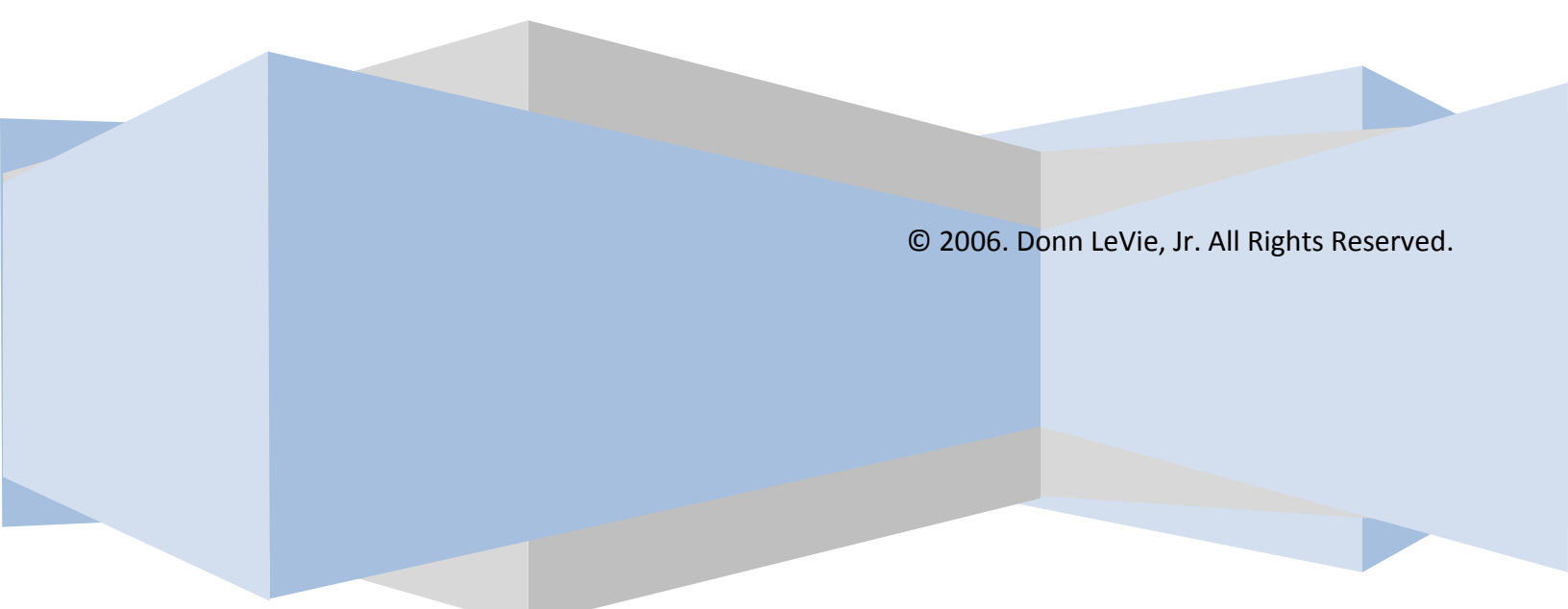


Understanding Repetitive Stress Injuries for Musicians

By Donn LeVie, Jr.

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An abstract graphic at the bottom of the page consists of several overlapping, semi-transparent 3D rectangular blocks. The blocks are rendered in shades of light blue and grey, creating a sense of depth and perspective. They are arranged in a way that suggests a path or a series of steps, with some blocks appearing to be in front of others.

Understanding Repetitive Stress Injuries for Musicians

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I suffer from occasional bouts of pain from repetitive stress injury (RSI) to my wrists and from minor osteoarthritis. In fact, I'm typing this article wearing my fingerless gloves (see photos in this article) that provide extra wrist support because of a RSI flare up. The RSI can suddenly show up on my left wrist so much so that I cannot rotate my forearm outward to the degree necessary without pain to practice on the guitar. Taking supplements has kept the osteoarthritis in check and hasn't caused much discomfort at all as of late. More about the supplements later.

So, I figured there must be thousands of folks like me...people who spend 6+ hours a day on the computer or other job with repetitive tasks, and then several hours a day on their instruments—particularly stringed instruments—and have to deal with various injuries associated with repetitive stress. What treatments and what supplements or medications are available to help address repetitive stress injuries?

The Field of Music Medicine: How it All Began

The field of Music Medicine is a relatively new one. Many credit pianist Gary Graffman with bringing to the public's attention in the early 1980s the idea of Music Medicine and the unique health challenges suffered by musicians. Gary was a successful concert pianist who had developed some difficulty using the fourth and fifth fingers of his right hand after many years of prolonged practice each day. A factor that contributed to Gary's physical ailment was the fact that he ignored the early warning signs; he waited until the problems with his fingers interfered with his performance. Another contributing factor that kept Gary silent was the fact that acknowledging an injury that affected his performance would likely have an impact on future concert bookings.

