

Non-Linear Editing without the Pain— How to Keep Your Body Happy When Chained to a Computer

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YOU all know the feeling—that annoying “nag” in your wrists, that stinging/”tingling” feeling down your forearms, perhaps that aching pain in your shoulders and neck. At first it was a minor annoyance... and now sometimes you find yourself “rushing” your edits, or perhaps even not editing at all, because of the pain.

You’re not alone. As more and more people become “knowledge workers”, doctors and therapists are seeing more and more cases of Computer-Related Repetitive Stress Injuries (RSI), or colloquially, “Carpal Tunnel Syndrome” (CTS). And Non-Linear Editors are especially susceptible, what with their long hours sitting in the dark, ‘hunched’ over a keyboard, moving the mouse back and forth.

First, a little anatomy. You’ve maybe heard about the little “tunnel” in your wrists, from which we get the name “Carpal Tunnel”. But what does this mean? Essentially, there’s a very small ‘slot’ in your wrists for your tendons plus your nerves to fit into, which is located right about where you usually take your “pulse”. And there is usually enough room in this ‘slot’ for the tendons to slide back and forth when you’re doing normal movements, such as opening doors and grabbing things with your hands.

It’s when you do repetitive motions, especially small, tiny repetitive motions, that the tendons in the wrist start to swell. Unfortunately, using a keyboard and mouse is precisely the kind of small, tiny, repetitive movement we’re talking about. Luckily, there are ways to reduce this tendon swelling, and the pain it causes.

OKAY, enough already! How do we get *rid* of Carpal Tunnel Syndrome?

Here are three ways, in order:

- I. Simple, easy exercise(s)
- II. Better posture and/or ergonomics at your workstation, *-and-*
- III. “Listening” to your body

I. Exercise(s):

No, we don’t mean “jumping-jacks” or running around a track.

It turns-out if you *deliberately* exercise and/or ‘stretch-out’ the tendons in your wrists, you will begin to reduce the pain. By stretching these tendons, you ease their swelling, and in-turn they put less pressure on the nerves. And so the pain goes-away!

Gentle exercising is wonderfully effective for reducing Carpal Tunnel Syndrome. You can do the following exercises while sitting in your chair, but it's best to do them in fresh air. Get outside if you can.

1) **First, “roll” the wrists.**

Start slowly, feeling your wrists float like “jelly” as you ‘draw circles’ with your hands. Don’t tense, don’t strain; the idea here is to “warm-up” the wrist-joints, so smooth slow circles are best.

Do each hand separately, and then do them together. {See *Figure 1*}.



Figure 1

For “extra credit”, warm-up the rest of your major joints as well, especially the neck, shoulders, ankles, hips, and knees. “Roll” each in-turn, slowly, gently. If you feel “glitches”, stop, and ‘ease’ into the area. Do *not* ‘force’ anything!

2) Next, *gently* stretch the hands 'back'.

Twist each hand, palm-up, as-if the fingers are “drilling” upwards. Use the other hand to help guide the twist. In time, as you develop more flexibility, you can start pulling the [twisted] wrist downwards, as you drill. In Figure 2, the right hand is being twisted by the left (counter-clockwise), while the ‘heel’ of the right hand is moving downwards, slightly.



Figure 2

When you’re done, do the left wrist.

3) Now do the opposite wrist stretches.

Here the right hand is being twisted clockwise. Over time, as you develop more flexibility, begin to pull-back the twisted wrist, in this case the right wrist, into the sternum/chest.

Notice if you can feel a slight 'buzzing' or 'tingly' sensation when you do this. If you feel that sensation, you have just discovered your tendons! Notice where they're located, in your wrists and arms.



Figure 3

Do both wrists.

4) Now, relax each wrist by suspending it in turn from the fingers. Here the (right) hand is suspended by its fingers. You can use the (left) hand to 'shake' the (right) hand, to help 'drain'-out the tension in the right wrist/arm. Let the tension fall like water, 'dripping' off the elbow.

Advanced: Not-only can you 'drain' the wrist, but you can drain the tension from the arm, elbow, and shoulder as well. Notice how much the (right) shoulder is 'drooping'. This can't happen if there's tension in the arm or the shoulder.



Figure 4

So, now you know how to: (1) 'roll' the joints for warm-up, (2) twist the wrists inwards, (3) twist the wrists outwards, and (4) relax and 'drain' the wrists and arms.

