

Climbing Injuries

by Ross Weiter

Are we all headed for chronic injuries ? Will you pay a high price in the future for the climbing you do today ?

I believe that sport climbing and bouldering are the most physically intensive forms of the sport of climbing. It comes as no surprise that the scene is littered with injured bodies of their followers. Not the newspaper headline stuff of blood, broken bones, concussions, hypothermia, but rather the “little” things that creep up on you. Chronic injuries don’t sell climbing magazines and advertising...I mean, they are not very inspirational, are they ?..... and hence this stuff mostly gets swept under the carpet. But not always.

I know, because I am one of the wounded. I am writing this article as I recover from open surgery to my lower back. But, this is not the injury I’ve had recently; two years ago I had a major run-in with elbow tendinitis. Kinda early to be having all this trouble at 30, me thinks !.....and I’m not the only one. I know of others sidelined by tweaked fingers, painful shoulders, painful back, elbow pain etc. It seems fair to say that such problems are all new to the climbing world. Hands up those who ever heard of these injuries in the days before sport climbing and bouldering showed up ? I would be very surprised to see one hand.

I’ve had a lot of time to read books and articles from climbing magazines, and listen to a lot of advice from physios, chiropractor, sports doctor and my orthopaedic surgeon. In other words, I’ve spent a lot of my recent time figuring out what the hell went wrong with my personal climbing gravy train. I won’t bore you with my particulars, but I learned a few things from experience and dug out a few pearls from published literature. I hope that you find these useful.....so here goes.

Are you the sort of climber who:

1. Only climbs and does little other sport ?
2. Is so inflexible that you cannot touch your toes, standing, with legs straight ?
3. Is taller than average ?
4. Has one or both parents with a history of back problems ?
5. Doesn’t warm up or stretch much ? (less than 15 minutes)
6. Is very underweight ?

Congratulations – in my opinion, you are in the highest possible risk category for injury ! A physiotherapist’s best friend, a chiropractor’s guarantee of a BMW and early retirement !!

The big hitters for climbers are injuries of finger pulleys, elbow tendons, shoulders and spine.

They are the result of some or all of the following contributing factors, which I attempted to rank in the order of importance:

- a) Hereditary factors.
- b) Unbalanced muscular development
- c) Not warming up and stretching properly/enough before workouts.
- d) Not stretching properly/enough after workouts.
- e) Low flexibility.
- f) “Good Climbing Technique”: Loading the spine and twisting.
- g) Not enough recovery after training sessions and/or overtraining.
- h) Unbalanced nutrition.

Hereditary Factors: meaning susceptibilities to injuries that you were born with - blame your parents for this one. Tall people are susceptible to back injuries, that’s a fact. From an evolutionary point of view, humans were supposed to be 4 feet tall - only in the last few thousand years we got out of hand somehow and our spinal architecture never caught up. Among basketball players, back problems are second only to ankle injuries when it comes to shortening careers. Another example: most of your finger grip power is hereditary – if you have a weenie grip to start off with, you will never be as strong as Lynn Hill, nowhere near it in fact, *no matter how hard you train*. So you can do everything right, train very hard for brutal finger power and still be burned off by the climbing gym’s Mister Natural.....or worse still, blow a ring pulley as a reward for your efforts. Hence all of us need to live within our limits. Conversely, what this means is that you can do everything *wrong*, as outlined in points 1-6, and still get away with it ! Nature just may have built you for climbing ! The question is, as Dirty Harry used to say: “Do you feel lucky, punk ?”.

Unbalanced muscular development: climbing is very good at working some muscles and bloody useless at others. Stressed out are: inner forearms, front and median deltoids (shoulder muscles) and biceps, the upper back gets a lot of work too. By comparison, the outer forearms, rear deltoid, triceps, chest and lower back do bugger all. This leads to bone joints being pulled out of alignment to one side by the stronger muscle/ligament and wearing unevenly, sometimes leading to arthritis and ligament problems. Hence the opposing muscles need to be trained outside of the climbing gym, for example by weight lifting – this is *the* best way to train as it allows for isolation of individual muscles and working them to failure. And don’t worry, if you don’t use much weight, you won’t get bulky or heavy. DON’T train your climbing muscles in a weightlifting gym – the idea is to restore the balance, remember? Also, since climbing is all about pulling, try some pushing exercises. By the way, everyone says that

swimming is oh-so-good-for-you but I would not freestyle too much – this stroke seems very similar to climbing, i.e. it pulls down with your arms and shoulders, so look out. Backstroke and breaststroke seem more different and so better intuitively.

Warming Up and Stretching Before Exercise:

That we need to warm up before exercise, in this era of supposedly enlightened physical awareness, should be a no-brainer. But many climbers do not concentrate on the right muscles – you need to pay particular attention to the specific areas of climbing muscles mentioned above. I have seen many cases of people stretching legs before climbing.....God knows what for! Only “the splits” seem useful as stretching for climbing. Focus on stretching and massaging your forearms, fingers, elbows and shoulders. I referenced some useful articles for further reading at the end of this one. Finger ring pulleys and elbow tendons especially need to be massaged as they are very slow to warm up due to bad blood supply in tendons (as opposed to a good blood supply to muscles). Then traverse around the climbing gym for a while. If you wish to avoid long-term damage, you need to be thoroughly warmed up before hitting your muscles with maximum load.....at least half an hour of warming up, no less.

