



READY TO RUN

Back to School, Back to Sports

Fall is upon us, which means the kids are heading back to school and fall sports are beginning to launch. Many are gearing up for football, soccer, volleyball and cross country which means long days full of rigorous practice, first game jitters and unfortunately, sports-related injuries. Fortunately, there are some steps that can be put into place to avoid common sports-related injuries and overuse injuries with the sudden high volume of running that takes place with athletics. In preparation for Fall sports, it is important to consider easing into physical activity and prepping your body for high intensity sports. A proper routine of dynamic stretching, specific muscle strengthening, nutrition and hydration are all important to the athlete's health. Common, preventable, injuries that we often see occur in the clinic include runner's knee and jumper's knee, muscle strains, shin splints, and foot pain. Most of these injuries are easily corrected when given the proper exercise routine, proper running form and foot support, such as orthotics. These injuries occur after a sudden increase in jumping and running activity.

The runner's form is key in creating efficiency during running and limiting the amount of stress through the bones and joints of the body. Typical faults seen in the runner's form, include excessive pronation (arch of the foot flattens too much), excessive hip adduction (hips drop too much during weight-bearing portion of running), heel strike at initial contact with the ground, and upright trunk or backward lean. All of these faults can lead to excess force through the joints of the foot, ankle, knee and pelvis leading to stress fractures, overuse type injuries and muscle strains.

Let's start by giving you a visual of the runner's form. When the runner begins take off, their first contact with the ground is often times the heel bone, this primarily transmits force up through the heel, through the lower leg, the knee and the hip ultimately resulting in a hard impact. Next, the foot begins to drop and flatten (sometimes too much) and the lower leg and thigh muscles are attempting to "pull" and propel the body forward;

resulting in the body working against itself. As the body's center of mass shifts over the planted lower extremity, weakened hip muscles (gluteus medius and minimus primarily) often result in an excess drop of the pelvis, resulting in an inward force on the knee creating pulling on the tendons and ligaments around the knee as well as poor tracking of the patella in the femur bone (leading to compression and inflammation). This process occurs potentially, hundreds of times possibly in one practice session.

So how do we correct these faults? There are simple suggestions that can assist the athlete, however it is recommended to be evaluated by a physical therapist trained in evaluating running form. He or she will make the proper suggestions, specific to the athlete, in conjunction with functional strength and flexibility testing to ensure the athlete is targeting other factors contributing to the injury. Some basic corrections that would be recommended for all athletes include midfoot strike (landing on the balls of your feet), forward trunk lean, and proper foot alignment when running.

Let's give you a second visual with the now proper running form. The runner initially leans their trunk forward creating a "falling forward" sensation, the initial contact now takes place at the midfoot where the calf muscles and quadriceps muscles take the eccentric load during this phase of running, and the foot does not have such an abrupt collapse into a foot flat position. As the body naturally falls and propels itself forward, the runner's cadence picks up to catch up with the body's momentum. The runner is using momentum and muscle force to drive the body forward, resulting in less joint force and impact to the body and thus less chance of injury to the athlete.

These general suggestions can be applied to most athletes, there are typically underlying impairments (weakness, inflexibility, proprioceptive/balance deficits) that need to be addressed to correct other movement faults. As you fall back into the swing of things, do not forget to take the time to ease into your favorite seasonal hobbies, whether it be hunting, running, or contact sports. Take time each day to stretch, hydrate and provide your body with proper fuel. Your body will thank you for it!

Shannon Calenberg PT, DPT. Call for a running evaluation today, 406.777.5354.

