Why young athletes are getting hurt and what you can do to prevent it from happening to your child.
More than half of all sports-related injuries in youth are preventable. This edition of the Therapeutic Outlook magazine will provide you with resources to help keep your athlete injury-free and off the sidelines.
Culture of Youth Sports

By: Scott Wick, Director of Marketing (AAU Basketball Coach); Darin Borter, PT, DPT, OCS, COMT, Director — TAI SW PT (AAU Youth Basketball Coach, youth football coach and former Oregon State Football Offensive Guard)

Stop by any field or gym on a weekend and you will see kids participating in youth sports. With matching uniforms and their own fan base, they are experiencing what it is like to be part of a team. In the US, over 21 million kids ranging from age 6 to 17 play team sports annually, and the startling statistic is that by age 6, 60% of boys and 47% of girls are already playing.

So what is the draw to youth sports? Is it the competition, the physical exercise, or possibly the social aspect? All of these are actually true to some extent, but when you ask kids, it comes down to the fun factor and how kids identify themselves. When surveyed, 34% of girls and 61% of boys say that sports are a big part of who they are. In addition, the number one reason that both genders quit organized sports is because they were no longer having FUN. Kids want to be part of something and they want to have fun in the process. But what about the higher lessons that organized sports offer?

Being a “student athlete” teaches lessons that foster success later in life and lead to being a better citizen. Not only does participating in sports help to combat childhood obesity, but it also aids in development of social skills, positive habits, and self-image. Statistically, students who participate in organized athletics achieve higher grades, have better attendance in school, and have less discipline issues. The academic/athletics balance offers a training ground for the work/life balance our youth will face as adults. Some of the life lessons that student athletes are exposed to include teamwork, work ethic, effort, sportsmanship, prioritization, emotional intelligence, and camaraderie.

Teamwork: Society expects adults to work together for the common good, so the concept of teamwork is paramount. As defined by Merriam-Webster dictionary, teamwork is “work done by several associates (teammates) with each doing a part but all subordinating personal prominence to the efficiency of the whole.” Team is defined as a group of individuals who perform related tasks, interact with one another dynamically, have a shared past, have a foreseeable future, and
share a common fate. In other words, working together to achieve a common goal. Youth sports provide a great training ground to practice this behavior over time.

**Work Ethic:** Youth athletics promote continuous improvement, and this can only be accomplished by putting in the reps. Many young athletes take pride in their play and are willing to put in the extra time and effort to improve their skills. Aristotle is quoted as saying, “We are what we repeatedly do. Excellence, then, is not an act, but a habit.” Seeing the benefits of your hard work at an early age in competition promotes a strong work ethic that will last a lifetime.

**Value of Effort:** As a coach, I tell my players that all I expect is for them to try their best at all times. Really, what more can you ask of anyone? The concept of effort applies to all aspects of life, including studies, chores/work, games, communication, compassion, empathy, and athletics. Kids are smart. They recognize that their teammates rely on them, and this naturally drives effort. Practice provides the opportunity to push yourself to improve. Most coaches instruct their players that you “play like you practice.” This applies whether you are giving 100% or just going through the motions. Effort matters in all aspects of sports and life.

**Sportsmanship:** How to win and lose graciously. Most of my players have heard me say multiple times, “Great game—we will get you next time.” The learned behavior of appreciating and acknowledging talent and a job well done is very powerful. Losing graciously is a learned skill. If all the focus is on winning, kids will be afraid to fail and make mistakes. Mistakes are part of the learning process and how we improve individually and as a team. One of my kids’ teachers has a great acronym for the word “fail” that I use often—“first attempt in learning.” Everyone makes mistakes, but how we handle them makes the difference. Maintaining a positive attitude with good sportsmanship, even when things are not going your way, is another life lesson that youth sports provide.

**Prioritization:** The schedule demands of many youth sports can be intense for young athletes and their families. Finding the balance among academics, family life, social life, and athletics can be challenging, and in many cases requires choices. Learning to prioritize at an early age with guidance from parents, schools, and coaches will lead to better adjusted adults. Many youth athletic programs impose academic eligibility requirements for participation, which sends the positive message that academics matter as much as athletics. We want well rounded future contributing members to society, and this message should be supported across the board.

**Emotional Intelligence:** Coaches often talk about “sports IQ” when evaluating players. In most sports, the advantage goes to the player or team that uses both their brain and their brawn. Strategy, focus, good decision making, planning, and execution all play a part. Youth sports provide a fast-paced environment that requires players to process multiple sources of information quickly, make decisions in real time, and act immediately. In addition, youth sports attract players, parents, coaches, and referees from all walks of life, representing the diversification of our nation’s workforce. Exposure to a variety of people and nationalities helps develop strategies on how to deal with them all. Exposure at an early age can lead to improved emotional intelligence (EQ), which is the ability to understand, empathize, and negotiate with other people. It sounds a lot like teamwork, which it is! However, these skills are learned over time, and the more exposure achieved at an early age, the better developed these skills will be as an adult.

**Camaraderie:** It is human nature to want to feel like you belong and are part of something. The feeling of heading into competition with your team offers a sense of togetherness that is very powerful for young athletes. Many lifelong friendships start in youth sports due to the emotional connections developed through competition and team goals. Being part of a team is powerful.

