Lower back pain is common in gymnastics. In the July 2011 issue of Technique, Dr. David Kruse stated that up to 80 percent of all gymnasts will experience low back pain at some point. In this article, we will look at some of the causes of back pain and discuss exercises that can be used to prevent back injuries with athletes.

First, back pain can be serious and the athlete should be seen by a physician or another medical professional if the pain is causing apprehension when performing a skill or is chronic and not improving with decreased activity. Many times it is possible to prevent serious injury by identifying poor mechanics and correcting them before the pain becomes a problem.

A significant cause for low back pain that we have identified is chronic hyperextension of the lumbar spine. Gymnastics skills require significant spinal extension. This motion should be distributed throughout the hip, lumbar and thoracic spine. Problems begin when the majority of extension comes from the lumbar region due to poor hip extension and poor thoracic extension. This is seen in the athletes that have a “V” appearance in the lumbar spine instead of a “C” appearance (See picture 1 and 2).

Increasing hip extension begins with stretching the hip flexors without allowing excessive lumbar extension often...
in a plank and quadruped position ("all fours") (picture 5, 6, 7).

Arm behind the neck and rotating toward that side while being spine with rotational skills. Rotation is improved by placing an improve extension and will decrease the torque on the lumbar and repeat 10 times. Increasing thoracic rotation helps to the ceiling and push the chest up and out. Hold 3–5 seconds together. Instruct them to lift elbows behind the neck and squeeze elbows behind the neck and squeeze elbows behind the neck and squeeze elbows behind the neck and squeeze elbows behind the neck and squeeze elbows.

Lumbar movement. Clasp hands knees higher than hips to decrease begins with the athlete seated with posture. Thoracic mobility exercise limited due to poor anterior shoulder Thoracic extension is commonly seen in the split stretch (picture 3).

Hip extension is also increased by strengthening with a glute bridge while not allowing the back to hyperextend. (picture 3 and 4).

The key is to limit lumbar motion and accentuate thoracic motion (hold 3–5 seconds 10 times each).

Core strengthening is essential to stabilize the lumbar spine throughout the entire range of motion needed in gymnastics. Core strengthening exercises are commonly done poorly, which can lead to overactive hip flexors and add to hyperextension of the lumbar spine. Exercises should focus on stabilizing the spine first, then large movements second, and should include lower and upper abdominals, trunk rotation and back strengthening. Included are pictures of a few basic exercises (pictures 8, 9, 10, 11, 12).
As hip and thoracic spine mobility improve and the ability to stabilize and control lumbar mobility increases, put them all together. Ball bridging and wall drills (pictures 13, 14, 15) allows the teaching of proper mechanics and decreases excessive hyperextension of the lumbar spine. Ball bridging puts the athlete in a supported position and allows them to practice bridging while focusing on pushing through the hips and thoracic spine. The wall drill is similar, but is from a standing position and is a good transition from the ball to actual skills. Achieving good, pain-free mechanics allows for progression to trampoline, tumble track and floor tumbling.

Back pain is such a common occurrence in gymnastics but can be limited by improving hip/thoracic mobility and developing core strength and proper tumbling mechanics.