

SHIN SPLINTS SUCK!!!

Shin splints, what causes shin splints and what can we do to help prevent them. First, what causes shin splints? There are many causes of shin splints, and they are categorized into two main groups, Overload, and Biomechanical inefficiencies. Shin splints are commonly associated with sports that require a lot of running or weight bearing activity, and it is caused by the impact force associated with these sports. The sudden shock force and change of direction leads to muscle fatigue thus losing their ability to adequately absorb the damaging shock force. The second group is biomechanical inefficiencies, and the major inefficiency is that of flat feet!! Flat feet lead to over-pronation, pronation occurs just after the heel strikes the ground, the foot flattens out and rolls inward. Over-pronation occurs when the foot and ankle continue to roll excessively inward and it's the excessive inward rolling that causes the tibia to twist, which in-turn over stretches the muscles of the lower leg. Other biomechanical causes:

- Poor running mechanics;
- Tight, stiff muscles in the lower leg;
- Running with excessive forward lean
- Running with excessive backwards lean
- Landing on the balls of your foot; and
- Running with your toes pointed outwards.

Since about half of all lower leg problems are caused by biomechanics inefficiencies, it makes sense to get the right advice on footwear. Your feet are the one area you should not "skimp" on. The best advice I can give you concerning footwear, is to go and see a qualified podiatrist for a complete foot-strike, or gait analysis. They will be able to tell you if there are any concerns regarding the way your foot-strike or gait is functioning.

After your foot-strike has been analyzed, have your podiatrist, or competent sports footwear sales person recommend a number of shoes that suit your requirements. Good quality footwear will go a long way in helping to prevent many lower leg problems.

Firstly, a thorough and correct warm up will help to prepare the muscles and tendons for any activity to come. Without a proper warm up the muscles and tendons will be tight and stiff. There will be limited blood flow to the lower legs, which will result in a lack of oxygen and nutrients for those muscles. This is why in previous articles have stressed doing the dynamic warm-up prior to working out or riding!!

Secondly, flexible muscles are extremely important in the prevention of most lower leg injuries. When muscles and tendons are flexible and supple, they are able to move and perform without being over stretched. If however, your muscles and tendons are tight and stiff, it is quite easy for those muscles and tendons to be pushed beyond their natural range of movement. To keep your muscles and tendons flexible and supple, it is important to undertake a structured stretching routine.

Stretching is one of the most under-utilized techniques for improving athletic performance and getting rid of those annoying sports injuries. Don't make the mistake of thinking that something as simple as stretching won't be effective

Stretching Exercises

Kneeling position, the runner points his toes out behind and gently sits back on heels pressing the tops of the feet towards the ground.

Standing arm's length from the wall, place hands on wall, keep feet and knees straight, lean forward as far as possible.

Standing with feet flat, bend knees forward as far as possible keeping heels on floor.

Because research shows that your muscles are more elastic after they've been warmed up, stretching should take place after a ride, workout or physical activity.

Strengthening Exercises

With a partner hold down the others feet which are flat on the ground. With resistance on their toes, have them lift their toes up.

Sitting with left ankle on right knee, apply pressure to inside of foot (near large toe) with hand, and turn foot up and in, using leg muscles.

Same position as above, apply pressure to outside of foot (near small toe) with hand, and turn foot down and out using leg muscles.

Same position as above, apply pressure to top of foot (near toes) with hand, and lift foot using leg muscles. Repeat with right ankle on the left knee.

Sitting on a table or chair attach a weight (a bucket filled with rocks works well) around the foot. Without bending your knee move the foot up and down from the ankle.

Anchor one end of an elastic band to the leg of a table or sofa. Stretch the band, and then loop it around the end of the foot. Move the foot up and down and side to side against the bands resistance.

Draw each letter of the alphabet with the big toe of each foot in the air.

While standing erect raise up and down onto your toes several times. If that is too easy you can make it more challenging by performing the same exercise while standing on a step and allow your calves to stretch over the edge of the step.

In a sitting position lower and raise the feet with the heels on the ground as high and quickly as possible for 60 seconds.

Walking on toes – take 25 to 30 steps per leg, do this during your warm-up, 2-3 times per week

Walking on heels -take 25 to 30 steps per leg, do this during your warm-up, 2-3 times per week

Walking with feet turned inward and outward- take 25 to 30 steps per leg, do this during your warm-up, 2-3 times per week

With socks off, gather up a towel that is flat on the floor, using only the toes.

Pick up marbles using the toes.

Till next time, eat well, train hard and have fun

Drew Robertson

A.Sc. Nutrition, CFT, SPN SSC

Sport Nutritionist / Xtreme Conditioning Coach

Evolved Nutrition Inc.