

Back Injuries and Emergency Services
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“I was carrying a ventilation fan to the front door when snow and ice on wood deck caused both my feet to slip outward from my body. I quickly shifted and twisted my body to regain balance to not drop the fan. While doing so I felt a popping in my mid and lower back.”

“I was moving patient weighing 500+ lbs from the couch onto an EMS cot when I strained my back. The patient was very difficult to move.”

Comments like these are echoed on a daily basis in fire departments and ambulance agencies across our nation. Back injuries are the second most common cause of absence from work, following the common cold. Half of US workers will suffer back pain in their lifetime (*Health and Wellness ...*). While some of these injuries can be traced to acute trauma such as a fall or a car accident, a surprising number of back injuries are the result of cumulative trauma. Cumulative trauma is an injury that results from the compilation of numerous minor injuries, misuse of, or overexertion of the back. According to the National Volunteer Fire Council, overexertion and strain is the leading cause of injuries for firefighters. The NFPA reports that 67% of firefighter injuries are strains, sprains, and muscular pain. Why are these types of injuries so common? As firefighters we are often told, “I don’t care how it gets done, just do it, and do it now.” On a busy scene, help may just not be available and we may be left alone to complete a task that would be easier with two people. Oftentimes there is a sense of urgency pressing us to get the job done. If a patient is in cardiac arrest or the building is on fire then we stretch our body’s capacity to the limit to get the job done, which is admirable, but over time, can lead to a back injury.

How can we protect our backs? You might say to me, “My job requires me to strain my back; I have to lift and carry patients every day, I have to drag people out of buildings, and I have to carry heavy equipment up ladders. With all these other things to do I can’t afford to worry about my back.” You cannot afford not to worry about your back, and the time to do it is before you have a back injury. The two most important things you can do to protect your back are: 1) Get fit and 2) Use proper body mechanics. A strong back is less susceptible to injury, and strong muscles can do more work before they are overexerted or strained. If your core and other muscles are fit then they can support your back and help in the work you must do. Exercise, as a major part of “getting fit,” will have the added benefit of improving the function of your cardiovascular system, allowing you to breathe and pump blood more effectively. Also, if you are carrying any extra weight, this weight is straining your back and joints. Exercising can help you to lose this weight, reducing strain on your back. Using proper body mechanics helps you to use your body the way it was meant to be used, reducing wear and tear from repetitive motions and minimizing strain. Part of good body mechanics is remembering the oft-repeated mantra, “Lift with your legs, not with your back.” Using your legs to lift, keeping a wide base with your feet about shoulder-width apart, and keeping your body aligned by moving as a unit without twisting will place less strain on your body when you are lifting patients, dragging victims, raising ladders, or otherwise carrying out your duties.

Another way to protect your back may come as a surprise to you. If you smoke, stop smoking. If none of the other reasons that smoking is bad for you (it damages your lungs, puts you at higher risk for heart disease and/or heart attack, causes cancer, etc.) was convincing enough, quit smoking to save your back. Smokers have 2.7 times the chance of experiencing lower back pain than nonsmokers do (“Smoking and Back...”). This is due in part to the carbon monoxide and nicotine that you are taking in to your body. The carbon monoxide reduces the amount of oxygen that reaches the muscles, tendons, and ligaments in your back. If you have even a minor back injury, the low levels of oxygen will make it difficult for your body to repair itself, making it more likely that you will suffer back pain or a more severe injury in the future. The nicotine in cigarettes reduces blood flow through blood vessels by thickening the walls of the vessels making them narrower. This also hinders healing in the back. The discs in your back do not have blood vessels that supply them directly and they require body movement to provide them with oxygen and nutrients. In smokers, oxygen and nutrient movement is limited for the reasons we already discussed (carbon monoxide and nicotine affects) and so this can cause the discs to degenerate more quickly. The good news is that smokers who stop smoking can see an improvement within 48 hours. Blood flow will improve and nerve endings begin to regenerate, resulting in overall better spinal health. (“Smoking and Back...”).

We all need reminders every once in a while that adrenaline does not make us invincible. It may mask the pain, or push it away until the job is done, but back pain does not typically go away on its own. It is up to you to take care of your back. Make sure you are fit enough to do the job and lift using good body mechanics. If you have been experiencing back pain, talk with your doctor and see what help your doctor can offer you. Do not ignore the little tweaks and twinges until you have a debilitating injury, seek help now. If you do not have back pain keep your back strong and protect it by using good lifting, pushing, and pulling techniques. You are responsible for keeping your back healthy.

Health and Wellness Guide for the Volunteer Fire Service. 2004. FA-267 National Volunteer Fire Council/Federal Emergency Management Agency.

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“Smoking and Back Pain.” 2007. University of Michigan Health System Spine Program Faculty and Staff. <http://www.med.umich.edu/1libr/aha/umbackpain_smoking.htm>