Gary saw 18 doctors who had 18 different diagnoses about his injury. The next doctor figured out that Gary's injury was related to the way he played the piano. Gary's injury stemmed from using his third finger rather than his fourth or fifth to play octaves. Gary's media blitz as well as later published research in the medical field about Music Medicine showed that musicians sustain physical injuries related to their instruments. Now, doctors specializing in Music Medicine understand the physical challenges of practice and performance, which allows them to properly diagnose and treat related injuries suffered by musicians.

Carpal Tunnel Syndrome (CTS) and Computer Use: No Link?

Some authorities in the computer sciences field claim that there has not been one confirmed, fully documented case of CTS ascribed to computer use. They claim that everyone would have CTS if it were the cause. Internationally known hand surgeon

Peter A. Nathan of Portland, Oregon, who has conducted many studies analyzing the hand-activity components in a wide variety of job categories, was not able to identify any job-related activity (including keyboarding) that produces biomechanical forces sufficient to compress the median nerve at the wrist. There's even some controversy surrounding the effectiveness of ergonomically designed keyboards, chairs, and wrist rests in their roles as mitigators of CTS and repetitive stress injuries.

Repetitive Stress Injuries are Real

It should be obvious that any kind of activity that is highly repetitive in nature and involves small muscles and bones is likely to cause an injury sooner or later. Whether it's "tennis elbow", "golfer's elbow", "housemaid's knee", or Carpal Tunnel Syndrome, it can be very painful and leave you out of commission with your instrument (or computer) for weeks if not months. These RSIs have similar causes (inflammation around a joint), prevention methods, and treatments. I'm only going to mention some major ways for guitarists to avoid RSIs in this article, so for much more detail on RSIs, search Google on these terms: carpal tunnel syndrome, repetitive stress injuries, musician injuries, bursitis, tendonitis.

The RSI that most concerns guitarists is CTS. Simply stated, the tendons that trigger muscle responses in the hands pass through a narrow passageway between the collection of tiny bones in your wrist (called the carpal tunnel). If your wrist is even slightly out of alignment, it forces the tendons to bend and rub through that tunnel. That friction is transmitted as (often debilitating) pain felt in the wrist, palm, and/or forearm.

Research the topics thoroughly, and talk to your doctor if you think you have a RSI.

Does Guitar Playing Cause CTS?

I've never heard of anyone getting CTS directly from playing the guitar, but I do know that it can exacerbate a pre-existing condition, especially if you spend a lot of time on a computer keyboard and working with a mouse, like I do. Besides my daily guitar practice sessions that last several hours, I work at the computer much of the day and some in the evenings on Good Harbor Music business.

If you seek medical attention at the first sign of pain, carpal tunnel syndrome is indeed reversible in most cases. The pain will usually go away and you'll have no lasting damage to your hand or wrist. But if you delay and let it go on, surgery may be required and there's no guarantee that it will correct the problem long term. My daughter had surgery several years ago to repair a broken wrist she suffered in a car accident. She later developed CTS, and a few years later after a second surgery on her wrist to attempt to fix the CTS, is only marginally better today than before the surgery.

Needless to say (I'm going to anyway), a good guitar teacher can spot poor or improper technique early to help avoid such physical injuries; a good Music Medicine professional can help get musicians back to optimum performance levels.

Let's discuss how you as a guitar player can prevent getting an RSI or minimize its effects.

Warm up adequately. Select exercises that use all the fingers of your fretboard hand, such as chromatic scales starting at the low E string running up to the 4th fret, then the A string, etc. and then backwards starting at the 4th fret of the high E string back down to the open low E. Talk to your teacher about other exercises (*Giuliani's 120 Right-Hand Studies* is a great warmup for the strumming hand as are the exercises in Scott Tennant's book and DVD, *Pumping Nylon*).

Try using spandex therapeutic gloves like these pictured here. I use them when warming up and when practicing pieces low on the neck that challenge the left hand's ability to s-t-r-e-t-c-h. (Check out www.themusicstand.com to see if they still sell these gloves...about \$20.)



I once fingered a chord that covered four frets low on the guitar neck without warming up adequately. I strained my wrist and lost almost two weeks' worth of practice. Do as I say, not as I do.

I do a lot of work on the computer writing books, maintaining websites, and running several businesses. I have found the *Futuro* splint wrist brace to be a lifesaver whenever I feel RSI setting in or want to minimize wrist strain when preparing for a recording session or upcoming performance. I wear one on each hand. Amazon.com sells them as will any good pharmacy. Be aware that there are no "left hand" or "right hand" versions. You buy two and have to reverse the metal splint in one of the braces to work on the opposite hand.



