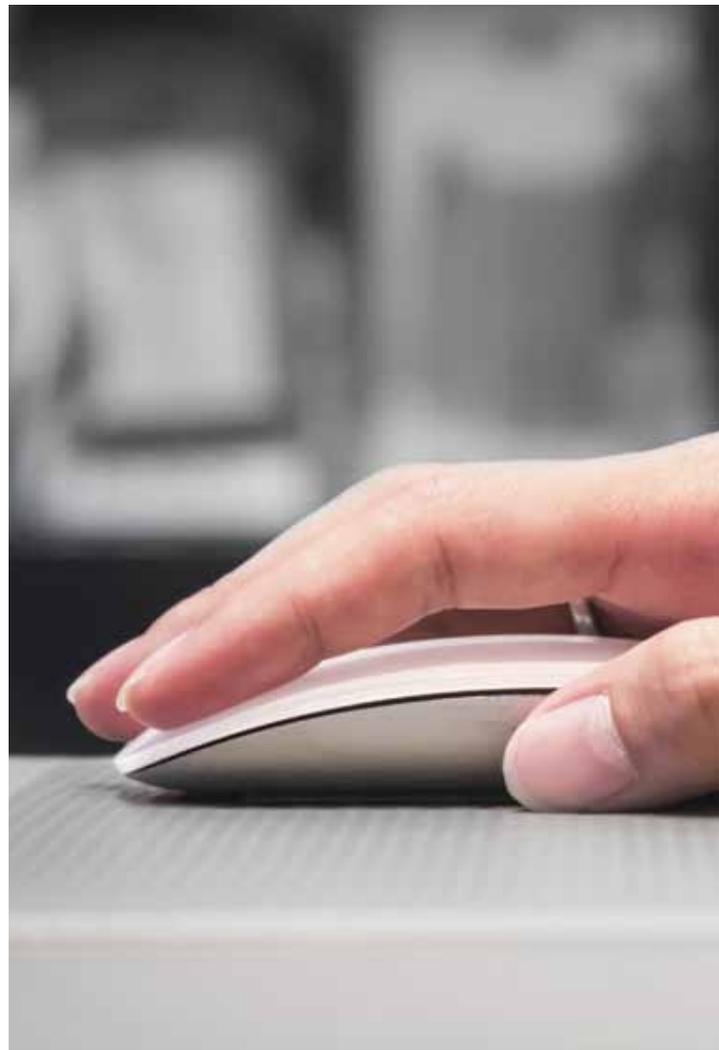
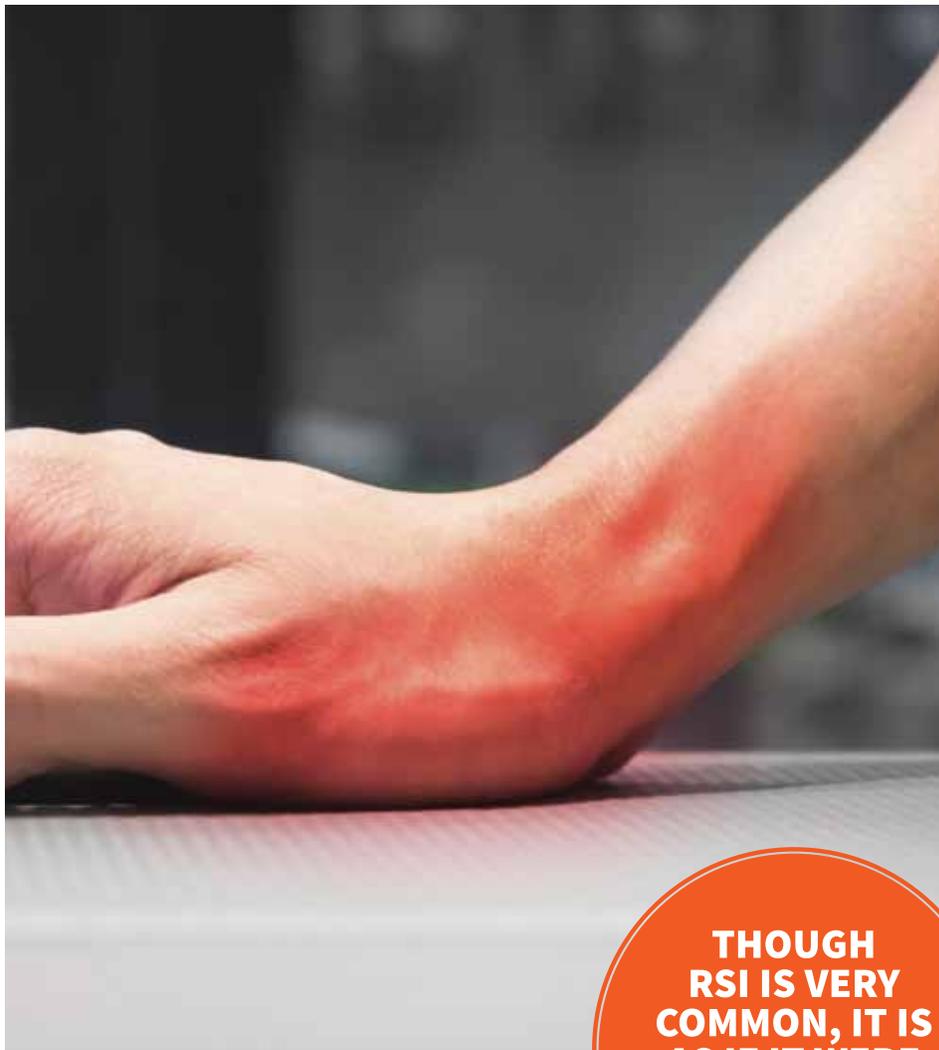


