

INJURY PREVENTION FOR THE CLASSICAL GUITARIST

By Douglas Niedt

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Bráulio Bosi, one of my doctoral students at the Conservatory of Music, University of Missouri-Kansas City, recently completed his dissertation, *Becoming a Healthier Guitarist—Understanding and Addressing Injuries*. He found that injury rates among guitarists are extremely high. Some studies say that 62.5% of classical guitarists have had at least one injury sometime during their lives. To make matters worse, of those 62.5%, only 25% of them sought professional medical treatment after the injury.

One of the most important points Bosi makes is an obvious one: it is better to prevent injuries in the first place rather than having to treat them later on. Unfortunately, his data indicate that few musicians are aware of basic preventative steps they should take to avoid injuries. And sadly, many of those who *are* aware of the importance of prevention, ignore or minimize the importance of proper practice/performance procedures and even worse, ignore pain until it becomes a major problem.

Injury prevention is not rocket science. Most of it is basic common sense. Be proactive and have a look at the following recommendations. If you don't, you may be headed for trouble.

Warm Up First

NEVER sit down and immediately begin playing a difficult piece that is fast, has stretches, or requires significant left-hand strength. Warm up first.

Recommended warmup:

One or more of the following routines can be used depending on how much time you have to practice (longer practice session=longer warmup) or how your hands feel. If your hands are cold, feel stiff, or feel sluggish and unresponsive, do a longer warmup.

- Play SLOW scales for 10-15 minutes.
- Play slow arpeggios for 10 minutes or more. After 10 minutes, you may gradually speed up over a period of 10 to 30 minutes.
- Play through easier pieces *at a very slow speed* for at least 10 minutes. How slow? Slowly enough that the *hands feel zero stress*.
- DO NOT DO STRETCHING EXERCISES AS PART OF YOUR WARMUP. Hard research on this topic is sparse. What little research that is available in the music field and sports medicine shows that

stretching produces no significant positive effects and indeed may have negative effects. AFTER you have warmed up, the *careful practice* of stretching exercises is beneficial to learning specific pieces and passages. The key words are “careful practice”. Any stretching exercise or movement has the potential to cause injury.

When You Practice

- NEVER play or do anything that hurts. Mild stress, fatigue, and discomfort may be okay for short periods. **But pain, never. If something hurts, figure out why and fix it.**
- Do not “binge practice”. Maintain an even practice schedule. Do not practice 3 hours once a week. Do not practice 30 minutes every day and then 6 hours on Sundays. **Play for approximately the same length of time every day.** Binge practice is one of the leading causes of injury among amateur players. If you have to stop playing for several days or are just getting back into playing, do it gradually. Start with 15-30 minutes and *gradually* increase your playing time.
- TAKE BREAKS. Take a break every 10-15 minutes. Stand up, and move about for 1-2 minutes. Take a 10-minute break every hour. Take a short walk outside or walk around inside the house. The important thing is to get out of the chair! **If you are like me and become so engrossed in your playing that you forget or don’t want to stop, set a timer and place it at the other end of the room to force yourself to get up to turn it off.**
- If you stop playing for 30 minutes or more, you must do some warmup again before jumping back into heavy practice.
 1. If it has been 30 minutes to two hours, a light or reduced warmup may suffice.
 2. If it has been longer than that, a full warmup session may be required.
- Take breaks as you practice. Practice your pieces in chunks, resting several seconds between repetitions. The short breaks give your muscles time to recover and relax. If you are practicing longer sections, take breaks of 30-60 seconds.

Your Guitar

Be sure your guitar is the right guitar for you and properly adjusted.

- Appropriate size and scale length. This is an obvious one. If you have small hands or are of small stature, play a guitar with a shorter scale length, smaller overall size, and narrower spacing between the strings.
- Try using lighter tension strings. Note: string tensions are not standardized among manufacturers. Brand X’s medium tension strings may be much higher tension than Brand Y’s extra-high tension strings. You must try out different brands.
- Adjust the action of your guitar. A low action usually makes a guitar easier to play. If you don’t know how to adjust the action, have a professional do it. Sometimes it may be as simple as filing down the *underside* of the saddle. But it can get complicated. When I had the action lowered on my Ramirez, the saddle and nut were replaced and the guitar re-fretted. But oh my gosh, what a difference it made!

Accessories

The Footstool Versus Alternative Guitar Supports

Many physical therapists, physicians, and researchers see the foot stool as a major villain in guitarists' injuries and playing discomfort. The raising of the left foot causes a number of musculoskeletal adjustments and imbalances affecting numerous parts of the body. Alternative guitar supports are highly recommended by health professionals. It would be best to try different models to see which is best for you. Unfortunately, they can be expensive, ranging from \$25-100. StringsByMail.com carries [several](#).