**Benefits of Multi-Sport Participation:** Twenty years ago, youth athletics were much simpler. Kids didn’t have to choose, as they simply played whatever sport was in season, with most seasons lasting 8 to 10 weeks. This schedule provided a natural progression of both fine and gross motor activity development due to the physical demands of a variety of sports. The developmental benefits of cross training or performing a variety of physical activities are well documented in the literature, yet many kids are being asked to specialize at an early age. Sport specialization is defined as limited athletic participation to one sport, where players practice, train, and compete solely in that sport year-round. This trend has grown significantly over the past 15 years across the

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US for a variety of reasons. The Amateur Athletic Union (AAU) promotes the development of year round “club” leagues for almost all sports, and their philosophy is “Sports for All, Forever.” This is great in theory, but in application this process pushes kids to specialize in one sport at a young age.

Why do students choose to specialize? The biggest reason is parents. AAU sports are viewed by many as the road to a college athletic scholarship. Many parents view this avenue as an investment in their kids’ future. The other fear is being left behind. Kids that specialize advance their skills in their specific sport and make it challenging for non-specialization players to compete for spots. This leads to the mentality that if my child wants to compete, this is the only way, which further drives specialization and the year-long season. According to a recent study by ESPN the Magazine, 44% of surveyed athletes playing on Club Teams play only one sport, and 78% of them say they play to increase their chances of earning a college scholarship.

The good news is that even with a focus on club sports, over 60% of student athletes participate in multiple sports. In addition to club sports, they participate in a variety of sports throughout the year. There are many benefits of being a multi-sport athlete, including the following.

**Improved Health and Wellness:** There are many health benefits to varied physical activity, and as physical therapists we see this firsthand in our practices. Kids who participate in more than one sport have reduced risk of over-use injuries and develop more diverse neuromuscular pathways at a young age that provide physical benefits to last a lifetime. Our bodies are wonderfully designed to move dynamically in many different planes. The more we encourage this movement in our development, the better we will function as we age. If we limit our functional movement patterns when we are young, we run the risk of placing excessive stress on ligaments and joints, which could lead to overuse injuries. We know that to develop a skill requires repetition, but we want to make sure that our bodies are ready to handle the stresses of training by ensuring we move in different patterns and afford ourselves rest/recovery time. Playing multiple sports is one of the easiest ways to accomplish this task without specifically having to plan out a holistic training regimen when we are young.

In addition, varied physical activity and varying sports can decrease stress that leads to burnout in young athletes. Burnout can be defined as “the athlete’s natural response to chronic, ongoing stress.” Unfortunately, the “play at all costs” attitude by parents and coaches can lead to overtraining and excessive travel, which leads to burnout in young athletes starting around age 13.

**Improved Athletic Performance:** Cross-training decreases the risk of overuse injuries and leads to better overall athleticism. When we look at the totality of an athlete, we look at many different factors, such as speed, agility, quickness, hand-eye coordination, strength, endurance, etc. Different sports demand varying degrees of the preceding traits, but it is very easy to see how developing all of them maximally will help you in anything you choose to play. This is why we see golfers cross training with high-intensity workouts and football players using vision therapy to improve peripheral vision.

**Character Development:** Youth athletes may not excel at all sports, and this leads to learning humility and teamwork. Socialization with a slightly different peer group, exposure to different coaching styles, and seeing things in a different context develops skills and perspectives that can be applied across a lifetime. Youth sports should be a non-threatening way to develop traits that will help kids as they become young adults.

Youth sports have undoubtedly become a huge force in society. Of all the kids in America, very few have not played organized sports. As reported in a survey done by Sabo for the Women Sports Foundation, only 13% of boys and 18% of girls between the ages of 8 and 17 had never joined a team or club, or had never shared the experience of getting into uniform and running onto the field or court to compete. Organized sports have become an integral part of society and are here to stay. As a parent, knowledge is power, and understanding the risks and benefits of organized youth sports will help you make an informed decision that is best for your child.

This magazine, along with our website and local physical therapists, will provide you with resources to ensure that your child is safe and has a positive experience while participating in youth athletics. The benefits of a positive experience will last a lifetime. See you on the sidelines.
Physical Therapists Are An Important Part of Your Young Athlete’s Good Health Team

By Stephen E. Anderson PT, DPT, CEO, Therapeutic Associates

Watching your children participate in sports can be one of the most rewarding experiences of being a parent. It is exhilarating when they perform well and accomplish their goals, but it can also be heartbreaking to watch them struggle and perform below their potential.

As the father of a past Collegiate Division 1 tennis player, I’ve experienced both scenarios. I feel lucky that I never had to experience him being injured when he was participating on a daily basis. I have seen other parents go through shock, fear, and concern for their child when injured during a sporting event.

Youth who do get injured often experience pain, fear, and disappointment from the impact of the injury. Parents play an integral support role during this process. Knowing the right thing to do is not always easy. Parents balance pressures from peers and coaches and the young athlete’s desire to get back in the game with a desire to protect their child from any potential lifelong ramifications. Concerns range from returning too early and risking further injury, to missing opportunities while the athlete’s body heals. Advice from an expert is needed during rehabilitation and when your athlete returns to competition.

That’s where your physical therapist comes in.