It's All in the Wrist... Or Is It?



SYMPTOMS, SOURCES, AND SOLUTIONS FOR REPETITIVE STRESS INJURY | *By Claudia S. Copeland, PhD*

For a disabling condition that affects hundreds of thousands of Americans, RSI, or repetitive stress injury, elicits little sympathy. On the contrary, responses tend to range between nonchalance to suspicions of malingering. In large part, this is because of its invisibility—bosses, co-workers, and even patients themselves can see no visible sign of injury. Everything looks fine, and anyway, how can you get seriously hurt by simply sitting at your desk and typing? Such injuries are all too real, though, with symptoms that can grow to the point of excruciating, disabling pain. If you make your living using your hands in repetitive, fine-motor activities such as typing on a computer, it is not an exaggeration to say that RSI can destroy your life. ➔



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RSI is a catch-all term for injuries related to repetitive movement, most commonly of the hands and wrists. This type of injury, often seen in people who type for long hours at the computer, manifests as pain, numbness, and/or weakness in the fingers, thumbs, or other parts of the hands and wrists. If left unaddressed, the pain will continue to increase until typing is unbearable. Without the ability to type, of course, many if not most of today's professionals would be unable to continue working in their professions. However, it is difficult to get this condition treated as a disabling illness. This is in part due to the diverse nature of the symptoms—one person might have numbness in the fourth and fifth fingers, another, pain in the thumbs. In part, though, it is also due to

a general lack of awareness and understanding. Though RSI is very common, it is as if it were hiding in plain sight; outsiders and patients alike often don't understand how serious the syndrome is or that there might be treatment for it. Patients most often continue to work without making changes, causing further injury until the symptoms become severe.

Many are injured through computer use, but any repetitive motion can cause RSI. New Orleans artist Sierra Kay developed excruciating pain from using an exacto knife, for example. Also, up to a quarter of all RSI patients are musicians who injure themselves primarily from playing their instruments. The New Orleans Musicians' Clinic regularly sees patients with carpal tunnel syndrome. Lisa Lutton, M. AmSAT,

who treats RSI through the Alexander Technique, has also "worked with many musicians with carpal tunnel syndrome or tendonitis. Several musicians have come to me over the years, some on the verge of having surgery, unable to play their instrument and emotionally devastated as a result."

After learning the technique, these patients were able to avoid surgery and return to playing without pain. In fact, she became interested in the Alexander Technique because of her own music-based RSI. "I used to be a classical flutist, and I developed chronic shoulder pain that was not responding to any standard (and a lot of non-standard) therapies, including physical therapy. I was in daily excruciating pain, and I couldn't play my flute or work at my computer for very long without pain and numbness." After healing her own pain through the Alexander Technique, she trained to become a professional teacher of the technique, and currently practices at Affordable Healing Arts in the New Orleans Healing Center.