Not Stretching Properly After Workouts: OK, you have blown your steam out, time to head out home to the great nutritious chow, right? Wrong! Now is the time to stretch. Stretch the climbing muscles and massage them to remove any residual stresses. Then stretch up your whole body. Get into some Yoga poses if you know how, go on, do the Human Pretzel thing, the whateveritsbloodySanskritnameis-asana. Tight muscles do not recover well and can contribute to tendinitis – if the muscle remains tensed, the tendons at both ends stay stressed out and don't recover well from recent abuse. Also, if you stretch well after a training session, I promise that you will not hurt on the next day! It's that simple.

Low Flexibility: Whichever way you bend whatever bodypart, you will stretch some muscle that opposes that motion. If this muscle is not supple enough and you load it suddenly, it may get damaged. Think lunges, deadpoints, dynos, desperate stuff. The spine is a special case here. When you bend forward for example, you stretch the back muscles, but also buttocks and back of leg (hamstrings), calves and the sciatic nerve (although this one does not stretch much, it mostly just moves through the structures around it). Hence tight hamstrings or immobile nerves cause you to bend your lower back more in order to compensate for stiff legs and achieve the same reach down. Over-bend your back and hey-

presto, spinal injury. Whole body stretching to increase general flexibility is best done as a separate workout because there is a lot to get through. In climbing, we just about never bend *forward* but spend a lot of time bending *back* standing on tippy-toes with tensed calves and hamstrings – this makes them *less* flexible and your back *more* prone to injury through the mechanism explained above.

Loading The Spine and Twisting: You may have heard: “Don't bend and twist your spine at the same time.” In fact bending in itself is touted as bad since it increases the pressure on intervertebral discs many times.....and our discs are so poorly conditioned to start off with because we sit on our bums all day, often in bad postures. So what has this got to do with climbing? Imagine a climber cranking up a very overhanging wall or boulder. The footholds are bad and not under him/her and hence most of the lower body is in fact “hanging from the spine”. The torso is twisted to keep the weight close to the rock, good climbing technique, aye?. The climber crouches low, then throws a twisting dyno to another hold, latches it, feet cut free and body rotates freely. So much twisting and jarring a loaded back! It is my opinion that this is THE reason why, after 5 months of sport-climbing 4-5 times a week, I ended up in a hospital, drugged in a bed, with three tubes hanging from me (don't ask from where). I have my grade 25 (5.12a) to show for it.....hmmm,not much actually, is it?

Insufficient Recovery time: muscle doesn't grow from training, it grows after. You need to allow at least 24 hours for recovery and growth, 48 hours is better. If you don't, soon you will find yourself flogging a dead horse.

Unbalanced Nutrition: There is an abundance of information out there; reference 6 is rather good I think. Just one thing: don't skimp on (good sources of) fat! Climbers need 40-65 grams of fat per day, depending on body size and training intensity. The “super-skinny look” gets the high grades in the short term, but in the long run, it causes problems with tendons and ligaments, joints as well as hormonal and menstrual cycle irregularities in females.

There are many other points to make but little space. I do pick on sport climbing and bouldering, particularly in a gym environment, because it is the most body-stressful form of climbing. In the teens and early twenties, the young body can take just about anything. But – the microtrauma is accumulating and scar tissue is building up to eventually betray those spunky fear-no-death physiques, so be careful out there.

The personal lesson that I have learned is this. If I want to be climbing well for the next 20 years or so, I need to be a lot more clever about it. I need to take a long-term view of my body's needs and subjugate my training to them. What bothers me is that, although I now know about backs and elbows, but what is next – how am I supposed to guess my next injury? And so I decide to give up dynos, twists, bouldering, Bob's Hollow and the like. And I will head back to the Stirlings, West Cape Howe, Peak Head and Mermaid Point and face climb to my hearts desire. Too bad, 'cause I like clipping bolts far better than bush-bashing ! But the views will be better.

Good health.

References:

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3. *"Here's the Rub – Self-Massaging Your Way to Healthy Tendons", Climbing #183, p.124, 1999*
4. *"Back Pain – How to Get Rid of It Forever", John Perrier, Griffin Press, 1999*
5. *"The Complete Idiot's Guide To Healing Back Pain", D.S.Romaine & D.E.DeWitt, Alpha Books, 1999*
6. *"How to Rock Climb Series - Flash Training", Eric Horst, Chockstone Press, p.104, 1994.*

The author has over 6 years climbing experience in all areas of climbing: trad, aid, sport, bouldering and mountaineering. Last year he climbed full-time. Please note that advice given here is based on personal experience and research. Ross Weiter is not a qualified medical practitioner.