



How to avoid hamstring strains

With the football and netball seasons commencing, players will be undoubtedly ruled out of matches due to hamstring strains. In fact this is one of the most common injuries that we during the winter months at North East Physiotherapy, so it stands to reason that we would take great interest in studies involving hamstring injury prevention.

A study published in the **Scandinavian Journal of Medicine and Science in Sport** conducted at the University of Iceland looked at the effects either stretching or eccentric strengthening on the incidence of hamstring strains among soccer players.

The researchers found no difference in the incidence of injury for the stretching group, but did show a significant reduction in injury rates for the group that performed the eccentric strengthening program. This does not mean that we should throw away our stretching program but it certainly indicates the importance of strength training for hamstring injury reduction.

Hamstring Injury Management:

Hamstring injury is one of the most common problems we see at North East Physiotherapy, and is unfortunately an injury that often recurs – especially if a thorough rehabilitation program is not completed.

Researchers in the UK have recently completed a thorough review of current hamstring injury rehabilitation protocols titled “Training Considerations after Hamstring Injury in Athletes” which was published in the 2009 Strength and Conditioning Journal 31(1).

In their review the researchers concluded that there are essentially 6 stages that need to be covered to effectively rehabilitate these injuries and prevent recurrence – these are:

Stage One – Initial Treatment

This involves the common RICE formula of rest, ice, compression and elevation for the treatment of acute soft tissue injuries.

Stage Two - Restoring Range of Motion

Involving a minimum of 4 stretching session each day using a combination 3-4 stretches – held for 30-seconds each – the early increase in range of motion is essential in reducing scar tissue. Your physiotherapist will show the most appropriate stretches for you.

Stage Three – Initial Strengthening

Using very light to no resistance that incorporates use of available

range of motion. This stage is done along with the range of motion stretching.

Stage Four – Slow Eccentric Strengthening

Including slow lowering exercises (ask your physiotherapist), back extensions and lunges.

Stage Five – High Speed Eccentric

More plyometric (jumping based) and sports specific drills at greater speeds – such as split jumps, depth jumps from a bench and other bounding drills.

Stage Six – Sports Specific

Taking the athlete from straight line activities to change of direction tasks with different surfaces and body positions e.g. single leg bounding, acceleration drills, zig-zag running and hopping activities.

Summary

It is clear from this overview that each stage must be carefully monitored as attempting to progress too soon to the next level can lead to re-injury and frustration. Call North East Physiotherapy for a personalised hamstring rehabilitation program to ensure you successfully rehabilitate your hamstring injury.



North East Physiotherapy Benalla
39 Nunn St.
Benalla, 3671
Ph; 5762 6866
Fax; 5762 6860

North East Physiotherapy Wangaratta
10 Chisholm St.
Wangaratta, 3677
Ph; 5722 1424
Fax; 5722 1093

North East Physiotherapy Yarrowonga
24 Belmore St.
Yarrowonga, 3730
Ph; 5743 1142
Fax; 5743 3151



ACL ruptures in skiing

Although ACL (Anterior Cruciate Ligament) injuries overall are actually a small percentage of all snow sports injuries (10-15%) – it is very easy to rupture in the beginner and intermediate skier. The most common 2 mechanisms are 'The Phantom Foot' and the 'Boot Induced' Mechanisms.

“The Phantom Foot Mechanism”

- Uphill Arm is back
- Skier is off balanced to the rear
- Hips are below the knees
- Weight on the inside edge of the downhill ski tail
- Upper body facing downhill ski

This typically happens when the skier is either:

- Attempting to get up whilst still moving after a fall
- Attempting a recovery from an off-balance position
- Attempting to sit down after losing control
- When the knee is in deep flexion (>130°) this causes the tibia to rotate internally and move forward, placing severe shear strain on the ACL. When the knee then moves inwards, this increases the rotary torque and simply is too much for the ligament. Usually the ligament ruptures very quickly as the load is so high and so fast. Skiers will complain of a loud pop and immediate pain in their knee.

“The Boot Induced Mechanism”

This occurs when a skier becomes off-balance to the rear whilst attempting a jump. Instinctively, the skier's leg fully extends. As a result the skier lands on the tails of the ski which force the back of the ski boot against the calf, driving the tibia out from under the femur and the ACL tears.



Do You Have Patello-Femoral Pain?

Pain at the front of the knee and under the kneecap is a frequent complaint we see at North East Physiotherapy – this discomfort can be due to conditions such as fat pad impingement, patellar tendinopathy or more commonly – Patellofemoral Pain Syndrome.

The typical Patellofemoral Pain patient presents with a history of a generalized ache at the front of the knee, placing the palm of the hand directly over the kneecap to indicate the region of pain. The pain is often aggravated by running (especially downhill), stairs and sitting for prolonged periods with the knee bent- this is termed a positive “theatre sign” or “movie sign” with patients preferring to sit in the aisle seats to allow them to keep the knee extended during the performance.

Effective management of Patellofemoral Pain Syndrome starts with a full physiotherapy assessment to identify the problem and outline the best course of treatment to get the patient back to full training and activities as soon as possible.

The initial stage of treatment (as with most overuse injuries) is to actively control pain and inflammation – this is best achieved with a combination of ice, rest from aggravating activities, anti-inflammatory medication and the use of Patellofemoral taping to reduce pressure on the injured joint.

An important component of the rehabilitation process is the need for an effective strengthening program to restore pre injury function. The majority of exercises should be performed pain free with close attention being paid to any post exercise pain and especially increased pain the morning after a rehabilitation session – the need for appropriate strengthening must be balanced with possible aggravation of symptoms.

The exact exercises chosen will depend on the severity of symptoms and will be guided by your physiotherapist, but the majority of programs initially focus on isolating the Vastus Medialis Obliquus (the small muscle on the inside of the knee) to contract prior to the activation of the rest of the quadriceps group.

Other important components of a successful Patellofemoral Pain rehabilitation program will include specific stretching of the iliotibial band, hamstrings, calves and quadriceps, as well as effective (and sometimes uncomfortable) deep tissue massage of the ITB – this can also be augmented by the patient using a foam roller to “self massage” the lateral structures of the knee.

Many patients with Patellofemoral pain have issues relating to excessive subtalar pronation (flat feet) which can act to increase internal rotation of the lower limb contributing to alignment issues – these patients are often best treated with an individually moulded orthotic device placed in their shoes to assist in controlling foot function.

While Patellofemoral Pain is a very common injury it is also very treatable and with the right combination of rehabilitation exercises, stretching and biomechanical correction the sufferer will be back to sport in next to no time.

North East Physiotherapy Benalla
39 Nunn St.
Benalla, 3671
Ph; 5762 6866
Fax; 5762 6860

North East Physiotherapy Wangaratta
10 Chisholm St.
Wangaratta, 3677
Ph; 5722 1424
Fax; 5722 1093

North East Physiotherapy Yarrawonga
24 Belmore St.
Yarrawonga, 3730
Ph; 5743 1142
Fax; 5743 3151