Anti-Slide Solutions

Sometimes the guitar slides around on your leg. Trying to hold the guitar steady can produce harmful tension in the arms and shoulders. Placing a non-slip fabric on the left leg and the right thigh can make a huge difference in the stability of the guitar and reduce tension. [Read my Technique Tip](#) on another anti-slide solution.

Music Stand

I always assume my students use a music stand. To my dismay, I discover they are using a desk or coffee table as their music stand. This can cause craning of the neck and distortion of the sitting and hand positions causing discomfort or leading to injury. Use a music stand and adjust its position and height so the music is easily viewed without craning or twisting the neck or leaning or twisting the body.

Chair

For those with back pain, using the proper chair is crucial. In the aforementioned dissertation *Becoming a Healthier Guitarist—Understanding and Addressing Injuries*, Bráulio Bosi discusses the importance of the chair and tells us that research shows the best chair is one with an inclined seat, higher in the rear and lower in the front. Bosi writes, “chairs that tilt forward usually have fixed or adjustable angles between 5 and 30°. However, according to performance trials, angles greater than 15° may feel unstable and difficult to adapt to.”

I have lower back pain from spending too much time sitting at the computer. When I read that passage I immediately sawed off an inch from the two front legs of my practice chair and experienced immediate lower-back relief. It was not temporary. Two months later, I continue to experience the benefits of the inclined chair.

Sitting and Hand Positions

Poor posture and incorrect hand positions are common causes of injuries and discomfort. Every player is different but it might be a good idea to reevaluate your sitting and hand positions if you are experiencing discomfort.

Some of the basics:

- Do not bend either wrist excessively up, down, left, or right.
- Do not raise either shoulder up or move either shoulder forward or back.
- Do not practice bar chords for more than 30 seconds at a time.
- Do not over practice rasgueados.

- Use a guitar support instead of a footstool especially if you are already experiencing back, hip, or neck discomfort.
- Always treat the left-hand thumb as a passive participant (it should rarely squeeze hard against the neck).
- Do not lean or crane your neck forward (your neck, not the guitar neck).

Don't Immediately Blame the Guitar

If you sustain an injury, try to analyze what caused it. Many times a student has come into a lesson with a finger, hand, arm, shoulder, or neck injury and told me it was caused by practicing the guitar. After careful questioning, we discover *the injury was caused by something else*. Common suspects are:

- Too much computer work. Caused by the keyboard or mouse.
- Excessive gripping doing daily tasks.
- Repetitive movements doing daily tasks.
- Lifting a heavy object.
- Sleeping on a bad mattress or pillow.
- Other physical exercise or working out.
- Video games
- Gardening
- Raking
- Carpentry
- Cleaning house
- Shoveling
- Painting
- Scrubbing
- Tennis
- Golf
- Skiing
- Throwing and pitching
- Ironing
- Cutting, peeling fruits and vegetables

If you want to practice preventative medicine to the max, you could use this list to get out of doing a significant number of disagreeable chores!

The guitarist may blame the guitar because the injury is very noticeable or is exacerbated when playing the guitar. Therefore, even though the guitar did not cause the injury, while the injury is being treated you may have to stop playing the guitar temporarily or not play certain pieces or do certain movements. But, because the guitar was not the cause of the injury, there is no reason to significantly change your practice routine in the long-term.

If You Are Injured

SEEK PROFESSIONAL MEDICAL HELP. As mentioned previously, few musicians seek professional medical help after an injury. Some temporarily stop playing completely (which may not be necessary or advisable) and many continue to “play through the pain” with no treatment, the wrong treatment, or make no changes in their practice routine. Wrong, wrong, wrong.

Most of us are loathe to go to the doctor given the inconvenience and cost. But if an injury persists for more than 1-2 weeks, go to the doctor. The longer you wait, the greater the possibility that you will cause significant damage that could be irreversible. Do you enjoy playing the guitar? Do you want to keep playing the guitar for many years? Is the guitar your current or a possible career? Don't be stupid. Go to the doctor.

It is best to go to a professional who *specializes in or is familiar with the treatment of musicians' injuries*. If such a professional is not available in your area and you have a hand injury, at least try to find a hand specialist. TAKE YOUR GUITAR TO THE APPOINTMENT. It is sometimes crucial that the physician see the precise movements that cause your pain in order to make a correct diagnosis.

