



The Human Body: Maintenance Required!

There are 640 skeletal muscles, 206 bones, 360 joints, and 900 ligaments in the human body. The number of things that can go wrong with any one of these structures at any time is frightening. These structures are designed to provide smooth and efficient mobility, stability, and strength to our body.

Bones are held together at their joints by ligaments; the bones are moved about their joints by muscles. It is a great system that can function amazingly, but just one mishap involving any one of the hundreds of structures can lead to problems. Most of the time our body is not functioning in a perfect, balanced, totally symbiotic fashion and we are none the wiser. That is because our body has an amazing ability to compensate; *a little weak in this muscle, lets make this other muscle work a little harder*. Compensation is a great way to accomplish a task that we are asking of our body, but over time this can lead to major problems. This can reveal itself when the compensation goes on for too long. With distance running we are asking these many structures of the body to perform the same task over and over again. If you think about it, running is taking a very basic movement—putting one foot in front of the other—to move our body forward and hopefully fast. Some sources say the average runner will take approximately 1,500 steps per mile. So, 45 miles per week equals 67,500 steps per week and 3,510,000 steps per year. This enormous repetition makes running a prime cause of repetitive stress injuries (RSI) also known as cumulative trauma injuries.

RSI occurs when we ask the body to work a little harder, stretch a little longer, or endure a little more pounding over and over again. The trauma incurred in isolation and in the short term is minimal, but its impact comes in numbers—does 3,510,000 ring a bell. It could take days or it could take years; it all depends on the severity of the trauma, the frequency of the trauma, and the ability of our body to heal from the trauma.

Over time after millions of steps, thousands of miles, hundreds of pairs of sneakers, and dozens of warning signs from the body (usually ignored by the runner) it finally hits us: the pain that we just can't run through or ignore anymore. *How did it happen? What did I do wrong? It's got to be my sneakers! Let's google it!* This goes through our heads when it happens. This unknown is what makes running injuries frustrating to deal with and difficult to fix when compared to a traumatic type of sports injury. For example, if you get hit in the knee by a 250-pound linebacker and tear your ACL there is no guessing how it happened, it is pretty obvious. A force (linebacker) was introduced to the body, the body could not provide an equal or greater force in the opposite direction, the linebacker wins and something in the body breaks (ACL). Your site of pain is at the source of the pain—your knee joint.

Running injuries are usually not this obvious because they are usually an RSI, which inherently makes it harder to find, and remember earlier I mentioned our body's amazing ability to compensate. Well, repeated compensation will not only lead to an injury, but the

site of pain associated with the injury may not be in the same location as the source of the pain.

An example: "I don't know why the inside of my knee hurts. I've been running every day for the past five years, 40-60 miles per week and I'm in PR condition, I'm in great shape so why now?" The person in this example should consider himself lucky that it took as long as five years before the pain stopped him. The muscles on the outside of his hip were not strong enough to handle the repeated and cumulative stress of his running. This allowed his knee to drift inward with every step he ran, leading to too much stress at the joint and tendons on the inside of his knee. Lack of strength on the outside of the hip combined with lack of adequate rest led to the pain on the inside of his knee. More strength, more rest, or fewer miles were his options.

It is very rare to totally avoid an RSI in running, it is part of the sport; the key is how you handle it. We need to listen to our body when we feel something is wrong or painful. Pain is like the engine light in your car warning you to take some action or it will break down. If addressed early these injuries can be treated, pain can be lessened, and sources can be found much quicker then if it goes on too long. If handled by a knowledgeable clinician you can be treated and still be able to train. If you "run through the pain" and start compensating you can end up with more problems and the source of the pain becomes harder to find. At this point, pain is worsening, running is worsening, and attitude is worsening.

So why is this such a common cycle and why are we running around in pain all the time? I think there are several factors: 1) runners tend to be motivated, driven, dedicated, goal oriented (some may call them stubborn). These positive traits make them successful at running, but when it comes to handling an injury it can be a negative; 2) our medical system is great at handling traumatic type sports injuries, but not the elusive running injuries. It will medicate, inject, or operate at the site of your pain, but remember the site may not be the source, so this will not be successful in the long term; 3) runners are not taking care of their bodies properly. It takes length, strength, stability and endurance to run successfully, but you can't get all that just by running. Let's look at another scenario. A typical "computer/administrative" type job requires hours of sitting. Sit to eat breakfast, drive 45 minutes to work, work 8-10 hours, drive 45 minutes back home, sit to eat dinner, sit and relax with some reality TV at night. If you add it up, this person could be sitting almost 12 hours per day and sneaking in a little 45-minute run. Ironically, prolonged sitting and distance running can lead to the same imbalances in the back and legs. So the running, the work, and

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the leisure are all leading to the same imbalances, which will eventually lead to an RSI. The good news about all this is that there is something you can do to help. It may require a "paradigm shift" in how you look at your workouts and free time, but it can not only

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help your running it can rid you of pain that you have or that you haven't acquired yet. Taking care of your body is such an individual practice, not everyone needs the same plan of action. Being evaluated by a trained sports

medicine professional with experience in running injuries would be the best answer to help you start that plan. Learning stretches, strengthening exercises, self massage, and proper warm-up techniques can make a world of difference. People do have a life and responsibilities outside of running, and contrary to popular belief, taking care of your body will not take up so much time that you will need to quit your job or concede to running "kids 1-mile fun runs." Runners can make important changes to the function and structure of their bodies with minutes of work per day, not hours.

You probably spend more time and money maintaining the health of your car and computer than you do on your own body. You only get one body, but you can always upgrade your car and computer. Be smart, educated, and proactive about your body and running wont be painful. The joy, satisfaction, and benefits of running are magnificent—it just takes a little required maintenance. **NR**

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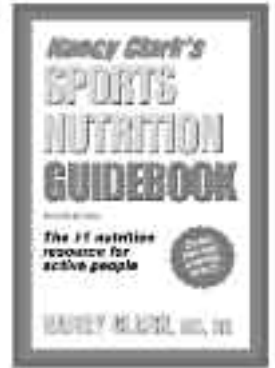
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