Physical therapists are experts in evaluating and treating musculoskeletal injuries, especially sports-related and overuse issues and trauma. Other than concussions, most injuries that occur in youth sports involve bones, ligaments, muscles, and tendons. Physical therapists are trained to pinpoint the injured tissue and understand its relationship to the performance of the whole body.

Kids heal fast, yet not doing the right thing can lead to problems later in life. Younger athletes often feel invincible and don’t understand the importance of rest and allowing the tissue to heal. Knowing what to do to build and maintain strength and agility while protecting the injured tissue is crucial to a quick and sound recovery. Parents will be given advice from other parents, coaches, and all sorts of practitioners in the health and wellness industry. Uninformed opinions can be harmful. You want to go to the person who has the experience and expertise to consider all the intricacies of young athletes.

Physical therapists are uniquely qualified to be your go-to professional to ensure safe and reliable evaluation and treatment. It’s a win/win proposition. Your young athlete gets the right diagnosis, optimal rehab care, and guidance for their return to sport so they can get back to competition in the fastest and safest way possible.

It may come as no surprise that many former athletes migrate to the profession of physical therapy. As a company, we interact with PT students and interview many new graduates. During this process, we often ask why they chose the physical therapy profession. Most of the stories follow a similar theme; at some point they became injured and during the recovery process grew to love the profession and its goal of helping people return to activity. These personal experiences and the extensive experience working with people from all walks of life are what provide physical therapists a unique perspective to guide and support injured athletes.

I often teased my son that his greatest accomplishment throughout his tennis career was never suffering a serious injury. Unfortunately, many young athletes are not as lucky. As the level of competition and the intensity of training increases, injuries in young athletes have become an epidemic. Whether a soccer player tears an ACL or a volleyball player sprains an ankle, serious injuries are far more common now than ever before.

A good physical therapist you know and trust should be a part of the team you and your children depend on to ensure they can perform at their highest potential and enjoy their sport. Playing while hurt or trying to participate with physical limitations takes the fun out the game.

In addition to helping athletes return to sport post-injury, physical therapists are uniquely qualified to design and implement functionally sound performance-enhancement programs for athletes of all ages and levels. A physical therapist is trained to watch for asymmetries and imbalances during training and can address these imperfections through specific strength and flexibility exercises before they turn into injuries.

For example, David McHenry, PT, DPT (Director of Therapeutic Associates North Portland Physical Therapy) is the head strength and conditioning coach and physical therapist for the Nike Oregon Project. He trains high-level runners like Mo Farrah and Galen Rupp, the 10,000 meter gold and silver medalists in the 2012 London Summer Olympic Games.

The success of the Nike Oregon Project and its runners is due in part to David’s training program that emphasizes core and full-body strength and addresses weaknesses that negatively impact the runner’s efficiency and biomechanics. As a result, the athletes have been able to focus on high “quality” miles over high “quantity” miles, significantly reducing their risk of injury.

By avoiding injuries through a training program overseen by a physical therapist, Mo and Galen have been able to train more consistently and injury-free, leading to their Olympic success. Many youth athletes are inspired by watching Olympic competitors achieve excellence and dream of being great athletes themselves.

The principles of injury prevention and performance enhancement through professionally guided programs is beneficial at any age or level of competition and creates a more enjoyable sports experience for the participant.

I would encourage you as a parent to get to know your local physical therapist and make them a permanent member of your family’s medical team. Physical therapists are unique in that they help prevent athletic injuries from occurring in the first place. Through rehab, they can also assist injured athletes to return to sport post-injury and increase performance for athletes looking for a competitive edge through scientifically designed performance-enhancement programs. This makes your physical therapist the best choice for your young athlete.

I hope you find the content in this magazine and our website helpful and useful in keeping your young athlete healthy and happy while competing in sports.
Growing up in an active and healthy environment is extremely important for the future of our youth. For the first time in history, today’s 10-year-olds are the first generation expected to have a shorter life expectancy than their parents due to inactivity. With this alarming information, it is vital that we start promoting an active lifestyle, especially for young people.

A proactive way to do this is to encourage participation in youth sports or movement-based activities at a young age. The social, psychological, and physical benefits your child will gain from just 30–60 minutes of exercise a day is a significant part of their development that should not be overlooked.

As a parent, you want to guide your child to be the best they can be. This mindset often relies on how well your child feels at any given moment. It is important to monitor their activities to ensure that they are healthy and happy. To guide you and your child towards a healthy, active lifestyle, we have compiled a list of 10 things that all parents and coaches should know.

1. **Encourage Fun**

   Get involved with your kids. Being active doesn’t have to be a chore. In fact, some of the best exercise comes from simply getting your family outside and playing. Start a nightly family walk or play a game of tag after dinner. Not only will you get good exercise, but you will be spending quality time together as a family. More often than not we find ourselves in front of a television after we’ve already spent the day sitting in front of a computer. Try something new this week! Let everyone in the family choose a fun activity to Get Moving and spread them out throughout the week. Before you know it, you’ll be creating great family memories and healthy athletes!

