

# Overuse Injuries in Youth Soccer

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“Many times young athletes will have pain for months or even years and assume it’s either ‘growing pains’ or just part of participating in a sport.”

*Dr Stein Division of Sports Medicine at Children’s Hospital Boston*

Youth Soccer has tremendous benefits. But, we have to manage the negatives intelligently, and climbing overuse injury rates are one of those negatives. Playing through the pain may be culturally advocated—It is also a practice that can destroy one’s soccer future. Sports Medicine professionals believe that over half of the injuries to youth athletes are overuse injuries—and that about 30% of youth soccer injuries fall into the “overuse” category.

## That’s 30% of youth soccer injuries we could prevent.

Overuse injuries are cumulative injuries, which occur over time due to stress on muscles, joints and tissues that haven’t been able to recover—micro-traumatic damage to a bone, muscle or tendon that hasn’t had time to undergo natural repair. Youth/adolescent players are most at risk during times of rapid growth. When bones grow and lengthen, the muscles attached to those bones have to lengthen and strengthen. Because growth does not occur simultaneously, this can leave the areas of growth weak and inflexible, opening them up to injury. The growing bones of the youth/adolescent athlete just can’t handle the same stress as adult bones.

### The Academy of Pediatrics defines four stages of overuse injuries:

1. Pain in the affected area after physical activity;
2. Pain during the activity, without restricting performance;
3. Pain during the activity that restricts performance; and
4. Chronic, unremitting pain even at rest.

Stages 1 and 2 injuries must be dealt with, so that they don’t progress to Stages 3 & 4.

### Common Overuse Injuries in Soccer

- **Stress Fractures:** Break or crack in the bone caused by repetitive stress.
- **Tibial stress fracture:** Focal shin pain, which gets worse with activity. Specific tenderness directly on a spot on the Tibia.

Leg or foot pain that doesn’t resolve within a few days rest needs to be assessed by an MD to rule out stress fractures. X-Rays and bone scans are the only valid method to make a stress fracture diagnosis.

- **Patellar tendinitis:** Pain in the knee. This injury affects the tendon connecting your kneecap (patella) to your shinbone. The patellar tendon plays a pivotal role in the way you use your legs. Stress results in tiny tears in the tendon, which your body attempts to repair. But as the tears in the tendon become more numerous, your body can’t keep up, causing the inflammation in your tendon to worsen

The pain usually is located in the section of your patellar tendon between your kneecap and the area where the tendon attaches to your shinbone. During physical activity, the pain may feel sharp—especially when running or jumping. After a workout or practice, the pain may persist as a dull ache.

- **Shin Splints:** This is a “catch all” term for pain in the lower leg muscles. There will be soreness in the calf: This is diffused shin pain which is less focal than stress fracture. Typically, pain occurs after a sudden increase in the amount of running, or changes in running surfaces.

Shin splints can be a precursor to stress fractures. As the muscles become sore, fatigue, and fail to function properly, the bones begin to bear the load of over-use.

- **Sever's disease:** Heel pain, which gets worse with activity. Sever's disease is another common area of pain in young soccer player (age 7 and older). It is a growth plate inflammation of the calcaneus (heel bone), which may mimic Achilles tendinitis.
- **Osgood-Schlatter disease:** Pain, swelling below the kneecap: a painful bump where the patella (knee cap) tendon attaches to the tibia, or shin bone. The bump may be tender to the touch and look slightly larger than the opposite side. This can become inflamed by repetitive running or jumping which creates excessive pulling at the point of attachment.

An injury such as this should not be ignored because it could lead to a complete separation of the tendon from the bone. (Tight hamstrings seem to go hand in hand with this injury.)

- **ACL Injuries:** especially common in female soccer players. These injuries are common to any sport that involves continually starting, stopping and change of direction. The human body is optimized for linear movements.

According to the Sports Medical Community, technique training, specific muscle conditioning and correct warm-ups can help mitigate the continued stress of the starting, stopping, and change of direction movements.

## Preventing Overuse Injuries

The American Academy of Pediatrics Council on Sports Medicine and Fitness recommends limiting sporting activity to a maximum of 5 days per week with at least 1 day off from any organized physical activity. (Even the Pros, who are making their living playing soccer, have recovery built into their schedules.) Build Recovery into the schedule—strive for 1-2 days off per week.

The AAP also recommends that athletes have at least 2 to 3 months off per year from their particular sport, during which they can let injuries heal, refresh the mind, and work on strength, conditioning, and proprioception in hopes of reducing injury risk.

If your young athlete is playing soccer all year round, try cross-training and be certain that their strength and conditioning coach is aware of their schedule so that they build recovery in on that basis.

Immediately after play stops the athlete's bodies start to repair; however, the body does most of its repair work during sleep. Nine hours of sleep is recommended for adolescent athletes. Seven hours is the minimum to allow young bodies to repair.

Players should also dynamically warm up prior to any practice or game, and stretch afterwards. Activating muscles in a pre-designed sequence will help prevent injuries. Sports Medicine teams find that Soccer players tend to be less flexible than players of other sports, and pre-season training that includes flexibility has been shown to reduce injuries.

Weekly training time should not increase by more than 10% a week. That seems to be the largest stress increase that the young athlete's body can deal with. Properly hydrate at all the times: Be especially cognizant of hydrating during tournaments. Dehydration increases fatigue and injuries increase with increased fatigue. Eat correctly, especially post-practice/workout/game. The body needs good nutrients to recover.

Dr Kocher, of Boston Children's Hospital Division of Sports Medicine says: "It used to be easier to take young athletes out of sports to let injuries heal. Now, they are facing the same kind of pressure to perform as professional athletes."

We beg to differ – we know that our young soccer players want to be able to play for a long, long time and will do what they need to in order to be able to.