

## **Pediatric Sports Injuries**

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As the parents of a young athlete, when there is an injury it may be difficult to decide how significant it is. Let's use an ankle injury for an example. If there is a twisting injury and the child or teenager is unable to bear weight, with swelling developing over the area of injury, then an x-ray should be done. Sometimes the x-ray may be read as "normal" and a parent may then presume that there is a sprained ankle that just needs time to recover. If the child continues to favor the ankle, an orthopedic exam should be done to assess for a subtle growth plate fracture. Examination of the ankle will reveal whether the child is tender directly over a growth plate of the end of the shin bone (tibia) or in the outer bone called the fibula. Even if the x-ray does not show any displacement of these bones at the growth plate, the injury will be treated as a fracture with immobilization. Sometimes there is just a bruise and then a cast will not be necessary. Kids with open growth plates rarely sprain their ankle ligaments, because the weak link in their ankle is the growth plate. The good news may be that nothing is shifted out of place on the x-ray and the fracture will likely heal uneventfully with immobilization; however, the bad news is that a period of rest from sports is needed to allow the bone to heal properly.

Another example of the difference between a child and an adult may be with the diagnosis of a "pulled hip or groin muscle". In the early adolescent years when the child is in a growth spurt, there are a number of growth plates in the pelvis and hip area that is the "weak link" in the teenager. Sudden muscle contraction, such as with sprinting down the field in football or soccer, may pop one of these growth plates off the pelvis and cause sudden severe pain and often an inability to walk. An x-ray will often reveal the growth plate (called an "apophysis") that has popped off and then the appropriate treatment of resting from weight-bearing with crutches can be done, followed by some physical therapy to rehabilitate before returning to running sports. By comparison, the adult may have simply strained ("pulled") the tendon attaching the muscle to the pelvic bone, as seen with a hamstring strain.

Sometimes a child who is devoting many hours a week to a single sport may develop an overuse injury at a growth plate. One example could be at the growth plate of the wrist (the big bone in the wrist is the radius) in a young gymnast. There might not be any one moment of trauma to cause a fracture, but the child may start to complain of ongoing pain in the wrist that is worse with use. Once again, an x-ray will help sort out the diagnosis. Again, a period of immobilization with a cast or a splint will be necessary to affect a cure.

Another area that is commonly seen as a tender spot would be the front of the knee at the attachment site of the patellar tendon (below the kneecap at the shin bone). This is

called "Osgood-Schlatter disease". The age group at risk to develop pain and swelling in that area is in early adolescence, when the growth spurt is rapid. Again, the weak link is at the growth plate, instead of the tendon itself. The kids that get this problem are often those who are very active playing outside or in organized sports. Moderating running and jumping activities for a period of time, combined with a stretching program to help regain the flexibility (that is temporarily lost during a growth spurt) often help settle this condition down.

So the next time that your young athlete is limping or complaining of pain that does not resolve with a little rest from sports, consider some of these conditions, and request an evaluation with your family doctor or your orthopaedic specialist, to help sort out the cause of the pain. It is also important to remember that not everything is a "sports medicine" problem, and other conditions need to be considered and ruled out.

Our goal as orthopedic surgeons and sports medicine specialists is to diagnose the condition and help the young athlete (and their parents) choose the appropriate treatment. Timing of return to play is often an issue. Avoiding re-injury is another goal of treatment. An even more important long-term goal is to give sports participation guidance that will reduce the possible long-term consequences of the sports injuries.