Young, Athletic and Injured
With the increase in sport specialization among young athletes, DCs are treating more overuse injuries.

By Nataliya V. Schetchikova, PhD

For thousands of years, sports have given people an exciting pastime and taught them the value of discipline and sportsmanship—“fairness, respect for the opponent, and graciousness in winning or losing.” Pierre de Coubertin, father of the modern-day Olympic Games, expressed it best: “The most important thing... is not winning but taking part; the essential thing in life is not conquering but fighting well.”

Somehow, though, mankind lost its focus on this ideal. Instead, the increasing commercialization of sports fuels dreams of winning college scholarships and reaching athletic stardom, pushing many youngsters toward unrealistic goals—which they pay for with their childhoods and damaged health. With an estimated 30 to 45 million youth participating in organized sports, more than 3.5 million young athletes seek treatment for sports-related injuries annually, and chiropractors in sports- and rehabilitation-oriented practices are noticing the trend.

In his Silver Spring, Md., practice, Steven Horwitz, DC, CCSP, CSCS, has seen an increased number of knee, wrist, elbow, shoulder and back overuse injuries among young athletes. “When I give talks at local baseball camps, 10- to 12-year-old kids tell me their elbows hurt. My patient’s 15-year-old daughter and her friends always wear ankle braces. All this is inexcusable,” he adds.

Sport Specialization
Many experts believe that part of the problem is early and intense sport specialization. “Because of specialized sports participation, young athletes are training year-round,” says Faith Doyle, DC, DACBSP, who practices in Puyallup, Wa. The 14-year-old swimmers she works with get only a three-to-four-week break from their intense practice schedules per year, she adds.
“Specialization comes with a price,” agrees Jim Kurtz, DC, CCSP, DACRB, whose practice in Federal Way, Wash., centers around sports injuries and rehabilitation. “When I was a kid, we played a variety of sports throughout the year. It was natural cross-training—while some muscles were being worked, others had a chance to rest. Now young athletes repetitively use the same muscles and joints with no time to recover, which results in injuries such as tendonitis, muscle strains and occasionally avulsion-type fractures.”

It’s also problematic that American youngsters immediately get into sport-specific training, rather than acquire basic athletic skills and then specialize in a sport, says Dr. Horwitz. “Children join different leagues at the age of 6 or 8, getting right into soccer, basketball, baseball, instead of first learning to jump, run, start, land and so on,” he says. In addition, many children “start sports in a deconditioned state due to sitting at the computer all the time.”

Overuse Injuries

While sports participation also predisposes athletes to risk of traumatic injuries, statistics show that only 8 to 10 percent of all sports injuries come from trauma, says Philip Santiago, DC, DACBSP, CCSP, chairman of sports medicine for New York Chiropractic College, who has been in private practice for more than 25 years and serves on the U.S. Olympic Committee’s Sports Medicine Committee. “The rest is overuse.”

Overuse injuries come in four phases, he continues:

1. Feeling ache and soreness after activity
2. Aches and pains toward the end of activity
3. Intense or frequent pain during activity, which affects performance
4. Feeling pain all the time, including during rest periods

In the first two stages, athletes usually ignore the pain, writing it off as a sprain or strain and unwilling to tell the coach, afraid to lose a position or play time, he explains. By stage 3 or 4, they start looking for help, and, most often, they have to be pulled away from activity. “If we can catch them in Phase 1 or 2, it could be a matter of changes in biomechanics,” he says.

To catch young athletes early in the overuse injury cycle, it’s often necessary to educate coaches, says Dr. Santiago. “Explain the types of injuries [their athletes are predisposed to.]” For example, he says, a runner makes 10,000 steps in an hour—and if his or her biomechanics are off, the effect of accumulative trauma will increase 10,000 times. “Try to get coaches to understand it and not to penalize the kid, explaining that [if he or she keeps playing] they will lose the kid for sure,” he says.

Traumatic Injuries

While overuse injuries happen to athletes of all ages, sustaining musculoskeletal injuries on an immature, growing skeleton can also damage open growth plates, says Dr. Kurtz. “They are more susceptible to stress fractures during growth spurts, with injuries occurring at the epiphyseal plate, the joint surfaces, or the apophyses. Joint tightness, inflexibility and muscle imbalances also increase the risk of avulsion fractures,” he says.