2. **Build Relationships**

   One of the best things you can do for your athlete is to strengthen relationships with those directly connected to their health and wellness. From health exams to movement assessments, you will gain access to knowledge about your child’s physical and emotional wellbeing. If your child participates in multiple sports, get to know their different coaches and trainers. The more people that you build relationships with who have an integral part in your child’s life, the more information and guidance you will have to help build and manage a healthy athlete.

3. **Cross-Training**

   Cross-training has been an essential part of an athlete’s regiment for many years. We are often told that repetition and consistent practice makes perfect. However, this may not always be the case. When an athlete continuously competes and trains in the same sport, repetitive movements can increase risk of injury. Cross-training provides athletes a chance to participate in different sports requiring different muscle activation and movement patterns.

   For young athletes, cross-training allows them the opportunity to try many different sports. This will help them to determine where they excel and what they
enjoy. Being active in multiple sports will allow your athlete to build developmental and complementary physical skills. Another benefit to cross-training is that your child will continually be interested in staying active. To reduce the risk of burn-out, have a different sport for the different seasons. That way they are able to try a variety of sports while staying active and involved.

4. Timing

Timing is everything...or at least that's what we've all been told. The same holds true for a healthy athlete. Timing an athlete’s training throughout the season is key to avoiding injury and allowing for growth. You can visualize this timeline in four quarters. Each quarter is essential to staying healthy and “peaking” at the right moment.

**Pre-Season Activity:** Your body is getting used to constant activity and building muscle and endurance. Make sure training is a gradual increase of intensity. If training is brought on too fast or too hard, the risk for injury increases. Gradually increasing exercise intensity will allow your body to adjust while building strength, speed, and agility in your sport.

**In Season Commitment:** Fine-tune your game. You may now feel as if you are in a rhythm and want to keep the momentum on the upswing. Muscle groups that have been built up may be overworked, causing some aches and pains. This is a time to modify those activities so that you are moving properly to avoid greater injury. You will find that this is the quarter where you peak, concentrating on your skill and competition.

**Post Season:** Recovery is key when it comes to post season. Your body needs a chance to heal and recover. This is a great time to slow the intensity of your workout and prevent accumulation of injury. During this quarter, seek care from your physical therapist for acute injuries that may not have fully healed during the season. Your body works very much like a machine. Without giving the machine a break, it may overheat and burn out.

**Off-Season Training:** This is a time when you can start thinking about the next activity. Cross-training or preventative training are great options to remain active and stay in shape. We often think recovery means doing absolutely nothing, when in fact this can be harmful. Rest is a great thing, but too much and our bodies don’t know how to respond when we start training again. In your off season keep things light, but stay active.

5. Preventative Training

For your child, you want to make sure that injury or the risk for injury is at an all-time low. To do this, take part in a preventative training program. This type of training takes you through a variety of stretches and exercises to strengthen and elongate your muscles. Your physical therapist can put together a preventative training program that will allow your athlete to stay ahead of the game. Physical therapists

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<th>PHYSICAL BENEFITS</th>
<th>PSYCHOLOGICAL BENEFITS</th>
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<tr>
<td>↓ Blood Pressure</td>
<td>Academic performance</td>
<td>Teamwork</td>
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<td>↓ BMI</td>
<td>Self Image</td>
<td>Group problem solving</td>
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<td>↑ Insulin sensitivity</td>
<td>Perceived health status</td>
<td>Building relationships</td>
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<td>↑ Bone density</td>
<td>Life satisfaction</td>
<td>Competition</td>
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<td>↓ Heart disease</td>
<td>Reduced feelings of depression &amp; anxiety</td>
<td>Discipline</td>
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<td>↓ Resting heart rate</td>
<td>Promotes sense of well-being</td>
<td>Accountability</td>
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are able to assess for muscle imbalance or weakness, which can be a risk for injury. With a combination of resistance training, stretching, conditioning, coordination training, core training, and even fundamentals, your athlete will be ready and properly trained.

6. Pre-Activity Assessment

Before going on a long road trip we want to make sure that the car is in tiptop shape to avoid unexpected events that might delay or postpone a vacation. The same idea applies to our bodies. Halfway through the season, you do not want to experience an injury that could have been avoided by a pre-activity assessment. These assessments are very important to not only find out what is going on with your body, but to learn how your body works and functions.

With a quick physician screening, also known as a physical, your doctor can tell you whether your body is ready to start training. In addition to a physician screening (physical), we also recommend a physical therapist screening. This screening provides an in-depth evaluation on how your body moves and any restrictions or imbalances your body may have that could lead to injury. This will allow your physical therapist to better instruct you on proper movements to avoid injury and stay healthy.

Concussion baselines such as ImPACT (Immediate Post-Concussion Assessment and Cognitive Testing) are essential when it comes to athletes. This testing provides a baseline of the athlete’s cognitive ability. If an athlete were to receive trauma to their head, they would be able to use their previous testing to compare and assess their mental state. Not only does this tool help communicate to the athlete, parent, and coach post-concussion status, but it also allows health care professionals to track the recovery of a concussion. For more information about ImPACT testing, visit their website at www.impacttest.com.

7. Proper Warm-Up

Referring back to the car analogy, we often warm up our car prior to leaving for work so it will work effectively. Many times we do not consider the same care for our bodies. A dynamic warm up will help your athlete to prep the body’s muscles and soft tissue for optimum performance, just like we do for our cars. These short and intermittent movements will help reduce the risk for injury by preventing overload on inadequately prepared muscles.

