

Lacrosse participation grows, but injuries should not with proper training and conditioning

Because of increased interest and participation, lacrosse became an official Illinois high school sport in 2016. Nationally, lacrosse participation jumped from 250,000 players in 2001 to more than 800,000 in 2015. Currently, there are 2,677 schools sponsoring boy's teams and 2,446 schools sponsoring girl's teams—similar to the number of schools sponsoring indoor track teams. However, like other physically demanding sports, participating in lacrosse also has its risk for injury.



Boy's lacrosse is considered a full-contact sport with full shoulder pads and chest protector. Girl's lacrosse is a "relatively" non-contact sport and the only protective equipment is goggles. The difference between the two can lead to a slightly different sets of injuries, but both are at risk to various contact injuries. Overall, there are greater rates of injury during games, as compared to practice—especially for concussions. Girls experience 0.76 concussions per 1,000 athletic exposures compared to 0.16 for practices. The boys had 1.23 concussions per 1,000 exposures during games and 0.17 concussions during practices.

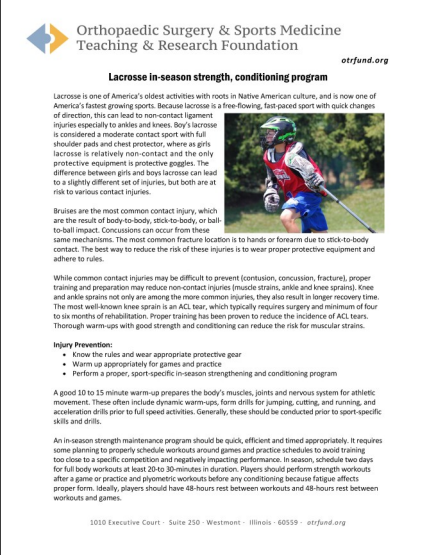
The risk for concussion during games can be reduced by wearing proper equipment and following rules regarding legal stick-to-player and player-to-player contact. Additionally when any signs or symptoms are observed or suspected, the player must be immediately removed from play until a medical professional evaluates the athlete. Bruises and fractures are other common contact injuries in lacrosse. The most common fracture locations are the hands or forearms from stick-to-body contact.

Ligament and muscle strains are the most common non-contact injury with the majority occurring in the lower body, of which the greatest number (33.3 percent) is to the foot, ankle and or lower leg. These injuries result in players missing on average nine days or less and generally occur during general play, conditioning, chasing a loose ball, or defending. A well-maintained field, proper cleats, good body mechanics with running, jumping and cutting, excellent overall conditioning, and a thorough warm-up can help reduce the risk of injury for most lower extremity, non-contact injuries. Fortunately less than 7.4 percent of all lacrosse injuries are season ending and only 6.9 percent require surgery.

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To minimize lacrosse injuries this coming season, make sure to wear well-fitting protective equipment, follow the rules regarding contact and complete a proper warm-up before every practice and game. You also should consider incorporating an in-season lacrosse strength and conditioning program like the one developed by Dr. Steven Chudik and his team of health performance team through the Orthopaedic Surgery & Sports Medicine Teaching & Research Foundation (OTRF). Based on research and Dr. Chudik's years of treating sports injuries, this program is designed to be quick, and a timed workout around games to avoid training negatively impacting performance. Ideally, players using this in-season program should have 48 hours of rest between workouts and 48 hours rest between workouts and games. In addition to helping prevent injuries, the program will improve player strength and endurance to keep them in the game all season.



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Lacrosse in-season strength, conditioning program

Lacrosse is one of America's oldest activities with roots in Native American culture, and is now one of America's fastest growing sports. Because lacrosse is a free-flowing, fast-paced sport with quick changes of direction, this can lead to non-contact ligament injuries especially to ankles and knees. Boy's lacrosse is considered a moderate contact sport with full shoulder pads and chest protector, where as girls lacrosse is relatively non-contact and the only protective equipment is protective goggles. The difference between girls and boys lacrosse can lead to a slightly different set of injuries, but both are at risk to various contact injuries.

Bruiases are the most common contact injury, which are the result of body-to-body, stick-to-body, or ball-to-ball impact. Concussions can occur from these same mechanisms. The most common fracture location is to hands or forearms due to stick-to-body contact. The best way to reduce the risk of these injuries is to wear proper protective equipment and adhere to rules.

While common contact injuries may be difficult to prevent (contusion, concussion, fracture), proper training and preparation may reduce non-contact injuries (muscle strains, ankle and knee sprains). Knee and ankle sprains not only are among the more common injuries, they also result in longer recovery time. The most well-known knee sprain is an ACL tear, which typically requires surgery and minimum of four to six months of rehabilitation. Proper training has been proven to reduce the incidence of ACL tears. Thorough warm-ups with good strength and conditioning can reduce the risk for muscular strains.

Injury Prevention:

- Know the rules and wear appropriate protective gear
- Warm up appropriately for games and practice
- Perform a proper, sport-specific in-season strengthening and conditioning program

A good 10 to 15 minute warm-up prepares the body's muscles, joints and nervous system for athletic movement. These often include dynamic warm-ups, form drills for jumping, cutting, and running, and acceleration drills prior to full speed activities. Generally, these should be conducted prior to sport-specific skills and drills.

An in-season strength maintenance program should be quick, efficient and timed appropriately. It requires some planning to properly schedule workouts around games and practice schedules to avoid training too close to a specific competition and negatively impacting performance. In-season, schedule two days for full body workouts at least 20 to 30 minutes in duration. Players should perform strength workouts after a game or practice and plyometric workouts before any conditioning to reduce fatigue effects. Proper form, ideally, players should have 48-hours rest between workouts and 48-hours rest between workouts and games.

1010 Executive Court - Suite 250 - Westmont - Illinois - 60559 - otrfund.org

For a free copy of OTRF's in-season lacrosse strength and conditioning program, or to see all the sport-specific programs available, visit the **OTRF website at otrfund.org/sports-performance-programs/**.

Play, participate at peak performance with sport-specific OTRF programs

Through the Orthopaedic Surgery & Sports Medicine Teaching & Research Foundation (OTRF), Dr. Steven Chudik and his health performance team provide reliable and proven training information to help athletes of all ages and abilities compete and perform at their best—no matter if it is a state athletic championship, or a weekly golf outing with friends. One of the most popular resources is OTRF's sports performance programs. Research-based, these programs incorporate appropriate exercises, weights and stretching into weekly training schedules to maintain strength and help minimize injuries.

Sports performance programs developed by OTRF are available as PDF downloads on the OTRF website, **otrfund.org**. To download, click on the sports performance tab. Or for a printed copy, you can email **contactus@chudikmd.com**. Make sure to include your mailing address.



The image displays a grid of six OTRF program flyers for different sports: Football, Golf, Baseball, Basketball, Soccer, and Volleyball. Each flyer includes the OTRF logo, a title, a brief description of the program, and a small photograph of athletes in action. The flyers are arranged in two columns and three rows.