

INJURIES

Injuries in orienteering

During the 1980s there was a change in philosophy in the treatment of injuries in the Swedish orienteering team. Earlier doctors had worked with injuries after they happened. Their job was to “fix” the problem. However, the medical team began to change this policy under the enthusiastic leadership of team doctor Christer Rolf. The new way of working focused on educating the athletes how to treat simple injuries that occur during training and competition themselves. For example each athlete was encouraged to carry an elastic bandage in their pocket so that they could treat a twisted ankle in the forest immediately. The doctor’s job became educating athletes in how they could prevent and minimise injuries, giving general health and medical advice, and treating acute injuries that arose during camps and competition trips.

The Swedish policy was based on the fact that the most common injuries in orienteering are minor injuries. These injuries can usually be treated by the athlete. Blisters, bruised nails, cuts, skin irritation from taping, chapped skin, warts and athlete’s foot are some of the commonest minor injuries which can hinder training or stop an orienteer performing optimally during competition. Every orienteer should have a first aid bag containing medical equipment to treat these problems. Such a bag could contain, tape, plasters, elastic bandages, blister pads, foam pads, scissors, nail clippers, and a foot file.

Other common injuries in orienteering are overuse and acute injuries. Around 80 percent of all injuries occur below the knee.

Reasons for injuries

Every new activity requires time for adaption. The different structures in the body adapt at different rates. Muscle strength and aerobic fitness is relatively easy to build up, while resistance to impact and loading in bones, connective tissues and tendons takes considerably longer to develop. It is always the weakest link that will develop problems when stressed. Most overuse injuries are due to lack of variation in training, increased pace or effort, high impact, poor warming up, poor recovery, change of training content or training environment. Change in training environment could be from road to forest, home training to training camp, cycling to running, or when using new footwear or other equipment.

The diagram below shows risk periods for orienteers during a training year.

- A Change of surface, climate and pace on a training camp in Spain. Sudden increase in both volume and intensity. Risk for overuse injuries and colds.
- B Changeover from winter training to more running in the terrain and faster paced running as the spring season starts. Risk for overuse injuries.
- C Training camp during spring where you train twice a day, compete in several competitions and stay in a group in a cottage. Risk for overuse injuries and colds.ä

- D Beginning of the main competition season. Not used to running fast, and change to competition shoes. Risk for overuse injuries, blisters, bruised nails.
- E The end of the competition season. Tired and worn down. Risk for overuse injuries and colds.
- F Changeover to basic training again, longer runs, often on the roads due to the dark. Risk for overuse injuries.
- G Heavy training during training camps. Risk for overuse injuries.
- I Whole competition season: Risk for acute injuries, twists and knocks, especially to the lower leg.

Overuse injuries

A basic difference between overuse and acute injuries is that the symptoms of an overuse injury are not necessarily located in the same place as the cause of the injury. If you run into a stone you will get a bruise on your leg where you hit the stone. If on the other hand you have a wart under your right foot and cannot take your full weight on your right leg, you may end up with a sore left knee because you have run out of balance. The overuse injury that you have developed in your left knee has arisen because of the wart on your right foot. The knee injury may improve if you treat the wart on your left foot.

It is important to try and work out such connections when overuse injuries arise. A training diary is a useful tool here, containing a record of training and also comments on how well recovered you feel or special notes about things like the wart in the above example.

Overuse injuries in orienteering are most often seen in the knee and below. Common overuse injuries are Achilles tendonitis, shin splints, and ITB tightness leading to runner's knee problems.

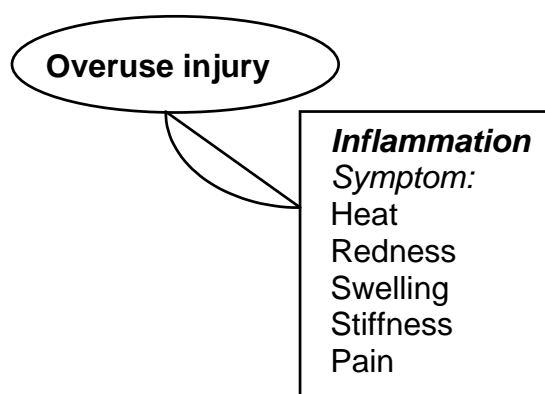
Listen to your body

Most overuse injuries develop gradually and it is easy to ignore the first signals. When you have had pain for some time, and come to the stage where you are unable to train the symptoms have often become more diffuse. It is easy to forget how the problem started, identify the probable cause and find a solution to the problem. It is important to always be alert and listen to your body.

The definition of an overuse injury is locally reduced function, often combined with a local inflammation and pain, which often arises due to a new or unaccustomed movement, increased load or too little variation in training.

Inflammation is the body's signal that something is wrong. There will be pain when you try to work the tendon or joint, the skin may be reddish and the injured area may feel warm. It is important that you learn to recognise and react to these signals. Continued training can both make the injury worse and give rise to another injury as you will work your muscles and joints in a different way due to the tenderness.

There is often a simple and logical explanation to why the inflammation arose. Perhaps you have started using new shoes which are not worn in yet – having two pairs of shoes for training and competition in use at a time is sensible. Perhaps you have not bothered with a proper warm-up and got a muscle strain or forgotten to warm down after a race and been stiff and sore the day after. Maybe you have not slept or eaten properly in the days leading up to the race, especially at races like Tiomila or Jukola, and you have twisted a foot on a slippery stone due to pure tiredness or lack of coordination. You may also catch a cold in the days after a tiring competition like this if you are not careful with diet and sleep.



The diagram shows common signs of inflammation. Inflammation is the body's reaction to overuse.

Treatment: Stop training at the first signs, consider the reasons, treat the problem, and carry out alternative training until the injury is better. Alternative training means any training that does not stress the injured area.