A dynamic warm up should not be confused with static stretching (stretch and hold for 30 seconds). By comparison, a static stretch is designed to lengthen muscles and improve flexibility, not warm up the muscles. If done at the wrong time, it can inhibit activity and overall performance.

Studies show that dynamic stretches are best used in preparation for movement (or prior to practice or game), and static stretching is great for cooling down (after practice or game). Knowing when to implement each of these stretching techniques during a workout or practice can play a vital role in an athlete’s health within their sport. If our youth understand that their longevity in sports can be limited by severe injuries, they may find a new appreciation for proper stretching and simple care for their bodies.

Find complete dynamic exercise programs on our website: www.therapeuticassociates.com/YouthAthletics

8. Active Recovery

After working hard during an intense practice or game, our bodies benefit from active recovery during the cool-down phase immediately after and during the days following a practice or game. Active recovery
includes hydration, nutrition, rest, and static stretching.

Find complete static exercise programs on our website: www.therapeuticassociates.com/YouthAthletics

9. Safety Recommendations

To ensure the health of an athlete, you must take safety precautions, especially when it comes to younger athletes. Continuous repetitive movements can cause overuse injuries. To limit this stress, regulate the repetitive movements in practice. If an athlete is trying to perfect a throw or kick, limit the number of times it is performed. Allow them to focus on other activities by creating an exercise circuit. This offers a more balanced and interactive workout.

In addition, make sure that your athlete is dressed appropriately with correct safety equipment and proper footwear. Not only is your athlete potentially growing out of last year's gear, but wear and tear can decrease the safety benefits of the equipment.

10. Injuries

Whether we like it or not, injuries do occur. The spectrum of pain is difficult to discuss, as pain is perceived differently in every person. A rule of thumb when dealing with injuries is to always listen to your athletes. Make sure that if they mention an injury or discomfort, take note and relay it onto a physician or physical therapist if necessary. This includes how they became injured, where the pain is located, when the injury took place, and how long it's been bothering them. The “No Pain = No Gain” theory is often used to toughen athletes, but pain is not to be ignored. Athletes should be trained to recognize injuries early to keep them healthy and on the playing field.

Hydration

It is impossible to overemphasize the importance of proper hydration during athletic events lasting longer than one hour. Improper hydration can not only lead to a decrease in performance (up to 50%), but can also cause dangerous medical conditions, such as dehydration, heat exhaustion and heat stroke.

A simple equation for daily water consumption is Body Weight/2 = Oz of water needed daily. Increased activity (such as sports) requires additional hydration and should not be ignored. Urine should be clear to very pale yellow in days and hours leading up to activity. Juice or sports drinks are recommended for training sessions longer than one hour.

Drinking water with prolonged activities will dilute sodium, resulting in a shut off of your thirst mechanism, and the body needs balanced electrolytes for optimum performance.

Symptoms of dehydration are: thirst; discomfort; loss of appetite; dry and/or “hot” skin; flushing; headache; visual disturbances; low blood pressure; high heart rate; cramping; fatigue; low endurance; nausea; dizziness; fainting; delirium.

Symptoms of electrolyte imbalance are: nausea; vomiting; headache; confusion; swelling of the limb; stupor.

Make sure to rehydrate post event as well.

Nutrition

A well-balanced diet is the best way to have the fuel necessary to compete at a high level. When the body doesn’t have enough of what it needs, a breakdown in the muscles can happen, which will lead to muscle soreness, cramping, and poor performance.

Even with great knowledge of nutrition, kids can be fairly picky and make poor nutritional choices. It is important that your child gets proper protein after a training session and antioxidants to decrease cell damage. This will help with recovery and continued participation in their activities. During exercise, glycogen absorption rates in the body increase. This allows the body to fully replenish itself if refueled within 30 minutes of exercise.

Sleep & Rest

The body will not heal unless it is given time to rest. Rest is a time for healing and systemic recovery. Your body will use this stage to restore glycogen while rebuilding and strengthening the body in response to the stresses of working out.

A lack of rest and recovery can lead to over training and increase the risk for injury. Educating our kids to manage recovery by going to bed on time will help them prepare for competition. Encourage them to go to sleep earlier or to take a “rest day” from training. Not enough sleep can lead to injuries because of weakness, less coordination, and less emotional motivation. Proper rest and sleep will help refill their energy storage and prepare them for the next activity!
As of 2011, 8.2 percent of high school injuries require surgery. This is a jump from 5.3 percent in 2006.

**WHAT INJURIES HAPPEN WHEN?**

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<thead>
<tr>
<th>Injury Type</th>
<th>Competition</th>
<th>Practice</th>
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<tr>
<td>Sprains &amp; Strains</td>
<td>48%</td>
<td>40%</td>
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<tr>
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<tr>
<td>Fractures</td>
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<td>10%</td>
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<tr>
<td>Other Injuries</td>
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<td>23%</td>
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**PREVENTION**

Prevention of youth sports-related injuries is ideal. There are 8 potential ways to prevent injuries:

- Pre-season Physical
- Proper Warmup
- Proper Cool-down
- Proper Training Equipment
- Hydration
- Rest, Sleep & Nutrition
- Proper Conditioning
- Proper Technique
Youth athletes are more susceptible to overuse injuries now than ever. According to Stop Sports Injuries, over half of all sports injuries in children and adolescents are due to overuse/overtraining.