Dr. Emil Pascarelli, MD, one of the world's leading authorities on RSI, emphasizes that, while RSI has numerous causes, conservative, effective treatment is available. However, before you can effectively treat RSI, you have to understand its etiology. Movement of the fingers, thumb, and wrists stems largely from muscles located in the forearm (in fact, only a few small muscles exist distal to the wrist), far from common sites of RSI pain, and even more distant parts of the anatomy are also involved: the upper arm, shoulder, back, and neck all affect movement in the hands. This is because all of these muscles work together. When muscles of the shoulder, for example, do not function properly because of poor posture, the forearm and hand must compensate in ways that are not optimal.

When muscles are not in proper balance, they can cause damage to soft tissues that

REPETITIVE STRESS INJURY

results in nerves getting trapped or pulled in the injured tissues, leading to pain and other symptoms. For example, the transverse carpal ligament forms a tight “tunnel” at the base of the wrist, through which the median nerve, along with several tendons that control finger movement, must pass. If these tendons become tightened due to forearm muscle shortening, they will cause friction through the tunnel, leading to inflammation and swelling that compresses the median nerve and causes the pain characteristic of carpal tunnel syndrome. While carpal tunnel syndrome is just one cause of RSI (less than 10% of RSI patients suffer from it), other injuries are caused in similar ways. The specific anatomical structures are different, but the etiology always involves this sort of complex interaction between muscles, tendons, ligaments, and nerves.

Repetitive motion with suboptimal posture or positioning causes injury to one structure, which in turn affects other structures, often resulting in pain at locations quite distant from the initiating muscle.

Ms. Lutton has also found that “often, the root cause of the problem is not where the student is having pain. For example, wrist pain, whether carpal tunnel syndrome, tendonitis, or other RSI, often stems from poor use of the head, neck, back, and shoulders. That’s why it’s crucial to address how the student is using their whole body, rather than just addressing painful symptoms. Symptoms can improve with localized treatment, but if the root cause of the problem has not changed, symptoms can reoccur.”

