



How to Avoid Injury as You Resume Summer Sports and Activities

All athletes, from professionals to weekend warriors, are at risk for a back or neck injury. Excessive strain, especially on the low back or lumbar spine, is quite common for athletes and can lead to episodes of back pain, sometimes severe.

While it may not be possible to prevent injuries completely, here are 5 things athletes should know to keep their spines healthy.

1. Warm Up and Stretch

A proper warm-up with stretching exercises can increase blood circulation and improve the flexibility of muscles and ligaments. This not only helps enhance athletic performance, it can prevent injuries as well.

To stretch properly, follow these tips:

- Stretch slowly and gently only to the point of mild tension.
- Hold each stretch for 10-30 seconds – don't bounce!
- Stretch for the same amount of time on each part of the body.
- Stretch after your game as well to relieve sore or tight muscles.

2. Reduce the Chance of Injury: Use Proper Equipment

All sports have the risk of injury. Some more than others. In general, the more contact in a sport, the more risk of injury. To reduce the risk of injury to the spine, athletes should wear protective equipment appropriate for their sport such as neck rolls and shoulder pads. Well-constructed and supportive shoes are also a must.

Other types of equipment that can help prevent injuries to other parts of the body may include:

- Helmet
- Pads (elbow, wrist, chest, knee, shins)
- Mouthpiece
- Face guard
- Protective cup
- Eyewear

3. Stay Hydrated

Heat injuries in sports occur as a result of excessive exercise in high temperatures and humidity. Use common sense to avoid these potentially serious injuries.

Here's how:

- Drink plenty of fluids before, during, and after your sport.
- Avoid playing or practicing during periods of extreme heat and humidity.
- Wear lightweight clothing with maximum skin exposure to allow sweat to evaporate.
- Take breaks or allow for periods of rest to allow your body to rest and recuperate.

4. Don't Overdo It

Repetitive Motion Disorders (RMDs), such as tennis elbow (epicondylitis), bursitis, and tendonitis, occur when movements are repeated over and over again causing damage to various parts of the body.

To avoid overuse injuries, try the following:

- Take rest periods during practice and games.
- Use correct form and techniques in your sport. If you're not sure how, take a lesson to make sure you are doing it right.
- See your doctor if you experience any pain or muscle fatigue, inflammation, swelling, or compression of nerve tissue.
- Try "cross-training" with a variety of sports and activities to lower the strain upon individual muscle groups.

5. Adopt a Healthy Lifestyle

In addition to your sport, look for other ways to improve your overall health by adopting a healthy lifestyle that includes:

- Plenty of rest.
- A well-balanced, low fat diet rich in fruits and vegetables.
- Avoidance of smoking and excessive use of alcohol.
- A visit to your physician at least once a year to help prevent problems before they get too serious.
- If you have pre-existing medical conditions, consult your doctor before beginning a new exercise regimen.

An important strategy to help you "stay in the game" is to be aware of steps you can take before the event to reduce the risk of a back or neck injury. Precautions may keep you from being side-lined!





The Evolution of Minimally Invasive Spine Surgery at NH NeuroSpine Institute

What Is Minimally Invasive Spine Surgery?

Generally speaking, minimally invasive spine surgery is the performance of surgery through small incision(s), using high technology, visual assistance or computerized navigation. This allows for complex spinal surgery to be performed with minimal blood loss or injury to the muscles.

Why Is Minimally Invasive Spine Surgery Needed?

Minimally invasive spine surgery has developed out of the desire to effectively treat disorders of the spinal discs with minimal muscle related injury, and with rapid recovery.

Traditionally, surgical approaches to the spine have necessitated prolonged recovery time. For example, in the 1990s the state-of-the-art procedure for fusion of the lumbosacral spine has been the instrumented posterolateral fusion. In order to perform this procedure, the back muscles are moved away from their spinal attachments, allowing the surgeon space to place rods, screws, and bone graft.

First, this surgical approach (i.e., dissecting the muscles) produces significant perioperative pain and delays return to full activity. The degree of the perioperative pain can necessitate the use of significant pain medication with their inherent side effects. Also, the degree of the perioperative pain delays return to normal daily activities and nonphysical work.

Second, the dissection of the paraspinal muscles from their normal anatomic points of attachment results in a healing by scarring of these muscles. The various layers of the individual muscle scar to one another losing their independent function.

In addition, it has been found that this type of dissection results in the loss of innervation (i.e., the supply of nerve stimulation) of the muscles with subsequent wasting away. A permanent weakness of the back muscle can result. This weakness itself may be symptomatic (as a back fatigue-type pain) and/or limit the patient's function - particularly in those who perform physical work. These side effects of the posterior approach to the lumbar spine have been called fusion disease.

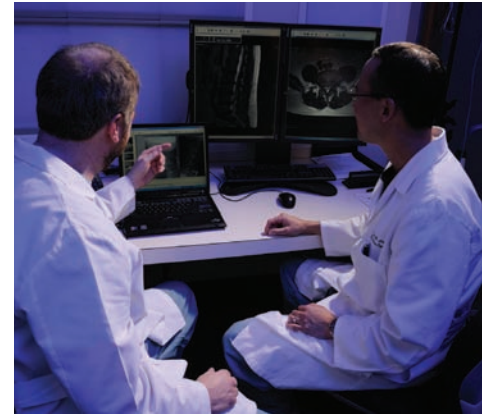
With such significant muscle injury associated with surgical approaches to the spine, the need existed for the development of less invasive surgical techniques. It was envisioned that minimally invasive techniques would offer several advantages including:

- Reduced surgical complications
- Reduced surgical blood loss
- Reduced use of postop narcotic pain medicines
- Avoidance of fusion disease
- Reduced length of hospital stay
- Increased speed of functional return to daily activities.

How is the New Hampshire Neurospine Institute Involved in the Development of Minimally Invasive Spine Surgery?

Since the late 1990s, the New Hampshire Neurospine Institute has been involved in the development of Minimally Invasive Surgery. From laparoscopic fusions (using fiber optic cameras) to the DLIF

(approaching the spine from the side through a 1" incision) to Surgical Navigation (using computerized imagery to direct surgical instruments with ultimate precision) we have been involved in the ongoing pursuit of performing surgery with less pain and faster recovery. Though minimally invasive surgical approaches are not applicable for all conditions, we employ them whenever possible to benefit the patient. Going forward, we will continue to play a leadership role in this exciting and expanding field of spine surgery.



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