It is easy to miss some avulsion fractures because they present like a moderate muscle strain or tendinitis, says Dr. Kurtz. He recommends that DCs take the patient’s history, looking for severe rotational or sheer-force injury with accompanying localized swelling at the site, and tenderness with loss of function. Common injury sites include:

- sartorius muscle at the anterior superior iliac spine (ASIS)
- the rectus femoris muscle at the anterior inferior iliac spine (AIIS)
- hamstring muscles attached to ischial tuberosity
- iliopsoas tendon to the lessor trochanter of the femur
- gastroc/soleus complex attached to the calcaneus
- quadriceps/patellar complex at the tibia

Radiographs may not always reveal the injuries, says Dr. Kurtz, recommending that chiropractors consider MRI or orthopedic referral if the patient is not responding to care appropriately. Management of avulsion fractures includes rest for four to six weeks, reducing pain and swelling, restoring full ROM and returning to a graduated program of muscle strengthening. Surgery is rarely necessary, he says. “You want to correct any faulty biomechanics and joint dysfunction and muscle imbalances. Core and glute strengthening is key to prevention,” he adds.

Working With Athletes

On any athlete, it’s important to conduct a proper evaluation. “Biomechanically, check for pronation, problems with knees and hips, core muscle weakness, and balance issues,” says Dr. Doyle. “Activity may need to be modified or cut out altogether if they are in pain and not getting any rest.” Some may be addicted to working out, so the psychological aspect of discontinuing activities may also need to be addressed, she adds.

Nutrition evaluation is also key to proper care. While some nutritional strategies, such as enzymes and homeopathic remedies, can help decrease inflammation and control pain, first ensure that your patients adhere to proper diets, Dr. Doyle recommends.

In addition to adjustments, Dr. Doyle uses Graston Technique® and Active Release Techniques (ART®), which can help break down scar tissue, as well as topical anti-inflammatory substances, and Kinesiotaping to support the tissue. Correcting muscle imbalances—stretching
Expanding Your Offerings

It’s important to teach athletes basic movement skills, notes Dr. Horwitz, adding that learning sprint mechanics helped him avoid pulling hamstrings while playing softball. For power lifters and weightlifters, learning how to do a proper abdominal brace and brace through the core and shoulder girdle is a must. Working with runners, see if each foot is landing in front of the other when they run or if the feet are going over the place and if the athlete is criss-crossing the arms in the front, he suggests.

While occasionally watching his teenage patients run on the high school track, Dr. Santiago also has installed a treadmill with video cameras in his clinic. “Videos help pick up biomechanical faults—pelvic disorder, pronated feet, sacroiliac issues,” he says.

At hearing that his teenage patients practice weightlifting without proper supervision, Dr. Kurtz placed a power track in the rehab room of his practice and started teaching them proper lifting techniques. “We are preventing disc and knee injuries, and coaches are realizing that they can send athletes to us for training, as well as for treatment. That’s a great thing for any practice,” he adds.

DCs looking to educate themselves should “go out and work with a track coach locally,” suggests Dr. Horwitz. “Learn what the proper mechanics are and how athletes are supposed to move. If you work with weightlifters, learn weightlifting so you can demonstrate the movements yourself.” He adds that Pilates and yoga are great adjuncts for athletic conditioning.

Patient Education

While taking care of patients’ biomechanical issues, DCs should also keep an eye on the psychological component. “Athletes need some time to get away from the sport physically and mentally—and they often don’t get that break,” says Dr. Santiago. “Explain to them that the chances of making it to the pros are very slim, but they are giving up their childhood for the dream of making it to the pros.”

Sometimes the problem lies with the pressure parents put on their children. Dr. Horwitz recalls working with a patient from a private high school whose father would stay during their rehab and training sessions and yell at the son. “I had to tell the father to leave because [his intervention] was counterproductive—and you should have seen the relief on the kid’s face,” he says.

In other cases, coaches pressure children to choose one sport over another, says Dr. Doyle, recalling a teenage girl who was in tears because she wanted to play basketball without giving up softball. “It’s too bad they have to choose at such an early age, [instead of playing a variety of sports for fun],” she says.

Of course, athletes come to chiropractors primarily for relief of their pain and improvement of their performance. “Continue your education—get certified, increase your toolbox. Learn better taping skills, soft-tissue skills, ART, myofascial release, so you can offer them more,” says Dr. Santiago. “The goal is to get them back to training fast—that’s what they care about.”

References
1. www.merriam-webster.com/cgi-bin/dictionary?va=sportsmanship

Expanding Your Toolbox

To expand chiropractic offerings to athletic patients, experts recommend the following certification programs:

• CCSP and DACBSP programs with the ACA Council on Sports Injuries and Physical Fitness. www.acasc.org.
• National Strength and Conditioning Association Certification www.nsca-cc.org.

Other resources to consider include:

• Thera-Band Academy—a Web site featuring exercises for injuries to specific body areas and peer-reviewed articles to help the clinician make the treatment more evidence influenced. www.thera-bandacademy.com.
• Iamsport.com is another site where anyone involved in sports can build their own space. On this free site, you can upload videos or images, letting people around the world know you treat sports injuries. You can also join a “community,” such as IAM-Hockey or IAMfootball and network with like-minded colleagues. http://IAMSport.com.
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