Try these four exercises, once a day for a week, for about 2-5minutes a day. Give it a chance. By the weekend, you definitely will notice a difference in your wrists. If your wrists are 'sore', however, you've over-done it, and should avoid these stretches for a few days.

Again, the important thing here is to be **GENTLE!**

“No-Pain No-Gain” is **NOT** the correct perspective, at least for tendon-stretches. . In fact, twisting your wrists to the point of pain will just create more damage, rather than helping heal the pain you already have.

“Okay, I’ve done the exercises... but my wrists still hurt. What gives??”

The key here is patience. You’ve spent a lot of time building-up Carpal Tunnel Syndrome; don’t expect the pain to vanish overnight! And especially since we are stretching tendons here, we’re *deliberately* exercising “slow”.

“When I stretch, it almost feels like the ‘twinge’ is getting worse. Am I doing it right?”

At first, the “twinge” feeling as you gently stretch, might seem to increase a little. This is normal. Our first step here is to “wake-up” these tendons, and then to gently warm them up. As you warm them up via stretching, they begin to relax... which in-turn eases their swelling. Think of acoustic guitar strings. You need to stretch them when they’re brand-new, and then they settle-back, loose but ‘taut’. Here we stretch the tendons to make them ‘loose’ as well.

Pay attention to how your wrists feel. If they heat-up, like a very-light ‘burning’ sensation, you’re right at the point of almost over-doing it. Overdoing these kinds of stretches runs the risk of developing (new) twinges, similar to that of “tennis elbow”. But if you’re gentle, you’ll be fine. With practice, in time you’ll know exactly how much to stretch, because it will “feel right” and you’ll know when to stop.

II. Better posture and ergonomics at your workstation:

Besides stretching, there are other things you can do to help deal with Carpal Tunnel Syndrome. Practicing good body-alignment is very important.

Carpal Tunnel Syndrome is exacerbated when the wrist is bent or pronated, for long periods of time. If in addition there is (fine) motor-action of the fingers (i.e., like using a mouse, or writing), you’ve got a great recipe for CTS.

1) Solve this by keeping your wrists as straight as possible. From the tip of your middle-finger to the point of your elbow should be a straight line. Lots of people have learned to keep their wrists from bending ‘back’, i.e. using a wrist-rest to keep the wrists from dropping below the level of the keyboard.

HOWEVER, most people do not notice when they turn/twist their wrists to the side... this is often done when the G and H keys on the keyboard are not exactly in front of your sternum/bellybutton. This latter kind of twist over time causes carpal tunnel syndrome as well. Look down at your keyboard and notice if G and H are not in front of you. Since the “9-Key” part of the keyboard extends to the right, that means the keyboard as a whole will *not* be “lined-up” in front of your body; it will be pushed-over to the right a bit.

2) Whole-Body posture. Wrist-posture is actually only a *minor issue* with "Carpal Tunnel". As the children's ditty goes: *wrist-bone connected to the elbow-bone, to the shoulder-bone, etc.* In actuality, wrist aches are not terrible... what is terrible is when the ache extends to elbow, then shoulder, then neck. By this point, doctors usually advise surgery.

This [ongoing, agonizing, and expensive] pain can be avoided with good body posture, as follows:

a) Feet flat on the floor, shins perpendicular to the floor, thighs parallel to the floor. This places your weight firmly on your tailbone/coccyx, and reduces pressure/strain on (*in-order*) lower-back, upper-back, shoulders, neck, chest, then thighs, etc..



Figure 5 – Good Posture

If you [habitually] raise your feet on your toes, this creates tension in the lower-back, upper-back/neck and thighs. This tension will eventually transfer from your neck to your wrists.

Notice *{in Figure 6}* how the feet are on their toes, so that the thighs can be parallel to the floor. In addition, the chair is cutting-off circulation behind the knees.



Figure 6 – Bad! Notice that the heels are in the air

Solve this by either (a) lowering your chair, or (b) getting a foot-rest to raise your feet. Keep your feet close enough to your chair, so that the calves drop straight into the heels of the feet. Put them too far in front of you, pressure is placed on your chest; too close in, pressure is placed on your lower-back.

b) Upper body straight-up, weight of torso dropping through the spine into the sacrum/tailbone. Ideally, it's best to sit on the forward edge of your chair, with the chair (slightly) tilted forwards. This encourages the weight to fall into the correct part of the butt, i.e. the tailbone. It's no coincidence this is the proper posture for seated meditation; using crossed-legs Lotus posture creates a similar 'balance' on the tailbone...

c) Head straight up, eyes looking forward. If the head has to lean forward or back, on an ongoing basis, this causes neck tension, which is transferred to the [shoulders, elbows, then] wrists.

