

Oh My Aching Back; 4 Keys to Personal Back Fitness



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Mention an injured leg, fractured wrist, pinched fingers, sprained foot or toe, or bruised knee from a sports or work related injury; not a problem. Now consider a "back injury" and your mind starts to shudder, quiver and shake with a strange fear. That's because back injuries can be a career ending injury. There have been over 12 Minnesota paramedics and EMT's that have succumbed to this devastating injury just in the last few years, and some have never returned to work the 911 calls on the street again, and there are many more around the country.

Back complaints are the second most common visit to a physician's office. Most persons experience some type of back injury or pain in their lifetime. There is an increase of the size of patients who need to be lifted or transferred. "Americans are getting heavier," April 24, 2006, reports Jon Tesh radio. Patients are getting heavier, so EMS, fire-rescue and *your* back need to get ready. Start to reduce your risk of injuring your back and maintain a healthy and fit back today. The success may come when we all change *our* personal daily habits.

Has your back been aching you lately? Mine had and has. I never thought I would fall on a slippery floor and injure my back, disc and lumbar vertebrae. It has been four years since my fall and back injury, and I am a "spine patient." They may never let me work as a clinical paramedic or nurse again; I can not bend over and lift heavy loads. I have spent countless hours on several back education and rehabilitation programs. Not to mention the hours I have spent with doctors, physical therapists, chiropractors, massage therapists, fitness experts, neurologists, radiologists, orthopedic surgeons and a spine surgeon, in addition to my personal home and exercise program. I use a lumbar traction unloading device called an LTX 3000 twice daily. Nonetheless, my average workout week in the summer is to bicycle 50 miles and sea kayak 30 miles on a river, and walk 4-5 times a week. I'm not bragging, but some of you with a healthy non-injured back need to get going.

I have discovered four extraordinary lessons about personal back fitness and back injury prevention for all of us to use on a personal daily basis. Tim Barnes, personalized fitness trainer of Pueblo, Colorado says, "Getting fit is improving your quality of life." I met Mr. Barnes at an 18-mile sea kayak marathon on Lake Superior as he was preparing for competition races at the canoe and kayak national competition this summer in Wisconsin. Tim recommends that we need to personally plan to succeed for



To keep his core and back strong, Dave paddles an Epic Endurance 18 foot sea kayak, three times a week.



Do a quick standing stretch before lifting any object below your waist.

a healthy and fit back and body. "Choosing to do nothing," Tim says, "is a plan to fail."

I have summarized some four essential lessons for all EMS and rescue workers to take better care of your backs. They will be presented in greater detail at the 2006 EMS Expo on September 29 in Las Vegas on "Back Injuries and Back Fitness for EMS." See www.emsexpo2006.com.

Get Exercising!

Easier said than done. Exercise is proven to be the best preventative measure and rehabilitation technique for the back injured patient. Informally surveyed, most Twin Cities paramedics from six hospital-based ambulance services in Minnesota, estimate that "only 10 percent of EMS workers 'work-out' 2-3 times a week for 20-30 minutes" if the work-out is not on paid time or required as a mandatory part of the employment guidelines. Exercise provides many benefits; even walking strengthens your back. "Exercises seem to be the only intervention that has proven to be effective for the prevention of low back pain," according to *Wall and Melzack's Textbook of Pain*, 5th Edition, Chapter 46.

Your back must be strong, flexible and provide adequate stability to your whole body, spine and core trunk. Your mind and your body must also be strong for you to perform your EMS responder job successfully. Your stability muscles are your abdominal muscles and your core mid section trunk of your body. Your core must be regularly exercised, strengthened, kept flexible by stretching, and provide stability to your body and back. There are many programs that exercise and strengthen your core, so choose one and start now. One of the best is a Pilate's class, a yoga class, a Swiss ball class, or using routinely an exercise/Swiss ball to work out. Every EMS male and female needs a Swiss exercise ball to help keep their abdomen-core and back strong, flexible and stable during your career. Consider choosing a life sport that you enjoy to keep your back healthy and fit. Exercise and "work-out" now for a healthy back.

Are You Unloading Your Spine?

Disc hydration is increased by allowing your back and spine, namely your intervertebral discs to "unload." This is achieved by using different body positions to reduce the disc pressure on your back. This increases fluid water delivery, promotes healing, and provides nutrients, oxygen, and minerals to the intervertebral disc. It also promotes healing to sore and injured backs both before and a work day.

