

Runners need to get hip to leg pain

Written by John Tomberlin

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Approximately 400,000 high school athletes participate in cross country each year in the United States.

Research shows that up to 38 percent of those runners may suffer at least one sports-related injury that forces them to miss at least one meet or practice. Girls have a significantly higher injury rate than boys. Girls also have significantly higher rates of serious running-related injuries that create a loss of at least two weeks or more from practice and competition. Girls also are five times more likely to suffer a repeat injury than boys.

Cross country athletes risk injury to the feet, ankles, knees, hips and low back. The most common injury is exercise related lower leg pain (ERLP) that occurs most commonly on the medial (inner) side of the shin bone on the lower leg. High school runners who have a history of these problems are at more risk to suffer a running-related injury during the next cross country season.

Interestingly, there is no solid scientific evidence to support the relationship between the training distances and frequency of injury for high school cross country runners. There also is no solid evidence that links age, body type, or years of running to the risk of injury in high school cross country runners.

Research 10 to 15 years ago suggested that foot-type plays a role; those with low arches (overpronators) were thought to be more likely to suffer injury than those with high arched feet (supinators). The research also pointed to the alignment angle of the legs, called the "Q-angle," as playing a role in injury rates. The "Q-angle" is the angle between a line running down the upper leg (thigh) and the lower leg (shin). Unfortunately, these factors have not been supported

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by new research studies.

Instead, current research points to weak hip and buttock muscles as possible significant predictive risk factors for ERLP, especially girls. The hip musculature plays a key role in maintaining the biomechanics and functional alignment of the entire lower leg, especially in running.

If we compare running to walking, there is one distinct difference between them. Running creates a situation where the feet cross midline, placing more responsibility for the hip to maintain stabilizing control while all of the runner's body weight is supported by one leg (*see photo*)

During walking, our feet never cross midline. If the hip muscles are weak and lack stabilizing control, there is a tendency for the entire lower leg to rotate inward, putting significantly more stress on the lower leg structures that can contribute to the onset of ERLP. Current research also shows that a high school cross country runner who has a past history of exercise related leg pain (ERLP) will be significantly more likely to suffer an injury resulting in loss of participation from 1 to 4 days during the season.

There are strategies that can lower the risk of ERLP. The coach can utilize an athletic trainer and/or physical therapist to perform a preseason screening of runners. This will involve identifying the two key elements to controlling stability of the lower leg: functional strength of the hips and foot type of the athlete.

Identifying proper foot type will allow the coach and sports medicine staff to recommend proper footwear that matches foot type: low arches (overpronator) may need a wider shoe, stability support, and possibly orthotics; high arches (supinator) may need a narrow shoe with cushion/shock absorption qualities.

Identifying weak hips with poor stability control will allow the coach and sports medicine staff to prescribe functional strengthening core exercises to develop better hip musculature control.

The coaches also can work with athletic trainers to closely runners who have a history of ERLP, a known risk for re-injury.

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To learn more about exercise related leg pain (ERLP) in runners, please check out my March 2011 article: [Shin Splints: Fact or Fiction?](#)

The high school cross country season is racing to its finish. The state championships for boys and girls are Saturday at Fort Dodge.

(About the Author: John Tomberlin has worked with high school athletes in the Cedar Rapids Metro area since 1995. He was a four-sport athlete in high school and a high school coach for two years in Illinois. John has more than 25 years of experience working with athletes as a physical therapist and a certified strength and conditioning specialist. He has worked with professional athletes in the NFL, MLB, and on the PGA and LPGA tours. John also has worked with elite amateur athletes in alpine skiing, figure skating, and track and field.)