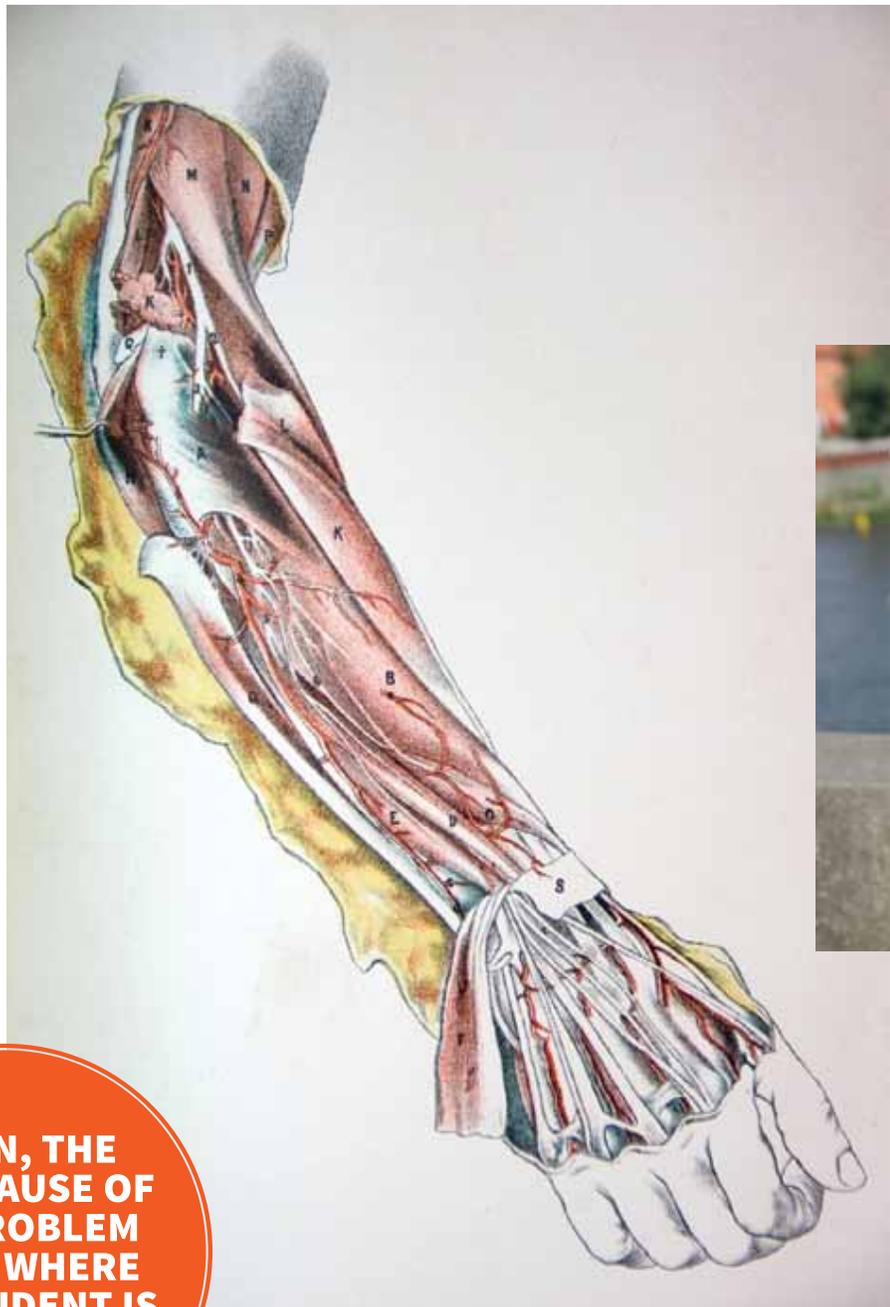
Starting in the 1940’s, Dr. Janet Travell, MD, used clinical experience and research to develop a system for treating “referred pain” based on these complex interactions. She coined the term “trigger points” to describe the phenomenon of an initiating muscle (“the perpetrator”) interacting with other muscles and soft tissue to create injury and pain felt in another anatomical area (the “victim”). Through massage of specific “trigger” points of the “perpetrator” muscles,

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the tightness in overused muscles can be relaxed, releasing strain on downstream anatomical structures and thereby reducing or eliminating the pain. Her techniques have been extremely beneficial to a great number of patients (including John F. Kennedy, who honored her with the position of White House physician in gratitude for treating debilitating pain that was threatening his career). Dr. Travell and Dr. David Simons, MD, codified decades of research and experience into a comprehensive volume, “Myofascial Pain and Dysfunction: The Trigger Point Manual.” This information was in turn

used to create a more accessible self-healing guide to these techniques, “The Trigger Point Therapy Workbook,” by massage therapists Clair and Amber Davies. This practical description of symptoms, causes, and treatments, along with anatomical diagrams, is a valuable self-help manual for pain stemming from trigger points throughout the body, designed to be used by patients without specialized medical training.

Both Dr. Simons and Dr. Pascarelli point out that, as important as muscles are to the functioning of the body, RSI is more neglected than it should be because there is no muscle/soft-tissue specialty in medicine. Medical treatment is further hindered





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by today's expectation of short office visits. Diagnosis of RSI cannot be done quickly, according to Dr. Pascarelli. Each patient requires a thorough physical exam and full patient history, which can take as long as two hours for a first patient visit. Treatment is also not straightforward; while medications such as anti-inflammatory pain medications and muscle relaxants can help to alleviate symptoms, there is no simple cure for RSI. Corticosteroid injections can be helpful, and in severe cases surgery is indicated, but the main treatment axes lie outside the realm of standard medical practice.

The first is ergonomics. This is the science of adjusting the patient's workspace

to reduce the strain that leads to RSI. This includes factors like desk height, size and shape of the keyboard, and height of the monitor, for computer users. The second is workstation biomechanics, or how you use your body at your workstation—this includes posture, wrist angles, and pressure exerted while typing, gripping a mouse, or playing a musical instrument. The third consists of directed approaches such as massage, stretching, and exercises focused on the source anatomical structures—generally specific muscles—that trigger the cascade that leads to symptoms. Practitioners such as physical therapists and massage therapists are generally better suited to conduct

these treatments than most medical doctors.