As we’ve touched on in earlier articles in this issue, one reason why there is such a wave of overuse injuries in young athletes is specialization. As kids continue to focus on one sport vs. playing a different sport each season, overuse injuries have increased. This can result in muscle imbalances and inadequate rest, which can greatly increase the risk of injuries, such as muscle strains and ligament sprains, tendonitis, and stress fractures.

Increased training schedules are another reason for overuse injuries. Many kids play on multiple teams, have private trainers and coaches, participate in several games during weekend tournaments, and are getting very little recovery time. Parents may mean well by providing kids with multiple opportunities to train and compete, but this can be counterproductive. Lack of adequate rest denies the body recovery time to repair injured tissues, resulting in tissue breakdown.

Sports which involve running and jumping increase risk of lower extremity injuries. It is recommended that young children (under the age of 10) do not engage in structured distance training. Kids age 10 and up can participate in endurance training (up to 3 miles for 10-year-olds), but this should be implemented gradually. Child and adolescent athletes should never be engaged in running and/or jumping every day, and should be limited to 3–4 times per week to allow adequate recovery.

Particular attention should be paid to avoiding overuse of the upper extremities in throwing sports such as baseball and softball. With millions of youth athletes participating in these sports each year, overuse injuries of the upper extremities are becoming a common occurrence. Most of these injuries are related to the shoulder and elbow and occur most frequently in pitchers. Recent studies have shown that pitch volume and overuse are central factors that lead to shoulder and elbow injuries in the young throwing athlete.

Common injuries such as overuse shoulder and elbow injuries are preventable if proper guidelines are followed. These guidelines include warming up properly before throwing, adhering to established age-appropriate pitch count guidelines, playing multiple positions besides pitcher, not pitching on consecutive days or with pain, emphasizing proper mechanics, and speaking with a physical therapist if you have concerns or questions about injuries.

Parents and coaches should watch their kids closely for signs of overuse. Signs include:

- Decline in performance (speed or quality)
- Lack of motivation
- Irritable/uncooperative
- Favoring one side of the body
- Difficulty sleeping
- Headaches
- Muscle or joint stiffness

Young athletes who show signs of overtraining should be evaluated, treated, and given an opportunity to rest properly. When minor injuries are caught early, serious ones can be prevented.
Young athletes are at risk for a variety of injuries that can affect their performance. Parents play an integral role in observing their young athletes’ performance and response to exercise, and in assessing the need to seek medical support. By the numbers:

- In 2012, there were 1.35 million children seen in emergency departments with sports-related injuries with the following breakdown:
  - 450,000 Sprains and strains of muscles or ligaments
  - 270,000 Overuse/stress Injuries
  - 249,000 Fractures
  - 210,000 Contusions and abrasions
  - 163,000 Concussions

- Most high school sports injuries (about 90%, with little variation by sport) are new injuries rather than re-injuries.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cause</th>
<th>Signs and Symptoms</th>
<th>Medical Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concussion</strong></td>
<td>This traumatic brain injury is caused by a bump or blow to the head. The brain quickly hits and bounces off a portion of the skull depending on the direction of force.</td>
<td>Athlete appears dazed, confused about assignment or position, forgets sports play, moves clumsily, answers questions slowly, loses consciousness, behaves differently or shows personality changes. Young athlete may display symptoms of: headache or “pressure” in head, nausea or vomiting, balance problems or dizziness, double or blurry vision, sensitivity to light/noise, difficulty concentrating or memory problems, does not “feel right.”</td>
<td>Remove the athlete from play if any symptoms of concussion are demonstrated. Athlete should be examined by a medical professional trained in pediatric concussion management prior to return to play. Rehabilitation from mild to severe concussions includes balance, proprioceptive, and coordination training. Athletes must return to baseline as assessed by a standardized test, such as ImPACT testing, prior to returning to sport.</td>
</tr>
<tr>
<td><strong>Overuse injury</strong></td>
<td>Performing a specific motion repetitively, such as pitching a baseball, kicking, or running, places undue stress on the working structures.</td>
<td>Pain that cannot be tied to an acute injury (such as a fall) that often increases with activity or swelling. Changes in form or technique or decreased interest in practice.</td>
<td>Physical therapy focuses on regaining pain-free range of motion and strength to return to sport as quickly as possible and prevent re-injury.</td>
</tr>
<tr>
<td><strong>Sprains and strains</strong></td>
<td><strong>Sprain</strong>: stretching/tearing of the ligaments that connect two bones to form a joint. This can follow any traumatic incident, including a fall or twisting motion.</td>
<td><strong>Sprain</strong>: pain, swelling, bruising, inability to move joint actively.</td>
<td>Immediately manage an injury with intermittent ice, compression, and elevation. Seek physical therapy for management of a mild to moderate injury, as the mechanisms in the body that prevent recurrent injury can be injured and require retraining. Seek the advice of a physician if the area is highly painful or in the case of a severe sprain or strain.</td>
</tr>
<tr>
<td></td>
<td><strong>Strain</strong>: stretching/tearing of the muscle or tendon that connects muscle to bone. A strain can be acute with a traumatic injury or chronic use (see overuse injuries).</td>
<td><strong>Strain</strong>: pain, muscle spasms, muscle weakness, swelling, cramping, difficulty using the affected muscle.</td>
<td></td>
</tr>
</tbody>
</table>
| **Fracture**       | A split between bones that can range between:  
  - small, microscopic stress fracture common with excessive stress to a developing bone  
  - straight break of the bone  
  - shattering of the bone with high impact events or falls. | Severe pain, swelling, bruising or bleeding, limb or joint looks out of place or the wrong shape, numbness and tingling, unable to move the affected part of the body. | Seek immediate medical attention at your local emergency department. A major concern in young athletes is an epiphyseal fracture, or growth plate fracture, which could result in delayed growth of the affected bone. Patients may require physical therapy for return to sport following injury. |
When an injury presents itself, it is easy to forget these simple steps to protect yourself and promote the healing process. It is best to remember the word PRICER in the first 48 hours after an injury (see figure at right).