Infections

Another common cause of enforced training breaks is infections. Most colds are relatively minor and will get better within a week. It is, of course, not as easy to prevent an infection as an injury. But there are many small points worth remembering, that can help reduce the risk for complications.

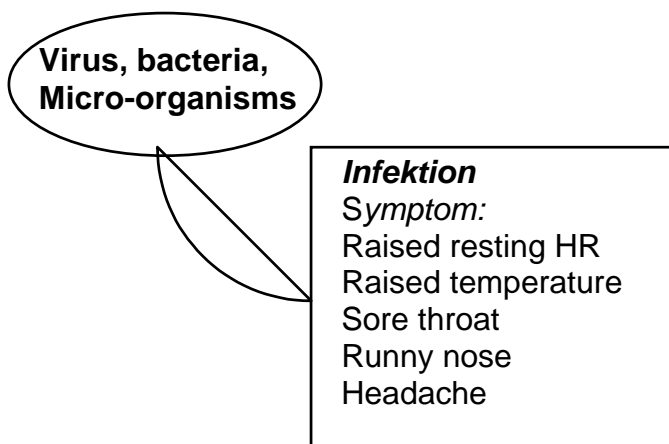
Wearing the right clothes for the weather conditions, keeping your head and feet warm, changing into dry clothes quickly, and drinking and eating fast carbohydrates straight after training are simple measures which we often forget.

Infections lead to an imbalance in the body's immune system, when bacteria, a virus, or other foreign bodies invade the body. The infection places the whole body in a type of overuse condition.

Never train or compete when you have an infection

The risk for serious complications, such as inflammation of the heart muscle, is for too serious to take a chance with. Signs of infection include raised pulse, raised temperature, and local symptoms such as a sore throat, runny nose or headache. To know if your pulse or temperature is higher than normal, you need to measure your

normal resting pulse and temperature several times when healthy, so that you have a reference value.



The diagram shows signs of infection. Infection is caused by external factors such as viruses and bacteria.

Treatment: Stop all training, rest, drink plenty of water and eat so that the body can begin to fight the infection. If you have a cold for longer than a week you should visit a doctor. Your immune system has not been able to cope in this case, and the infection has been able to take hold. It may be that you require antibiotics, if the infection is bacterial. It is important to remember that your body needs a relatively long time to recover after you have had an infection before you can train fully again. Reckon with at least as long after the infection has gone as the symptoms themselves actually lasted.

Acute injuries

The most common acute injury in orienteering is a twisted ankle. The injury can happen through pure bad luck, but often it is to do with tiredness, lack of coordination, not being used to running in the forest, stiffness or poor general flexibility.

The immediate treatment of acute injuries is very important and can dramatically affect the time that it takes to come over the injury. If you can treat a twisted ankle effectively straight away, it is often possible to start training again a few days after the injury. If not such an injury can easily lead to an enforced break as long as two to three weeks.

A twisted ankle usually leads to injury on the outside of the foot. At the moment that the foot is twisted, small blood vessels in the area are torn. The bleeding which follows gives rise to a lot of the problems that follow. The coagulated blood encourages more fluid from the blood vessels out into the injured tissue. The result is a swelling, which can increase in the days immediately the injury. This swelling increases the pressure on the structures in the foot. The ankle becomes stiff and is sore when you try to move the joint, or bear your full weight. After a few days, the ankle may also be visibly bruised and discoloured due to the breakdown of blood. If you can limit the initial bleeding in the acute stage of the injury you can significantly shorten the healing process, by reducing the subsequent swelling and associated problems.

Measures to take after acute injuries:

- Stop all training and competition.
- Use the elastic bandage which you should carry with you during all training sessions. Minimise bleeding by compressing the injured area with the bandage. Bandage the injury from below (see picture).
- Elevate the injured area to minimise swelling.
- Keep the compression bandage on for about 30 minutes. Remove bandage and to ensure adequate blood circulation. Repeat 2-3 times.
- Cool the injured area to reduce pain. Cooling does not affect bleeding, but helps to minimise pain.
- Use an elastic bandage such as a tubigrip in the days following the injury.
- After a few days it is possible to begin working the ankle gently again, through alternative training and possible with a warming bandage, such as neoprene support. This gentle activity encourages the body to transport away waste products from the injured area, and warmth can help this process.
- After a few days it should be possible to run again, without the ankle swelling up. Taping for support can be very useful to prevent re-injury.

Stop training - Compression - Elevation - Cool - Rest - Alternative training - Warmth

Alternative training

When injured it is often possible to train in other ways. Training which does not cause pain, and does not strain the injured area can be carried out. Swimming, running in water, cycling and spinning, strength training, walking or running on soft surfaces are all good examples of alternative training. The list below gives several good ideas for alternative training sessions. Many runners have had an injury, but then actually become better and stronger by being forced to train in different ways to traditional running training.

Examples of sessions:

- Running intervals in water.
- Continuous fast cycling.
- Running intervals in a soft marsh.
- Mountainbiking in hilly terrain to give natural intervals.
- Strength training and circuit training.
- Walking in terrain, with a high knee-lift.
- Aerobics with hops and jumps on a crash mat.

Prevention of injuries

It is possible to avoid almost all injuries if you train "smart" and apply common sense. The advice below can help to avoid injuries.

- Remember that new training methods require time for adaption.
- Plan your training for the long term.
- Vary your training.

- Be careful when making changes to your training.
- Eat and drink enough.
- Increase training slowly.
- Always warm up and jog down.
- Work on equal strength and flexibility in your left and right legs.
- Listen to your body and the warning signals it gives you.
- Rest adequately between sessions.
- Include alternative training when you are injured.
- ***Never train when suffering from an infection.***