Massage therapy can be extremely effective in treating RSI. Maria Licodo, LMT, an RSI-trained therapist, has successfully treated a great number of patients with massage combined with analysis of biomechanics to prevent future recurrence of symptoms. In her Marigny practice, The Maria Zone, her clientele reflect the diversity of RSI sufferers in New Orleans. "I treat musicians, bartenders, servers, and other massage therapists who develop injuries from repetitious work movements, inefficient body mechanics, and postures. Though pain may manifest in the hand, wrist or shoulder, it is important to treat the entire arm and up through the neck, and the chest," said Licodo. "Depending on the particular injury, I focus on particular muscles—e.g., for bartenders with thoracic outlet syndrome (numb hands, shoulder pain) I loosen the front of the neck, entire arm (especially forearm flexors), and pectoralis major and minor, plus, strengthen the rhomboids in the back through active resistance. I try to see all my musician clients play, so I can see exactly how they use their body and interact with their instrument. I correct muscular imbalances that occur from cumulative repetition with deep pressure techniques such as Neuro-Muscular Therapy, Trigger Point, Deep Tissue, and Sports Massage. A lot of my musicians I treat like athletes because New Orleans musicians play long sets, many days per week and have weeks of festivals to make it through." Of course, she treats more "conventional" RSI patients as well. "I have had a lot of success with alleviating carpal tunnel pain in the hand through working the forearm wrist extensors (extensor carpi radialis longus and brevis, extensor carpi ulnaris) and flexor muscles in the forearm (flexor carpi radialis and ulnaris, and palmaris longus). For one client, heading toward surgery, we were able to lengthen and retrain the muscles and relieve the pain after two sessions/week for 3 weeks. The client also changed her keyboarding habits, began self massage at the end of the day on muscles I



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pointed out, iced when inflamed, and also stretched her hands throughout the day.”

In addition to physical therapy and massage, two other techniques have been shown to be effective in treating RSI. The first is acupuncture, cited by the Tulane Medical Center as a specific treatment with evidence for effectiveness in treating RSI-based tendonitis. The second is the Alexander Technique. Lisa Lutton, the classical flutist who successfully treated her own RSI through the Technique, has also used it to successfully

treat carpal tunnel syndrome, tendonitis, frozen shoulder, thoracic outlet syndrome, headaches, back pain, and other chronic pain. She emphasizes that the practice consists of individualized teaching; training patients to heal themselves through replacing unhealthy habits with healthy ones.

“When I see clients with RSI, I look for patterns of excessive tension in their movement and posture. We work together to pinpoint areas of strain, and I show students how to release tension on their own.

Reducing tension reduces compression, and symptoms start to improve as a result of this change in overall coordination and body use.” Crucially, this approach aims to develop healthy habits to prevent RSI recurrence in the long term. “Through studying the Alexander Technique, students become more aware of how they are using their entire body. They learn to recognize warning signals earlier, and have tools to help them reduce compression immediately, right where they are, in any activity. A side benefit of this holistic approach is that students often report feeling better in general. They feel more confident, better able to concentrate and manage stress, and other painful symptoms improve.”

While different from the standard medical approach, the technique “is rarely in conflict with a standard medical approach. Doctors and physical therapists do refer patients to me, especially in cases where they suspect that a postural issue is contributing to pain, which is common. I often see patients who have been through all the standard western medical interventions and are coming to me as a last resort. I love working with those patients, because they are highly motivated to change and tend to practice the Alexander Technique on their own. For people willing to practice the skills of the Alexander Technique, it is highly effective.”

These techniques all require commitment and time. However, like all lifestyle changes, they have the advantage of treating the root cause, rather than just the symptoms, of the illness. Just as weight loss through improved nutrition and regular exercise takes longer than crash diets, but leads to more sustained results, treatment of RSI based on building an ergonomic workspace, optimizing posture and technique, and incorporating stretching, exercises, and massage into one’s daily routine can serve to not only treat existing RSI, but to maintain healthy, functional hands and wrists throughout the professional years and beyond. ■