

No Need for Shoulder Separation Anxiety

BY AMAN DHAWAN, MD

Injuries referred to as “shoulder separations” are a common injury in athletics.¹ These injuries are not of the ball and cup itself (glenohumeral joint), but rather the small joint just above where the collarbone meets the shoulder. This injury occurs typically when an athlete falls directly onto his or her shoulder or is hit directly on the outside of the shoulder. Shoulder separations are frequently seen in contact sports like hockey, football, and soccer, but can occur in any sport or activity.^{1,2} Shoulder separations represent almost half of all injuries to the shoulder region.^{1,2}

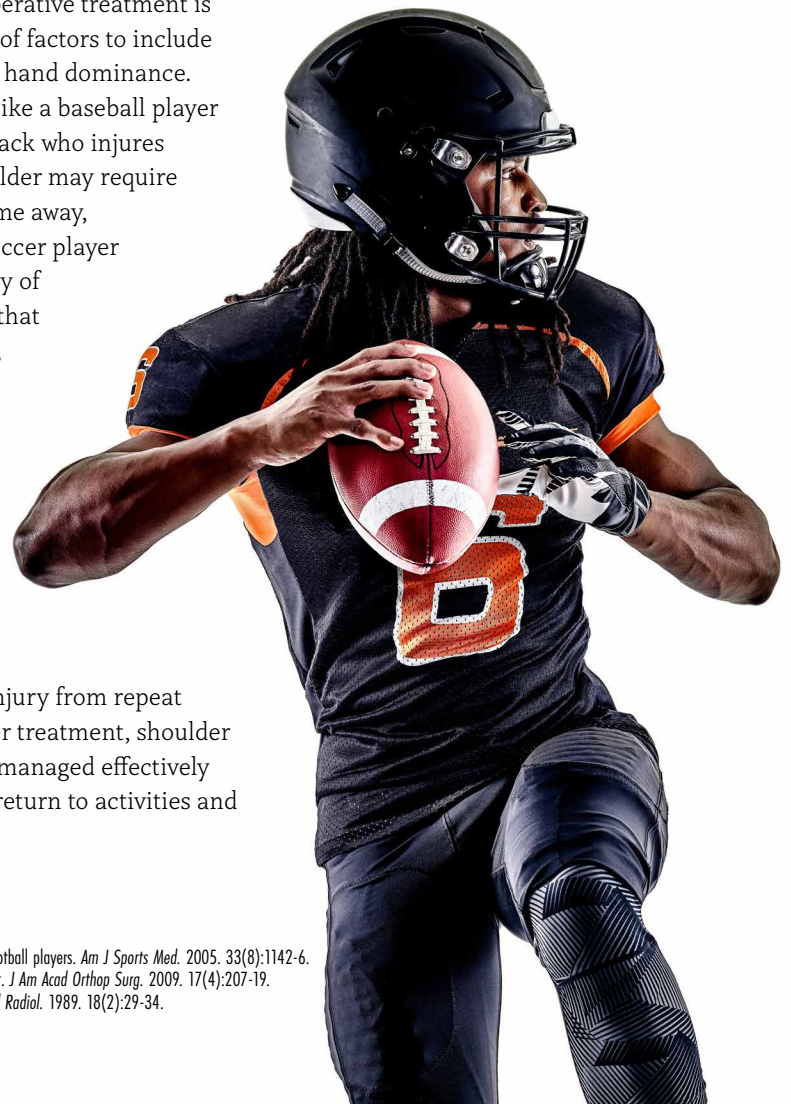
There are several ligaments that stabilize the shoulder, and injury severity is based upon to what extent damage to these ligaments has occurred. Patients will describe pain in their shoulder, especially with movement, and may notice a “bump” on top, that represents the end of the collarbone. Most shoulder separations can be treated without surgery, but often do require a period of rest, icing, anti-inflammatory medication, and physical therapy.² Evaluation of these injuries will typically include X-rays to evaluate for fracture and sometimes an MRI if there is suspicion of injury to the joint.

With more severe injuries, surgery may be recommended to improve long-term function and relieve pain.² There are several different surgical procedures

that are described for severe shoulder separation injuries depending upon the specifics and which ligaments are injured. All surgical procedures for shoulder injuries will require a period of rest, recovery, and rehabilitation after surgery that can last up to 6–9 months depending on the type of surgery.

Return to sports and activities with non-operative or operative treatment is based on a number of factors to include sport, position, and hand dominance. A throwing athlete like a baseball player or football quarterback who injures their throwing shoulder may require longer periods of time away, as compared to a soccer player for the same severity of injury. For athletes that wear shoulder pads, or even ones that do not, a hardshell or soft pad can be applied over the shoulder for a period of time during initial return to prevent symptoms and re-injury from repeat contact. With proper treatment, shoulder separations can be managed effectively and symptom-free return to activities and sport is the goal.