Return to Sport

Research shows the sooner you are treated for an injury the faster your recovery time. In general, if you have tried the PRICER method for 48 hours and still experience symptoms from your injury, you should contact your local Physical Therapist. Physical Therapists are trained to evaluate and diagnose injury, determine and apply appropriate treatment, and help with injury prevention after recovery. They can also determine if your injury requires the attention of a Physician and direct you accordingly.

In addition to faster recovery, another important reason to seek attention from a Physical Therapist is to better understand the severity of your injury so that you can make the best decisions on your return to activity. For example, ankle sprains can range from 1–8 weeks of healing depending on the amount of tissue damage and related medical treatment.

Returning to a sport after injury may be the most important time to seek proper guidance. In general, it is important to remain active during the healing process to prevent deconditioning and promote good blood flow to healing tissues. It is a misconception that most injuries simply need a few weeks to heal and then you can return to play.

Physical Therapists are highly skilled at assessing impairments such as weakness, stiffness, and poor mechanics that impact return to sport. Using a series of tests that simulate the movements of your sport, they can guide decisions on how quickly to return to practice and provide training programs and resources even after you have returned to play. Physical Therapists work with coaches, parents, physicians, and trainers to help young athletes return to sport safely and quickly.

Bracing and Taping

Bracing or taping is a hot topic in athletics and a component of return to sport. One third of high school athletes use some form of bracing or taping during athletics, either to prevent an injury or protect an injured area when returning to sport. Both have been shown to reduce the incidence of injury in youth sports significantly but do not reduce the severity of an injury when it does occur. Athletes with the best results preventing injuries through taping or bracing were those who had a previous injury. Neither technique has been shown to have a negative impact on performance. In general, a brace or tape can be a piece of the puzzle, but alone may not address the whole issue.

Direct Access—Your Right to Immediate Treatment

When considering whether to seek medical care, remember that state law allows you to seek medical treatment for your musculoskeletal issues directly from a Physical Therapist of your choosing, without a Physician referral. This places Physical Therapists as a first-line provider for your musculoskeletal health.

If you are suffering from a musculoskeletal condition that causes functional movement limitations, a visit to your local Physical Therapist is a safe place to start on the road to recovery.
Portland Hosts World Conference on Science and Soccer

For the first time ever, the World Conference on Science and Soccer (WCSS) is being hosted in the US in our very own backyard. On June 5–7, over 300 of the best international soccer scientists will converge on the campus of the University of Portland.

The WCSS is aimed at all individuals who have a particular interest in the scientific study and/or the practical performance of soccer players from youth to the elite professional level. These include sports scientists, coaches, strength and condition specialists, sports medics & physical therapists, physiologists, club administrators, professors and students.

Therapeutic Associates Physical Therapy is honored and proud to have one of our very own experts presenting at the 2014 conference. David McHenry, PT, DPT, COMT, Director of North Portland Physical Therapy will be discussing the connection between injury prevention and performance, and how to build a better athlete from the bottom up.

As proud sponsors of the 2014 WCSS, we are excited to be involved in such a great event that aims to identify best practices that address the emerging new challenges in the sport of soccer.

PT Made Me an Even Stronger Athlete than I was Before.

Rachel Buehner, Patient of TAI Bend PT

Being raised in the outdoorsy and athletic community of Bend, OR., my life since I can remember has been focused around sports. Soccer, track, softball, and volleyball – I did it all. It was never a question of whether I would play sports or not, I just did.

After a few years of playing volleyball, however, it quickly became my favorite. My freshman year of high school I made the varsity volleyball team and was on a high-level 18s traveling club team by my sophomore year. Spring of my junior year I had an incredible opportunity and had an offer to be a part of Oregon State University’s volleyball team for my college career. Of course I accepted!

At one of the first tournaments of my senior high school season, everything took a turn for the worse. I landed a jump wrong and tore my ACL, tore my meniscus in four places, and strained my MCL. I thought my competitive volleyball career would be over for the rest of my life. My surgeon told me it could be close to a two-year recovery, and I was devastated.

It was only a couple days after surgery that I went to see Chuck Brockman at the Therapeutic Associates clinic in Bend. From my first appointment I could tell that Chuck, and everyone else who helped me there, truly cared about my recovery, both mentally and physically. I never felt alone in my recovery and always knew there was a group of people who had confidence in me on days that I may not have.