Try lying at a 90-90-90 on the floor, with your back flat on the ground, your legs and calves supported by an exercise ball or chair. Do this for 10 minutes twice a day (even while watching TV). Swimming or standing in water or a pool to your chest-nipple line also unloads your spine. Some devices such as unloading machines and inversion tables may also reduce disc pressure and unload the spine. Unload your spine daily, to heal and maintain a healthy back.

Are You Dehydrating Your Spine?



Use an exercise ball for your abdominal and trunk/core exercises.



Unload your spine by lying on the floor and assume a 90-90-90 position with your lower legs supported.

The intervertebral disc receives no direct blood flow from the circulatory system. The processes of osmosis and diffusion provide water and nutrients to the disc. Daily, weekly and yearly, your disc needs adequate hydration. However, persons who consume diet drinks, soda pop, coffee, caffeinated drinks and teas, alcoholic beverages (including beer), all dehydrate the disc and can potentially dehydrate the disc over time, which may result in microfractures and unhealthy disc structure. The solution is to increase your consumption of water or mostly water beverages.

If you do consume beverages that dehydrate the disc, don't forget to follow the beverage with a glass of water. Hydration of your spine and discs is another key to promoting a healthy back and lifting career. I suggest you keep a small case of water in your personal vehicle and remember to drink one on the way to and from your shift. Even as I drink a cup of coffee as I type this article, I have a glass of water to sip on too!

Are You Keeping a Normal Spine Curve?

Be vigilant about slouching. Remember, your mom probably told you to sit up and stand up straight! By keeping a normal spine or lordotic position, the discs and spine are better aligned and receive more fluid hydration and nutrients. Constant slouching and loss of the lordotic curve stress the spine and intervertebral disc and surrounding back and abdominal muscles.

Before you lift, do a quick back standing extension! Before you lift, tighten and contract your abdominal muscles to support your back. The standing stretch only takes 1-2 seconds. Think about your dog or cat who always stretches its back after a nap! The standing back extension lubricates the disc, and realigns the disc in a position less prone to common herniation syndrome. The standing stretch also awakens sleeping muscles and tired back muscles.

Keep your head up and force your buttocks outward in order to keep your back closest to a normal spine position. When sitting in a lounge chair or riding the front of the ambulance or rig, use a small towel roll or lumbar pillow inserted behind the small curve of your lumbar spine while you sit. Use normal spine curve and good posture even for normal duties around the home or at work. Even lifting smaller weights over time incorrectly can cause microfractures in the intervertebral disc ring. Stabilize your feet and core/trunk area of your midsection, and contract your abdominal muscles before you lift. Quite possibly, the worst ergonomic maneuver we can do to hurt our backs is to bend, lift, and twist at the same time!

There are many treatments for a herniated disc, some surgical and some non-invasive and non-surgical. One new surgical treatment includes replacing the damaged disc with an artificial disc. The Chartie is an artificial disc now approved for use in America. The Maverick (by Medtronic Sofamor Danek) is also an artificial disc that is undergoing review for approval soon in the USA. I have pre-qualified for a Maverick artificial disc clinical trial and am considering the possible success of these devices in the future. For information on both artificial discs see www.ctsi-spine.com.

The Healthy Back Cardinal Rule: Always avoid bending, lifting and twisting at the same time

©Dave Long, Minneapolis, MN. In 2002, Dave slipped and fell, severely injuring his lower back. Dave is a graduate of Physicians Neck and Back Clinic and the Spine Rehab Clinic Program. Dave is a 15-year veteran sea kayaker, a kayak marathon racer, bicyclist, swimmer, a winter snowshoer and cross country skier. He works out regularly and uses a lumbar traction machine for his back. He is a volunteer staff member and frequent kayak 18 mile-marathoner at the Two Harbors Kayak festival, www.kayakfestival.org, and the event photographer and presenter on "kayak expedition first aid kits" at the Inland Sea Society Kayak Symposium, www.inlandsea.org. He will speak on back injuries and fitness at the 2006 EMS Expo in Las Vegas on September 29th. See www.emsexpo2006.com. Contact Dave Long at dave.long@northmemorial.com.

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