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Kick Safety Up a Notch to Prevent Soccer Injuries

BY AMBER PARKER, BS, AND ARUN J. RAMAPPA, MD

Soccer, more commonly known as football outside of the United States, is one of the most popular sports in the world.¹ In the United States alone, approximately 15.5 million people participate, including nearly four million youth players under the age of 19—only continues to grow.² This high-to-moderate intensity sport has been shown to support a healthy lifestyle by increasing participants' cardiovascular and neuromuscular health. However, the increased intensity of this sport also poses a risk for injury. Play is often characterized by frequent changes in movement, direction, and speed in addition to player-to-player and player-to-equipment contact.¹ While the risks of injury linked to play are relatively low, it is still important for players and coaches to be knowledgeable of common injuries and understand methods of prevention, including:

Sprains and Strains

During play, sprains and strains most commonly affect the joints of the ankle, knee, and hip. During noncontact motions, such as abrupt stops and cutting movements, large forces are placed on the joints which are vulnerable due to the high degree of motion that they allow. In collegiate women's sports, soccer players experience the highest rate of ankle sprains with approximately 1.3 ankles sprains per 1,000 athlete-exposures. Among these players, this injury can result in at least 10 days of time away from sport, in addition to added concern for re-injury, impaired neuromuscular control, and post-traumatic osteoarthritis.³ In male collegiate athletes, soccer players have the highest rate of strains in the hip. During the 2009/2010–2014/2015 seasons, male players experienced hip strains at a rate of 3.77 and 3.15 per 10,000 athlete-exposures, respectively.⁴ Knees, when subjected to extreme strain, suffer from anterior cruciate ligament (ACL) tears. Compared to males, female players are three to four times more likely per hour of game played



to suffer from this injury. Recovery from ACL tears is long and these injuries often require surgery to restore strength and stability. With continued play, affected athletes are at an increased risk for re-injury and osteoarthritis.⁵

Head Injuries

Injuries to the head commonly occur due to unintentional hits, via either direct player contact (most common), equipment contact with a goalpost, or an unexpected ball to the head. The resulting injuries are concussions, which vary in severity from cognitive function that may last for months to the more commonly occurring bouts of headaches and dizziness that can resolve in 7–10 days.⁶

Overuse Injuries

Overuse injuries commonly occur with repetitive use on the body rather than singular events. Common injuries include tendinitis involving direct pain over tendons and patellofemoral pain above the knee. These injuries are of particular concern as there is a growing trend of early sport specialization in young athletes and playing on multiple teams during one soccer season. Research has shown that young players who play on two soccer teams during one week have a 2.5 increased risk of having an overuse injury of the knee.⁷

Prevention

While the number of people enjoying this sport grows, programs and coaches must find ways to protect players from injury by implementing methods to prevent and reduce the risk of injury. Preseason preparation involving neuromuscular and plyometric training, in addition to stretching can reduce the risk of sprains, strains, and overuse injuries by conditioning the body for intense in-season play. Additionally, teaching proper heading and handling techniques and enforcing safe rules of play are important for preventing avoidable head injuries and ACL tears.⁸ While soccer is a sport characterized by player contact and collision, with appropriate preventative measures athletes can enjoy soccer as a lifelong sport.

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10 EASY TIPS TO GET READY FOR YOUR FIRST MARATHON

BY CHRISTOPHER J. TUCKER, MD

1. Start with the Right Gear

Selecting the correct shoes—and socks—will make or break your training program before you even get to the start line. Your shoes should fit properly, be relatively lightweight, and provide the appropriate amount of support for your foot type, arch, and gait. Getting a fitting at your local running store is worth the time investment, if you don't know what you need. Trying your shoes out on a long training run is critical to avoid race-day problems.

2. Build Up to the 26.2 Miles

Scheduling several races of shorter distances, such as a local 10k or 10 miler and then a half-marathon, during your training program is a great idea! These races can test your fitness, break up the monotony of training runs, give you some achievable goals along the way, and build your confidence. Try to run the half-marathon at a pace faster than your planned marathon pace, and strive to achieve negative splits (finishing with increasingly faster mile paces).

3. Give Yourself Enough Time to Build Up & Taper Down

Building up to 26.2 miles safely takes time. Periodization is the principle of increasing overall workload through cycles of increased volume and intensity interspersed with periods of decreased effort to allow for recovery. Increases in volume, intensity, or duration should not exceed 10% per week.

4. Find a Partner

Sharing your marathon experience can not only be fun, but also beneficial. You are more likely to stick to your training program if someone else is depending on you. Talking to someone during your training runs can help you regulate your pace, work on breathing patterns, and keep your pace constant. In addition, a partner can help motivate you on the days you're feeling less than at the top of your game—and you can do the same for them.