A great way to align your neck and spine, is to "pretend" that a string is attached to the crown of your head. Allow your body to be suspended from that string. Notice how your head, neck, and spine "dangles" from that string. Now place a chair under your "dangling" butt, and there you go -- *perfect spinal alignment*.



Figure 7

- The monitor height is **VERY** important. To maximize viewing without head-motion, it's best to have the eyes looking (directly) at 1/4 to 1/5 of the way down from the top of the viewable screen. Tilting the neck down is often better than tilting up, in terms of avoiding neck-tension.
- Raise or lower your monitor to the proper height and line it up in front of you with your nose, navel, and G+H on your keyboard.

d) Forearms parallel to the floor, upper-arms perpendicular to the floor. Wrists should lightly "rest" on the wrist-pad. The hands should "point" from the arms, and the arms point inwards, forming an isosceles triangle whose base is at the sternum. If the arms are 'forward', i.e. the upper-arms are not dangling down, this creates tension on biceps and chest. If the upper-arms are pushed back, this "closes the back", squeezing the shoulder-blades together, and creates tension there.

- Fix this using wrist pads, moving the keyboard, etc. When the desk/keyboard/wrist-pad is at the proper height and distance from your torso, the upper-arms will be free to 'dangle' downwards, perpendicular to the floor.

3) “Listening” to your body:

Okay, how does “listening” help your Carpal Tunnel Syndrome? And what does “listening” mean anyway?

Well, there are two levels to this process of reducing CTS. The first level we could call “attacking the symptoms”, which is what we do when we’re stretching. The second level of removing the pain, however, is “removing the source of the problem”.

We’re “removing the source” when we fix the ergonomics of our workstation... but only partly. Even the best ergonomically-designed workstation will *still* let you get Carpal Tunnel Syndrome if you ignore your body’s needs. But how do we *know* our body’s needs? Easy, that’s called “listening”.

Ever notice when you get “antsy-pants”, and can’t sit-still? Oh, but you’re a professional, so you’ve learned to ignore that feeling. Perhaps you’ve been editing for several hours, and the Client is very focused on the clock. Or you had a PE Teacher in school who loved to tell you to “gut it out”. Well unfortunately, tendons don’t “build-up” like muscles do... instead, if overworked, they get strained... and you get nagging pain.

So practice cultivating an awareness, of when your body wants to “get up”. Sometimes you’ll find yourself slouching, or perhaps leaning-forward. Ever stub your toe, and it almost feels ‘better’ if you bite your finger, or stub your other toe, or some such? For the body, creating [new] pain is a wonderful distracter. And so when your wrists start to ache, or your lower-back starts feeling sore, and you don’t get-up, your body will naturally change-posture, perhaps finding a different ‘sore’ spot... or creating one.

And as long as you’re “taking a break” (which should be approximately 15minutes every hour, but who are we kidding?), really *try* to **get outside and get fresh air**. This helps your body **IMMEASURABLY** to reduce tension/stress: mentally (*distracts your mind from tension-causing problems*), and physically (*fresh air, among other things, helps the body to release toxins through the skin, which helps the liver and kidneys, which are under tension when the lower back gets tense*).

A final note about “good” posture:

If you are wedded to the idea of "I really **MUST** lean-back in my chair occasionally"... this means you're half way there. 99.9% of good posture is learning to be conscious of your body... *and you're already conscious!* Your body is saying "MY BACK IS TIRED!!!!".

- So, get up from your chair and walk around for 15minutes. Focus your eyes on a blank, featureless white surface for 30 seconds or more. This will allow your back and eyes to 'recharge'... when you come-back, you won't feel that need to "slump" again.

- You should be doing this every hour anyway. Notice how much better you feel after a week of this, and how much [less] pain-killers you are taking.



Dave A. Anselmi is an NLE Editor & amateur filmmaker, who has been a T'ai Ch'i Ch'uan Instructor for over 10 years. He's successfully helped many of his friends set-up their work-areas using these principles, & has found these ergonomic guidelines particularly useful for computer-based NLE Editors. In his experience, NLE Editors tend to sit (still) for longer hours and experience more tension than other computer-based disciplines such as writing or business-processing... leading to prevalent occurrences of Carpal Tunnel Syndrome among NLE Editors.

He hopes this information will help you enjoy your editing, free of (physical) pain!

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