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The Optimal Athlete's **Injury Prevention Issue**.
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Shin Splints:

underestimated & misunderstood

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So you are 3 or 4 weeks into your new running routine and there is an ever-present pain in your shin that just won't go away. It won't be long before you realize that this unwelcome addition to your routine is a runner's biggest fear; shin splints. A common injury among military personnel, hikers, power walkers, runners, and aerobic class participants, shin splints can be the beginning of the end without immediate treatment.

What is a shin splint exactly?

A shin splint, also referred to as "Medial Tibial Stress Syndrome", is a type of overuse injury. Generally, overuse injuries are the result of too much training volume combined with too little recovery time. Well, you might ask, what defines too much volume and too little recovery time? The answer to this question is dependant upon the regular, or normal, training routine of a particular individual. The more a person deviates from his or her normal training routine (i.e. increasing volume and decreasing recovery), the more likely he or she will experience an overuse injury.

Caused by the repetitive impact forces that the musculoskeletal absorbs during running, shin splints occur along the inner part (medial) of the skin (tibia). The repetitive forces experienced when running result in fatigue of the muscle, which causes an inflammation of the tissue surrounding the bone (periosteum). Furthermore, the muscles that attach the muscle to the periosteum also become inflamed and are painful to the touch.

Because running is the most common cause of shin splints, we will use it as our example to further explain what causes shin splints. While running, every time that the foot makes contact with the ground the force it creates is absorbed by the musculoskeletal system. This repetitive contact and absorption will not always and/or immediately cause shin splints. Rather, it is the increased amount of running that a person does that will contribute to his or her susceptibility to shin splint. An other factor when running, that will affect the severity of a person's contact with the ground, is the ground surface itself. For instance, a rubber track delivers less force to the musculoskeletal system during foot contact when compared with concrete. Therefore, running on a more pliable surface than concrete is ideal.



Symptoms

During the onset of shin splints, you will more than likely notice a pain in the lower medial portion of the tibia, present at the beginning of exercise but tapering off as exercise continues. After exercise you may also notice the same pain. If you continue the same training routine, the injury will progress and you will experience the same pain, but for longer and more intense periods of time with less time pain free. If you ignore the pain and continue your current training routine, your susceptibility to stress fractures in the tibia increase greatly.

How to Prevent Shin Splints

As previously discussed, shin splits result from abnormal tension within the muscle, which in turn produces micro traumas in the tissue connecting the muscle to the bone. When an athlete trains to a point at which the micro traumas are produced more rapidly than they can be repaired, a chronic inflammatory state emerges. With this in mind, there are a few factors that seem to contribute to the rate at which inflammation occurs:

- An athlete with foot/ankle mal-alignment (abnormal arch) or knee mal-alignment (knock knee or bow legs) may develop shin splints more rapidly due to abnormal tension within the
- Runners, aerobics class participants, and military personnel experience shin splints more frequently due to the repetitive impact forces associated with their sport or activity
- The surface on which the individual performs an activity will effect the amount of force being placed on the musculoskeletal system and therefore may contribute to the development of shin splints

Treating Shin Splints

The best treatment for shin splints is the one you don't want to hear: stop your exercise routine. Depending on the severity of the inflammation, you may need to completely discontinue the exercise that caused the inflammation for a period of time. Continue resting until your day-to-day activities are pain free. In combination with rest, cold packs, compression, and anti-inflammatories are often recommended.

Returning to Exercise

When you are ready to return to exercise, make sure to decrease the intensity and volume of the training that originally led to the shin splints. While stretching and strengthening the calf muscles may aid in the prevention of shin splints, the most important prevention strategy is to stay away from the mistakes that caused the injury in the first place. If the injury persists and/or becomes more intense, it would be a good idea to seek help from a strength and conditioning professional or athletic trainer. This may sound like a heavy prescription for such a simple injury, however, it could mean the difference in being sidelined for a short period of time or improving your potential for greater performance in the future.

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