Self-help

If your injury is mild and you want to treat it yourself for a week or two before seeking professional help, these treatments might help:

- Take an anti-inflammatory drug such as ibuprofen (Advil, Motrin IB, and others). Use caution, these drugs have side effects. Do not use for an extended period of time.
- Apply topical creams with anti-inflammatory medication — popular in Europe and becoming increasingly available in the United States — also may be effective in relieving pain without the potential side effects of taking anti-inflammatory medications by mouth.
- If it is a hand injury, try hand-contrast-baths. These are very effective and I highly recommend them to treat mild muscle strains and mild tendinitis. [Read my technique tip here.](#)
- Massage the affected area.
- Avoid the movements or don't practice any passages that cause or trigger the pain.
- Immediately after an injury, ice the area to reduce inflammation. Alternating ice and warm moist heat may also be helpful. Continue daily treatment.

IMPORTANT: The sooner you treat an injury the more quickly it will heal.

Summary

- Practice smart. Warm up. Take breaks. No binge practice.
- Be sure your guitar is the right size for you and properly adjusted.
- Choose the right accessories and use them correctly to reduce tension and discomfort.
- Continually evaluate your sitting and hand positions.
- If you experience pain, pinpoint whether it is from playing the guitar or some other activity.
- If you are injured, treat immediately. Do not self-treat for more than two weeks. Seek professional medical help.

IMPORTANT: When you change an element in your practice routine whether it is a sitting or hand position, chair, music stand placement, guitar support, taking breaks, etc. it takes time to evaluate whether it is a positive, negative, or neutral change. You can't try a guitar support for a day and say this doesn't help. You can't try a new hand or arm position and after 30 minutes say this is better or worse. It will usually require one to three weeks to form an accurate evaluation. Be patient.

These recommendations not only will help prevent injuries, but will help you practice more comfortably. Comfort means you will enjoy your practice more. Comfort means you will be able to focus better on your practice and playing. Comfort means if you want to, you will be able to practice for longer periods of time.

A Final Fun Thought: EAT CHOCOLATE



Dark chocolate has already been hailed for its positive effects on cardiovascular health—and now a study (2016) undertaken at London's Kingston University has found it could help give sports enthusiasts (and guitarists??) an extra edge in their training.

The research team discovered that dark chocolate provides benefits similar to beetroot juice, now taken regularly by elite athletes after studies showed it can improve performance. Beetroot juice (which tastes like liquid dirt) is rich in nitrates, which are converted to nitric oxide in the body. This dilates blood vessels and reduces oxygen consumption, improving athletes' endurance.

The team from the British university wanted to find out whether dark chocolate could provide a similar boost, as it contains a substance called epicatechin, a type of flavanol found in the cacao bean, that also increases nitric oxide production in the body.

The study was conducted on cyclists and demonstrated measureable improvement in their endurance performance. An early conclusion is that “recreational athletes who would like to improve their performance” might consider swapping a daily cookie or soda for a square or two of dark chocolate, said Rishikesh Kankesh Patel, a graduate student at Kingston University who led the study.

But he cautioned that scientists do not yet know the ideal dosage of dark chocolate for athletes, and that more than 40 grams is unlikely to be helpful. Cocoa and epicatechin levels also vary widely from brand to brand which makes precise dosing of the performance-enhancing content tricky.

In this study, Dove brand dark chocolate, which has been found in past tests to contain an above-average amount of epicatechin was provided for the athletes. If you want to do your own “research”, look for chocolate bars labeled as having cocoa content of 70% or higher with cocoa solids (not sugar) listed as the first ingredient.

Yeah, yeah, I know. Playing the guitar is a very different activity from cycling, but hey, who knows? Maybe a little chocolate will help you play *Leyenda* faster and reduce hand fatigue!

Now, read on.

In another recently published study (2016) in the journal *Appetite*, a team of researchers from the University of Maine, University of South Australia and Luxembourg Institute of Health found that eating chocolate can also improve cognitive function.

The team looked at data from 968 participants aged 23-98 and found that those who ate chocolate at least once a week performed better on cognitive tasks than those who ate chocolate less frequently or not at all. In this study it was not clear whether eating chocolate more than once a week was linked to better test results than eating it weekly.

Unfortunately, the team also found that when compared to those who never or rarely ate chocolate, those who indulged in chocolate on a weekly basis also had higher levels of cholesterol, including the “bad” LDL cholesterol. However, those who ate chocolate also had lower glucose levels, and were less likely to suffer from Type 2 diabetes and high blood pressure than those who didn't eat chocolate.

Maybe I can talk Bráulio Bosi into doing a new dissertation on *Chocolate and the Guitarist*. I for one, will be a willing test subject.