

# Sports Warm-up

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## Tell your patients Stretching isn't Warming-up

It is now time to abandon static stretching as part of the sports warm-up. Some experts have been suggesting this for several years, and the research evidence is now fairly convincing. Warming-up for sport requires increasing muscle temperature, reactivity and power, as well as stimulating the nervous system. Static stretching does none of these things. In fact it probably does the opposite.



We all know that when we stretch, the muscle feels relaxed. It may even feel like it's gone to sleep. That's because in effect it has. Holding a stretch does relax the muscle. It reduces its output, power, and responsiveness. This is not what is wanted when running out to play sport. One of the main reasons people stretch before sport is the belief that it will help to prevent injury. Unfortunately studies have failed to demonstrate any connection between stretching and reduced injury risk (1,4,5,8). Some experts believe the risk is increased after stretching (5). There is good evidence that static stretching reduces the power a muscle can generate, making it temporarily weaker (5,7,9). Muscle weakness is a known risk factor for injury. Stretching has been shown to reduce muscle power in weight lifting (7), and jump height and overall performance in rhythmic gymnasts (3).

Muscles provide important assistance to ligaments in helping to stabilize joints – both through static tension and proprioceptive control. Stretching can reduce necessary muscle tension and control, making the joint susceptible to injury. There is some evidence that over-stretching the hamstrings is associated with increased risk of ACL injury (5).

That is not to say static stretching is all bad. It might be helpful when performed after sport, or at other times when exercising gently. But at present there is no research evidence showing that stretching will help enhance performance, prevent injury, or to reduce post-exercise muscle soreness (1,4,5,8).

Any stretching performed before sport should be *dynamic* or *active*. This means that it involves movement through the entire range of motion of the muscle, slowly at first then gradually faster. The muscle will be moved quickly through full range in the game, so it needs to be prepared for this in advance.

The warm-up should include the muscles and the movements that will be used in the particular sport. It should commence slowly and gently, and gradually increase in speed & vigor. A light jog for a few minutes is always a good start for any running sport. The extent of the warm-up will be influenced by the climate, the level of competition, the presence of any pre-existing injuries, and how cold the muscles are to begin with. 5-10 minutes should be the minimum time devoted, but 15-20 minutes is more realistic for intense sport, cold conditions, and older athletes.

The warm-up will be specific to the sport. There are so many variations of sports and movements that it is impossible to cover general warming-up here. I have developed warm-up routines for hockey and golf, which you can view through the following links:

<http://www.cssphysio.com.au/pdfs/3-Warm-up-for-Hockey.pdf>

<http://www.cssphysio.com.au/pdfs/0-Golf-Warm-up.pdf>

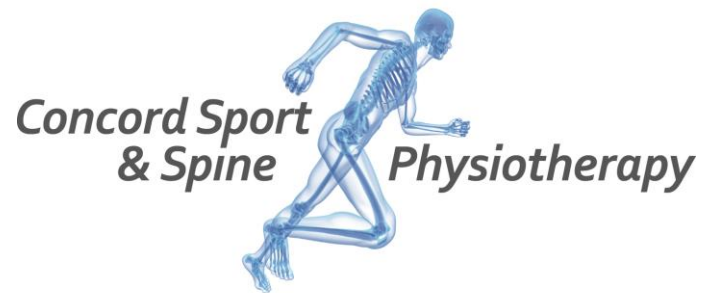
A person wanting more specific advice can obtain this through a coach, trainer or sports physio.

**References:**

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