



LEG INJURIES

Shin splints, stress fractures, compartment syndrome and bruising

BY PETER LEWIS

Leg injuries have always dominated the workload of the kickboxing ringside physician. We see acute traumatic injuries and overuse injuries. Some occur during competition in the ring, and others are due to training. There are four common injuries that I see. Shin splints, stress fractures, compartment syndrome and bruising. In Victoria we now have compulsory shin pads for novices which has significantly reduced the leg injury rate.

Bruising

Simple bruising is the most common leg injury we see. My job is often to just make sure that it is only bruising and not one of the other injuries we are about to discuss, which require more specific treatment. Bruising, unlike the other injuries, will usually get better by itself.

We sometimes see really terrible bruising of the bony part of the shin from shin-on-shin clashes. This can be associated with bleeding and significant swelling that takes a long time to go away. The fighter is stuck with quite a hard lump on the shin. The problem is that if you have another clash with this swollen area before it is healed it will swell up really easily and you are back to square one with the recovery. The delay in return to sport is frustrating. In some of these lumps you can feel a pocket of fluid and I find it useful to stick a needle in and drain it. With the really hard firm lumps I like to put ultrasound on them for a few minutes which I find really softens them up. You can then massage them out and reduce the swelling. I then put pressure on the area to minimize recurrence. I use

Leukofoam and Tubigrip to compress the area.

Treatment

Obviously, shin pads reduce bruising. For nearly all leg injuries I use massive amounts of Tubigrip compression bandage. This is not too expensive if you buy it by the 10 meter roll and then cut it to the right length. For the leg you need either 'B' or 'C' size, or sometimes both. I had terrible overuse leg pain several years ago when I was training in Istanbul three times a day, with Gurkan, Baris, Amir and Stanley. I used to wear five layers of compression to keep going.

The other universal treatments for legs are elevation, the pool, anti-inflammatories and ice.

Elevation, ideally, should be to have the leg at least at the same level as your heart. The pool is great



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because the water pressure reduces swelling and massively improves circulation. Anti-inflammatories work for most conditions except stress fractures. Ice reduces pain, bleeding and swelling in the first hour but I think we now doubt if there is any value in using ice after this acute phase. Pressure is what really works.

Shin Splints

This is usually a chronic overuse injury from training. Sometimes it comes on, or is made worse by acute trauma such as kicking or checking. Shin splints are very common in kickboxers who are doing lots of high impact activity such as running or skipping to lose weight. It presents as pain along the medial border of the tibia so it is also called medial tibial stress syndrome. The tibia is the big bone on the inside of the leg, or shin bone. Shin splints usually hurt most of the way along the whole inside edge of the shinbone. Shin splints usually do not hurt when you just walk short distances but become very severe after 10 or 15 minutes of running. There are no special tests for shin splints, it is best diagnosed by history and examination.

The basis of treatment is relative rest. Skipping and running, including running on treadmills, are out for about three weeks. If the condition



is chronic, which means it has been going on for months, then you have to rest for even longer. Anti-inflammatories and compression are helpful. Good running shoes, shock absorbing insoles, such as the 'Lightfoot' brand and good training surfaces are important. Some athletes also benefit from a podiatry assessment.

Stress Fractures

Stress fractures are less common than shin splints so they are often not diagnosed until they have been causing pain for months or years. Some fighters are unlucky enough to have both conditions at the same time. They have obviously worked very hard to achieve this. Stress fractures can affect any weight bearing bone but the tibia is a popular bone for kickboxers to break. With stress fractures, the tenderness is usually much worse over a small region. It can affect the medial border or the flat surface of the tibia, commonly about 7cm above the ankle. The pain is very intense. The patient with shin splints will often tell me that they get pain just walking to the bathroom in the morning. I ask the patient to tell me how bad out of 10 the pain is when I press on their leg. I then use a biro to map out the distribution and severity of the pain. Shin splints tends to be three-fours all along the shin. With a stress

fracture we see lots of twos and then an increase to seven-eight out of 10 over an area of about 2cm.

It is always important to diagnose a stress fracture because if you do not rest it completely it may not heal. If the fracture has been hurting for more than three weeks then a plain X-ray is the cheapest way to make a diagnosis. If the injury is less than two weeks old you can be sure an X-ray will be normal and a bone scan is the only reliable way to get a diagnosis. This costs the patient about \$100. The problem is that there is quite a lot of radiation in a bone scan so I am cautious about ordering them for young women. It may be best for young females to wait a couple of weeks and then do an X-ray.

Treatment

This is cruel. The best thing is to be non-weightbearing for at least two weeks. This means you have to use crutches. Often it is best to get a cast because it is hard to resist the temptation to put weight on the leg occasionally. After two-three weeks I test for pain over the fracture and I want the pain to have reduced to four-five out of 10. If this is the case we gradually increase exercise with a lot of cross training, i.e. bike and swimming. After a few more weeks you can do pad work and then kick the bags. Running and skipping are out for three months.





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Compartment Syndrome

I usually see lateral compartment syndrome, which affects the outside of the leg. This is a really nasty condition that can be due to overtraining or from kicking or being kicked. In both cases the condition is caused by swelling in the tight compartments of the leg causing a build up of pressure. This pressure can stop the arteries, veins and nerves from working. This causes severe pain and sometimes numbness of part of the foot.

The overtraining compartment syndrome causes pain and numbness when you run which is so severe you have to stop. It settles with rest but often comes back when you start running again. To diagnose it you have to have a special test which involves having pressure measuring needles in your leg.

The acute traumatic compartment syndrome can be due to checking with the outside of your leg. It can also be caused by kicking, especially if you come down on top of your opponent's knee. This happens more often if you have been trained to lift the leg up early in the kick and then chop down on your opponent's thigh, and then hit his knee by mistake as he checks.

I saw a really nasty compartment syndrome a few weeks ago at Johnny Scida's show. The fighter had severe pain when he tried to pull his toes back up. Even at rest his pain was bad. You could not feel the pulse in the front of his foot. I had to give him a pain killing injection and we used RICE to the max. It was touch and go whether he would have to go to hospital. In the end he settled, which is good because the other option for treatment, which is sometimes necessary, is surgery to relieve the pressure. Of course this puts you out of action for months.

It should go without saying that smoking and alcohol are the enemy of all leg injuries. Fortunately fighters rarely smoke or drink.

*Note: Check out page six for info on the Dr Lewis-endorsed book Sports Medicine for the Combat Arts by Dr Joe Estwanik **IK***



DR PETER LEWIS

Dr Lewis is internationally recognised as a medical authority in the martial arts field. He has also been studying and teaching martial arts for 34 years.

Dr Lewis is best known as a ringside physician. He is often seen on televised shows in many countries. He has worked in 28 cities internationally, 22 of these on World title standard events. He has performed every ringside role, including doctor, referee, judge, rules co-ordinator, timekeeper, commentator, ringside announcer, matchmaker, trainer, cornerman, cutsman and has competed in karate, taekwondo and kung fu. He has had the pleasure and honour of looking after some of the most important fights and fighters in history.

Dr Lewis is also well known as an international lecturer and writer on martial arts medicine. He has consulted at ReCreation Medical Centre for 24 years.

He has also recently established a new clinic at Malvern Martial Arts, which is especially for martial artists. Dr Lewis works with a team including a nurse, physio, chiro, podiatrist, psychologist, exercise physiologist, dietician and masseurs who all have extensive experience in martial arts.

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