Maintain proper posture. Another important element for avoiding RSIs. You must practice using proper posture. Not only will you minimize the probability of acquiring an RSI, you'll also perform better. When I practice, I sit on the stool or chair I will be using when I perform and I use the same footrest I will be using when I perform. I'm training my body and my mind to be in perfect alignment for the best possible performance.

Have a guitar teacher review your posture and make the necessary adjustments. My last teacher made micro-adjustments to my posture, which resulted in far less discomfort after practice sessions. Invest in a full-length mirror (you can get the 16" x 60" that hang off of doors for \$20 at home improvement stores) so you can check yourself.

Position the Instrument Correctly. Proper posture and correct positioning of the guitar go hand in hand. Proper positioning of the instrument means no undue stress on your wrist-elbow joints. I have a full-length mirror in my studio that I and my students use to check not only our posture but the correct alignment of the instrument with our bodies.

Your tone and performance will suffer if the instrument is not properly positioned on your body – and if your instrument is not properly sized for your body.

Take Frequent Breaks. Take a 15-minute break for every 45 minutes of practice time. Get up walk around, stretch your wrists and fingers, and walk away from your practice area. These breaks rejuvenate your concentration and give the joints a short rest from all the work they have to do.

Limit Activity During Recovery. The best advice is to learn to live with the fact that your wrists are damaged and they need time to recuperate. I strongly suggest that you limit your wrist activity (computer keyboard, guitar playing, arm wrestling) to what your medical professional advises. Don't push it as you'll only suffer setback after setback.

Pace Yourself. Don't attempt music that is too advanced or difficult for your current level of expertise. You should always be moving forward in your studies with increasingly difficult pieces, but don't leap ahead too far too fast. It can lead to frustration and injury.

A Word About Osteoarthritis (OA)

Osteoarthritis is a disease that affects joints in the body. It can involve any joint, but usually concerns hands and weight-bearing joints such as hips, knees, feet and spine. Cartilage is the tough elastic material that covers and protects the ends of bones. In healthy joints cartilage acts as a shock absorber when you place weight on the joint. The slippery surface of the cartilage allows the bones to move smoothly. When a joint develops osteoarthritis the cartilage gradually becomes rough and thin, and the bone underneath thickens.

No one knows for sure what causes OA, although scientists are well on their way to understanding the events that lead to the breakdown of cartilage. Researchers now think that several factors may increase your risk for getting OA. Key risk factors include heredity, excess weight, injury, and joint damage from another type of arthritis.

I found out during a recent annual physical that I have the early stages of osteoarthritis in my hands. A month or so prior to the physical, I had injured the first joint of the index finger on my left hand on a woodworking project. Several weeks later, I noticed a bony growth on the inside portion of the joint. This growth made playing partial bar chords on the first fret rather painful. X-rays revealed not only the bone spur but some cartilage loss in other joints of the hand.

Although there is no cure for OA, a lot can be done to help manage the condition. On the suggestion of my doctor, I began taking glucosamine chondroitin and Omega3 oils in addition to my other daily regimen of supplements. After six months on the glucosamine-chondroitin and Omega3 oils, I noticed a reduction in the size of the spur

(it's now completely gone) and no discomfort in the finger joint when playing at or near the first fret.

All the medical studies on the effectiveness of these supplements suggest that it helps some people; and others, it doesn't. Your mileage may vary, but they worked for me.

A New Injury

Several months ago, I injured my left knee exiting my SUV; my upper body rotated as I stepped out of the SUV, but my knee didn't. As a consequence, practicing and performing with a footstool generates significant discomfort in my left knee after 30 to 45 minutes of practice or performing. The sports chiropractor I saw seemed to think I had a possible tear of the meniscus tissue (in the knee between the upper and lower leg bones). I have since opted for the guitar cushion that fits the "hip" of the guitar and sits on my left thigh. This device allows me to keep my left foot flat on the floor while placing the guitar in the proper playing position. I have also been using the small tripod stand with suction cups that fits on the sides of the guitar, and that too works to keep the left foot flat on the floor and hold the guitar in the proper performance position. In the meantime, I am getting physical therapy for the left knee, and my left knee is recuperating slowly but surely.

Conclusion

The advice here falls under the category of "common sense." Warm up properly, watch your posture, watch your instrument's position, pace yourself, and take frequent breaks—simple advice to minimize the chance of RSIs happening to you. You also have to be more aware of how the rest of your body navigates and ambulates during the day to avoid other injuries that could prevent challenges to the performing artist.

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*Classical guitarist, church musician, and author Donn LeVie, Jr. has released **It's All About HYMN: Essays on Reclaiming Sacred and Traditional Music for Worship** (Kings Crown Publishing). Look for the companion CD in late 2011 entitled, **For HYMN**, which will contain classical guitar arrangements of sacred music, traditional hymns, and inspired classical music on the Good Harbor Music label. Contact Donn at donnleviejr@donnleviejr.com.*