5. Hydrate to Beat the Heat

Avoid heat exhaustion and dehydration by properly hydrating before, during, and after your training runs and on race day. Pre-hydrate before intense exercise with 16–20 ounces of fluids two hours before, and then another 8–10 ounces after your warm-up before the race starts. During the run, drink 6–8 ounces of fluids every 15–20 minutes of exercise. Within two hours of finishing, rehydrate with 16 ounces of fluid for every pound of body weight lost. The ideal hydration solution consists of 4–8% carbohydrates.

6. Avoid Overtraining Injuries by Mixing Up Training

In addition to tapering, periodization, and regulating your miles, you can avoid overtraining injuries by adding cross-training and strength training to your program. Cross training will help

build your aerobic fitness while avoiding excessive impact on your joints from too much running. Strength training, along with regular stretching, will help relieve muscle fatigue on longer runs. Focus on the main muscle groups in the core, upper, and lower body.

7. Take Some Time Off

Learning how to recover is critical to success. “Active recovery” can include light activity such as an easy jog if you're a daily runner, or a swim or bike ride followed by a good stretching session on your down days. Your body will thank you for allowing it the time to recover and adapt to the progressively longer runs you will be doing.

8. Warm Up and Cool Down

It is important to warm up before runs. The longer or more intense the run will be, the more important this becomes to avoid injury. Spending at least 5–10 minutes getting muscles and joints limber and moving will flush out lactic acid buildup and help prevent delayed onset muscle soreness later. Stretching and cooling down after a run will help jump start the recovery process for the next day!

9. Do a Dress Rehearsal

Four to five days before race day, do a “rehearsal run.” Wake up at the same time as your race; wear your race-day outfit including shoes, socks, and clothes; go through your planned race day prep to include eating your pre-run meal and warmup routine; and run 2–3 miles at marathon pace. This will serve to work out any kinks in your plan, as well as boost your confidence and help you visualize a successful race day!

10. Have Fun

Remember the most important reason for running in the first place—to have fun while achieving personal goals, improving fitness, and possibly raising funds or awareness for your favorite charity. Keep it light and relaxed in your mind, and your body will follow. Don't forget to take in the sights along the way—the view from the finish line will be worth it!



Team Effort Can Prevent Waterskiing Injuries

BY CHAMP BAKER, III, MD

Waterskiing is a popular recreational activity that can be enjoyed by all participants regardless of skill level, however, it is not without risk of injury. Adherence to safety principles specific to waterskiing may help decrease the incidence of serious injury. Injuries can be categorized into those related to a fall in the water, collisions with obstacles or other boats, propeller incidents, and getting tangled with the towrope.

Dangers can be minimized with a team effort of a responsible boat operator, a vigilant spotter, and a skier wearing an appropriate personal flotation device (life jacket).¹ The driver should be trained to operate the watercraft and be knowledgeable of their respective state boating laws. Maintenance of a reasonable, safe speed and avoidance of shallow water, other boats, debris, docks, fishermen, swimmers, and swimming areas can also help avoid collisions. Once a skier has fallen, the driver should return immediately and approach cautiously from the driver's side during pickup so the skier remains in view. The engine must be shut off when near the skier to prevent damage from the propeller. The spotter must watch the skier at all times. This allows the operator to focus upon driving the watercraft.

The spotter also relays hand signals between the skier and operator for effective

communication. The skier must always wear a life jacket, not a ski belt. Before signaling that it is safe to start, the towline must be taut without slack and the ski tips are up out of the water. The skier should never wrap the rope around them or place any part of their body through the bridle.

Recent studies have examined the types of waterskiing injuries that occur, especially in comparison to other towed aquatic activities like wakeboarding and tubing.^{2,3} Most common injuries specific to waterskiing are to the legs, feet, and hips whereas wakeboarding and tubing had much higher rates of trauma to the head, face, and neck regions.

Complete rupture of the hamstring has also been reported in relation to waterskiers.⁴ During takeoff if the knees extend or go too straight too soon, the tips of the skis submerge and continued forward momentum causes extreme bending of the hip and potential injury to the hamstring. The skier should maintain the proper crouch position for a safe take off. If ruptured, surgical repair of the hamstring has been shown to have better outcomes than nonoperative treatment.

Tears of the shoulder muscles have also been reported due to hanging on to the ski rope and overextending. Other various injuries may result from direct impact with the water after a fall.



Although injuries can always occur in waterskiing, adherence to appropriate safety principles, including working together with those you are on the water with, can help minimize incidence and severity while still being able to have fun.

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9400 W. Higgins Road, Suite 300
Rosemont, IL 60018

Medical Editors
Bruce Reider, MD
C. David Geier, Jr., MD

Managing Editor
Lisa Weisenberger

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