

# Hamstring Strain

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## Clinical Assessment of Hamstring Injury

I recently attended a course on hamstring injuries by Victorian Sports Physiotherapist Price Warren. Some years ago he was given a grant by the AFL to study causes, assessment & treatment of hamstring strains, the most common injury in the AFL. He produced some excellent clinical research. Most importantly, he developed a set of guidelines to assist with determining the degree of injury and likely prognosis for return to play.

While MRI is said to be the gold standard in hamstring injury assessment, the findings can be surprisingly misleading. In a significant number of cases, scans showing minor damage or no injury are reported in players who have moderate disability and subsequently miss several weeks of competition. In one study 18 of 58 players with normal MRI findings took between 1-4 weeks to return to play. And there are cases where MRI reported severe tears are associated with minor dysfunction and early return to play. In 20 out of the 58 cases in the above study, clinical assessment was more accurate than MRI. The reasons for this are not fully understood. There could be lumbar spine or neural factors playing a role. The area of damage within the muscle may be a significant factor. And there may be inaccuracies with the scanning itself.

There are a number of variables shown by research to influence the recovery time and likelihood of injury recurrence. These include:

1. Past history. A past hamstring strain, in the same or opposite leg, and within a 2-5 year period, will likely mean a slower recovery and greater chance of recurrence within the first few weeks of returning to competition.
2. Use of NSAID's: Players on NSAID's at the time of injury, or placed on them in the acute

stage, had a significantly increased risk of early injury recurrence. It is now the policy of AFL medical staff to avoid anti-inflammatory medication use when there is an acute musculo-ligamentous injury.

When assessing the injury clinically, the following signs and symptoms are important indicators for the likely length of recovery:

1. Time to walk pain-free. Players who take longer than 24 hours to walk pain-free are likely to take 3 or more weeks to return to full competition, even though they may make a good early recovery.
2. Area of injury (palpation). A distal and lateral strain is likely to take longer to heal and be more prone to recur. In general, medial strains heal faster & tend not to recur.
3. Active knee extension. This test is performed with the hip at 90°. Greater than 10° restriction compared to the other side is highly associated with a likelihood of 3 or more weeks before return to sport.

The recurrence rate on return to sport is around 30%, with most of these re-injuries occurring within the first 3 weeks. Factors which are highly associated with a greater chance of recurrence include:

1. Past hamstring strain. This leads to a 5 times greater risk of recurrence.
2. Greater than 10° loss of active knee extension.
3. Lateral hamstring injury.
4. Taking NSAID's at the time of injury.

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Concord Sport & Spine Physiotherapy  
202 Concord Road  
Concord West, NSW 2138  
Sydney, Australia.

**Ph (02) 9736 1092**

**Email: [info@cssphysio.com.au](mailto:info@cssphysio.com.au)**

**Web: [www.cssphysio.com.au](http://www.cssphysio.com.au)**

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