About 9 months post-surgery, I was cleared to go full-speed with my knee on the volleyball court and was even able to play during my freshman season at OSU. Physical therapy not only helped heal my knee, it made me an even stronger athlete than I was before my injury. I know my body more than ever now and would be nowhere near where I am if it was not for physical therapy. My surgery leg is actually stronger than the other one now!

PT has affected my life so much that I am actually studying to become a physical therapist someday. I want to be the positive influence in someone’s life, like Chuck and everyone at Therapeutic Associates were to me.
Four Things Parents and Coaches Can Do to Avoid Preventable Sports Injuries:

**LEARN**
Get educated about prevention, return to sport and performance enhancement.

**PRACTICE**
Incorporate prevention strategies into routines promoting healthy habits.

**COMMUNICATE**
Openly talk to your athletes and encourage them to report injuries.

**SUPPORT**
Encourage and support coaches and officials in making safety a priority.

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**CREDENTIAL KEY:**
- ATC - Athletic Training Certification
- CMPT - Certified Manual Therapist (NAIOMT Level III)
- CMP – Certified Mulligan Practitioner
- CMT – Certified Orthopaedic Manual Therapist (NAIOMT Level IV+)
- CPI – Certified Pilates Instructor
- CSCS – Certified Strength & Conditioning Specialist
- FAAOMPT – Fellow of the American Academy of Orthopaedic Manual Physical Therapy
- LAT – Licensed Athletic Trainer
- MTC – Manual Therapy Certification
- OCS – Orthopaedic Certified Specialist
- SCS – Sports Certified Specialist

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Visit us on the web at www.therapeuticassociates.com
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Credential Key:

• ATC - Athletic Training Certification
• CMPT - Certified Manual Therapist (NAIOMT Level I)
• CMP - Certified Mulligan Practitioner
• COMT - Certified Orthopaedic Manual Therapist (NAIOMT Level II)
• CPI - Certified Pilates Instructor
• CSCS - Certified Strength & Conditioning Specialist
• FAAOMPT - Fellow of the American Academy of Orthopaedic Manual Physical Therapy
• LAT - Licensed Athletic Trainer
• MTC - Manual Therapy Certification
• OCS - Orthopaedic Certified Specialist
• SCS - Sports Certified Specialist

Thank you for your interest in our services. If you need more information or would like to schedule an appointment, please contact us at therapeuticassociates.com/Salem.
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New Clinic!

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New Clinic!

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New Clinic!


Visit us on the web at www.therapeuticassociates.com
Percentage of Students Who Say Sports Are a Big Part of Who They Are

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New Director

Credential Key:
Speed and agility, sports performance, and athletic enhancement are all common terms tossed around in the world of athletics. Peak athletic performance requires an optimum balance of biomechanics, strength, flexibility, coordination, speed, and endurance. Injury prevention is closely related to these same six factors.

As an example, in the world of female athletics, one in 100 athletes will have a serious non-contact knee injury in high school and one in 10 female athletes will have a serious non-contact knee injury in college. The factors that contribute to these injuries are both uncontrollable (gender, anatomy, previous injury) and controllable (movement patterns, strength, jump mechanics—specifically poor biomechanics, strength imbalance, poor flexibility, uncoordinated movement patterns).

These serious knee injuries will typically result in a minimum of one missed season. The injured athlete also has a significantly increased risk of not returning to competitive play or having an early onset of arthritis as a result of the serious injury.

Fortunately, there is an evidence-based program called Sportsmetrics™—the only evidence-based program proven to both reduce injury and enhance athletic performance. This six-week long program assesses athletes’ movement patterns and risk factors that contribute to poor athletic performance and/or increased risk of injury.

Over the course of 6 weeks, athletes develop improved strength, flexibility, coordination, and biomechanics. By the conclusion of this training program, athletes demonstrate improved confidence and visual and measurable biomechanical changes. In our experience training these athletes, we see lasting changes in movement, coordination, and body awareness more than one year later.

In addition to injury prevention programs such as Sportsmetrics™, select TAI clinics provide year-long and seasonal athletic enhancement programs. Speed and agility camps offer a chance for athletes to develop or polish fundamental athletic movements essential to success on the playing field.

During these camps we emphasize:

- A strong core
- Proper flexibility
- Sprinting technique and proper running form
- Coordination and Dynamic Control

In addition to seasonal camps, athletic development programs provide year-round opportunities to stay injury-free while enhancing performance. These programs are specifically designed to safely and progressively improve athletes’ overall “on-field” performance.

Objective data shows that athletes who have participated in our programs for more than 12 weeks run faster, jump higher, have increased foot speed, and are more powerful than they were prior to entering the program. These 12–16 week programs also provide an opportunity for our highly skilled Certified Strength and Conditioning Specialists (CSCS) to tailor the progression of the program to the specific needs of each athlete. The exercises are age-appropriate and scaled to optimize results.

If you are interested in TAI’s Injury Prevention and Sports Performance programs, please visit our website at www.therapeuticassociates.com/education/sports-medicine.

Programs are currently offered at clinics in the Portland, Bend, Seattle, and Boise areas.
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