



## Adductor Strains In Hockey

Adductor/groin strains in hockey players can be a plaguing problem. Often this injury can sideline a player for weeks, and if not properly treated, players face the prospect of the injury reoccurring.

### Let's look at the incidence of these injuries:

- In Elite Swedish ice hockey players, groin strains accounted for 10% of all injuries.<sup>1</sup>
- Molsa et al reported that groin strains accounted for 43% of all muscle strains in Elite Finnish ice hockey players.<sup>2</sup>
- The incidence of groin strains in a single NHL team was 3.2 strains/ 1000 player- game exposures.<sup>3</sup>
- Emery et al<sup>4</sup> stated a total of 617 groin/abdominal strain injuries were reported in the NHL over 6 seasons of play. The cumulative incidence rate in the NHL increased over 6 years of play from 12.99 injuries/100 players/year in the 1991/92 season to 19.87 injuries/100 players/year in the 1996/97 season.

Obviously, these types of injuries are prevalent among hockey players. But, how do they happen? Is it simply the intensity or violence of the game of hockey?

What is interesting is that, according to Emery et al<sup>4</sup>, the mechanism of injury was non-contact in nature in >90% of injuries reported.

So, if the injury isn't related to contact what is the mechanism of injury? Maybe the groin muscles are simply too tight and need to be stretched out? Lets make sure these hockey players are flexible...right?

Problem: A study by Tyler et al<sup>3</sup> found that preseason hip adductor flexibility was NOT different between players who sustained adductor muscle strains and those who did not. Interestingly, what Tyler discovered was that preseason hip adductor strength was 18% lower in players who subsequently sustained an adductor muscle strain compared with that of uninjured

players. He also found that a player was 17 times more likely to sustain an adductor muscle strain if his adductor strength was less than 80% of his abductor strength. This suggests that there is a muscle imbalance problem at work and that stretching may not be the answer; in fact, may worsen the problem.

So, what do we do now? Seems we need to strengthen the adductor to fix the muscle imbalance problem right? Yes, but let's dive deeper into this problem.

### **Mechanics Of The Problem:**

Hockey players, like most athletes, assume an "athletic stance" for their sport. But, is this a desirable position? The typical butt out, chest up "athletic stance" forces the athlete into an extended posture. This extended posture drives the pelvis into an anterior tilt and outflare which tightens the back extensors and hip flexors. By contrast, this position weakens the hamstrings, abdominals and adductors because these muscles have been forced into a lengthened position. And, as we know, when the sarcomere is stretched from its resting length, contact between the actin and myosin myofilaments decreases and thus the number of cross-links that can be made diminishes. Consequently, the force of contraction decreases. Specifically, the adductor muscles have been altered because of the anterior rotation and outflare of the pelvis forcing the femur into a state of abduction further lengthening the muscle putting it at risk as it tries to act a a stabilizer in a closed chain environment.

At New Heights Performance Physical Therapy we respect the position of the pelvis and ribcage as an influence on muscle activity and compensatory patterns.



## References:

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