the Connection
HCE
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How the Body Works

"It's Just An Ankle Sprain"

How many times have you heard 'Its just an Ankle Sprain, it will get better with time'? You have just rolled over on your ankle and now it hurts and is swollen. The X-Ray was negative for any break and you can step on it, sort of. It often happens that if you go over on your ankle and it does not show up on X-Ray as a fracture, the ankle pain is not treated seriously. I find ankle sprains are often ignored or undertreated.

A 'sprain' is where the ligaments about the joint are stretched beyond their normal range. The most common ankle sprain is what is termed an 'inversion sprain'. Inversion is where the foot will turn in and the sole of the foot is facing the mid-line of the body. Excessive movement in this direction will stress the anterior Talo-Fibular ligament and if severe enough, additional ligaments and tendons may be involved. Remember, all this can happen and the X-Ray still be negative.

(**Continued on Pg. 2**)

Truths/Myths

Treating Pain

Let's treat the painful structure, after all that is why the patient came in for treatment in the first place. Myth! Lets treat the **cause** of the pain. This cause may be a non-painful joint or structure. Treating the pain by injecting into the ligament or joint, or taking pain and/or anti-inflammatory medication. With musculoskeletal problems (or problems of the bones, joints and muscles) it is often that the painful structure is not the cause. You can imagine if you had a knee problem where you felt it may give out so you place a brace on it for stability. After using it for a time, the lower back may start to hurt as you are now walking differently with a limp. The lower back, which was not injured has exhausted its ability to adapt to the change in the way you are walking. The pain is in the back but the cause is the knee. Which do you treat? Will the problem get better by treating the painful lower back? Unlikely!!

The ankle sprain that was discussed earlier is the same. Quite often the problem a few months after the ankle sprain is the next joint down being stiff, not the painful ligament area of the original sprain or the current pain.

True Stories...

Eric had been having problems with his right ankle for about two months ever since he had rolled over on it while walking on uneven ground. The ankle quickly became swollen and was painful initially. He now complains of pain and the feeling of being unstable, not trusting the ankle. He feels more comfortable in shoes with ankle support. His aim is to get back to running pain free.

The main problem Eric has is that he sustained a grade 2 right ankle sprain and as a result , the ankle became swollen, painful and stiff. The pain settled down and the swelling decreased but he is still not able to run. The foot and ankle are made up of multiple joints and the correct function of this mechanism relies on each joint having normal mobility. The joint that he sprained has ligaments that have been stretched. As a result, this joint is looser and more unstable, but subsequently, the joint below that allows the foot to turn in and out has become stiffer than normal. Any time Eric rolls over on it, the stiff lower joint loads or requires the looser of the two joints to move more and thus almost re-sprain the ankle again. The treatment is initially directed towards the stiff joint to take the load off the stretched joint after which the treatment can be directed towards retraining balance and strengthening of the muscle about the loose joint to help instability. Until the non-inured, but stiff, joint's restricted mobility is addressed, Eric would have continued to have ankle problems. It took him some time, but he was able to get back to running and he has slowly increased his activity level to where he can now play basketball as well.

Any clinician can treat the pain. It takes more skill to look at the patient as a whole person and be able to determine if other structures are implicated. In this case Eric was fortunate to be seen by a therapist with the skill to consider all factors that may have affect him.

Health Connections Enterprises therapists are trained to treat their patients in a comprehensive manner and not just chase the pain!

How the Body Works -"It's Just An Ankle Sprain" From Pg. 1

The ligaments are non-elastic fibers that connect the bones, whereas a 'strain' refers to the muscles. A sprain can be either grade 1, 2 or 3. A grade 1 sprain is like getting chewing gum (the ligament) and stretching it. If the stretch of the ligament is such that when the stretch force is removed, the gum (ligament) returns to its original length, it is then defined as a grade 1 sprain. A grade 2 sprain occurs when the gum sags on the release of the stretch but is still intact and a grade 3 sprain is where the ligament is torn.

The ligaments around the ankle have sensors which provide information used in movement and balance. Spraining these ligaments reduces the sensory information they give you. They help tell you where about you are in space and what position the joint is in. This will effect balance, movement and strength. Once the ankle has been sprained it is more susceptible to further sprains due to the lack of information being sent from the joint.

The ankle is very stable when the foot is pointing up but loose when pointing down. So 'rolling over' on the ankle is common when stepping in a hole, landing the wrong way after jumping and so on. As the ankle twists in, the outside ligament at the top of the ankle becomes stressed and is sprained as either a grade 1 2 or 3. Rest, Ice, and support are the common treatments it in the early stages after the ankle has been checked for the possibility of a fracture or torn muscles. It is important for the grade 1 and 2 ankle sprain to get moving as soon as possible. Failure to do so may lead to stiffness affecting walking, running and balance. The ligaments we have been talking about are the most commonly sprained but what is often missed is the effect this has on the rest of the foot. The foot is designed to move in many directions and be able to contour to the surface it is in contact with. When the ankle heals it will quite often become restricted in its ability to point up which may result in the inability to run, even though walking is pain free. Running requires more of this movement. The sole of the foot can face in or out as a normal movement , but is often restricted after a sprain. This restriction places more load on the joint and the ligaments that have been sprained. This may even lead to an increased chance of spraining the ankle again. With this in mind, it is important to have the whole foot evaluated by the properly trained physical therapist as the main contribution to the ongoing problem of the ankle may be the non-painful, but stiff , joint below the sprain called the subtalar joint.

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