CHI St. Joseph Health
Sports Medicine

Injury Evaluation Handbook

Welcome

The Sports Injury Evaluation Handbook includes the information you need to keep athletes safe while participating in sports activities. Inside you will find information on how to plan emergency response and understand, prevent, and assess common sports injuries.

The inherent risk of injury in athletics is unavoidable, but we can minimize risk through education and commitment to creating a safe environment for athletes when they practice, train, or compete.

CHI St. Joseph Health is committed to being your community partner in sports medicine, providing the expert tools and resources you need to promote your student athletes' health, wellness, and awareness.

Evaluating **Injuries**

Conduct Initial Assessment

- Form a general impression of the athlete's condition, based on ABC:
  - **Airway:** Is the athlete's airway open? Is the athlete responsive?
  - **Breathing:** Place your ear over the athlete's nose and mouth and watch for chest movement. Are they breathing adequately?
  - **Circulation and pulse:** If the athlete is not breathing, check their neck pulse. If they are breathing, check pulse at the wrist. Is the athlete bleeding? Check the athlete's skin for change in color or temperature and for moisture.
- Provide treatment for life-threatening conditions.
- Call 911.

Conduct Secondary Assessment

- If the athlete doesn't have a life-threatening condition, assess their history and conduct a physical exam. Gather the athlete's history either directly or from family and other bystanders, reviewing:
  - Signs and symptoms
  - Allergies
  - Medications
  - Pertinent medical history
  - Last food or drink
  - Events that led up to the illness or injury
- Conduct a two- to three-minute head-to-toe physical examination.
- Monitor the athlete's pulse, blood pressure, and breathing.

Administer First Aid

- Control bleeding, splint the injury, or provide other first aid.
- Continue to monitor the athlete's vitals.
- Treat the athlete for shock, if needed.

Move Athlete to Hospital or Training Room

- Arrange ambulance transportation.
- Use a sports chair or provide other assistance, as necessary.

Complete Injury Report & Notify Others of Athlete's Injury

- Coaches
- Athletic Director
- Administrators
- Parents or Legal Guardian

Emergency Response

Ensure parents, athletes, and medical providers have access to key emergency contacts.

Phone Numbers:

- Athletic Training Room _____
- Athletic Trainers _____
- Team Physician _____
- Athletic Director _____
- Administrator _____
- School Insurance Information _____
- School Address _____
- Hospital Information _____

Physical Addresses:

- Football Field _____
- Gym _____
- Baseball Field _____
- Softball Field _____
- Practice Field _____
- Other Athletic Areas _____

Provide to Emergency Medical Services:

- Background on the emergency
- The athlete's condition
- The physical address where the athlete is located
- The assistance that is being provided to the athlete

Remain on the line, and make sure someone is available to meet EMS to take them to the injured athlete. Complete a report and document the incident. Review your procedures and determine how your emergency response can be improved.

Remember: Personal Health Information (PHI) is private and confidential. Only provide information on the athlete's condition to EMS and other medical providers.

Sports-Related **Concussions**

A concussion is a brain injury that often results from a direct blow to the head, face, or a blow to the body that causes the brain to strike the inside of the skull. Head injuries can be serious. It's important to establish guidelines and a protocol to evaluate whether it's safe for an athlete to return to play.

The following is general guidance, not intended to replace medical advice from a physician or certified athletic trainer. If you notice the athlete exhibiting abnormalities or their symptoms decline, please seek immediate medical attention or call 911. This suggested protocol is most helpful for minor head injuries.

Managing a Head Injury/Concussion

An athlete who is suspected of having sustained a concussion (has one or more symptoms of concussion) should be removed from the activity immediately and not returned to practice or play until cleared by the treating physician. It is not safe or advised to return an athlete to play even if their symptom(s) have resolved as re-injury could occur easily and quickly, as well as could be more serious.

Only return an athlete to practice or a game if you observe ALL of the following:

- If the head injury did not result in loss of consciousness
- Confusion or changed mental status resolves in 15 minutes or less
- The athlete hasn't had another concussion or major head injury in the current season.
- Before and after testing (see below), the athlete presents well on mental status, orientation, concentration, and memory tasks.

Symptoms of Head Injury or Concussion

can include headaches, dizziness, confusion, a dazed look, recent events amnesia, mental confusion/deficits, an inability to focus, and nausea. Unconsciousness can also be a sign of concussion and should be taken seriously, even if there are no other symptoms present.

Symptoms to watch for include headaches, confusion, amnesia, a dazed look, brain function deficits, and an inability to remain focused.

Test for Impairment

There are several objective and easy-to-use tests you can utilize to detect residual effects of a concussion that can continue after the obvious signs have diminished. They can help you determine whether an athlete is ready to return to their game or practice.

Symptoms and confusion caused by a concussion can take different forms.
The following tests can assist in determining the initial level of severity of the concussion; however, any one of the previously mentioned symptoms indicates a concussion. Therefore an athlete should not be returned to play until examined by a physician, even if symptoms appear minimal or have gone away. It may be several days before the athlete can return to full practice or play.

Use these tests to evaluate the athlete's status:

- The Paced Auditory Serial Addition Task and Trails Making A and B tests can help detect continued problems in brain function after initial symptoms have resolved.

- Ask the athlete to repeat digits and months of the year forward and backward or ask them to count backwards from different numerals to test focus, attention span, and concentration.
- Ask the athlete to identify time, date, location, home address, phone numbers, or details about the game, like opposing team, score, quarter, play, etc.
- Check for amnesia, dizziness, headaches, restlessness (changing position frequently or trouble resting), a dazed look, slurred speech, vomiting or nausea, and delayed motor or verbal responses.
- Is the athlete's emotional response appropriate? Are they behaving in a combative or aggressive way?
- Ask the athlete the same questions repeatedly, including details of the game or meet, participating teams, etc. Repeat questions at five-minute intervals. Inquire about recent news to evaluate memory.
- Use finger-to-nose testing and tandem gait observation to analyze the athlete's coordination.
- Does the athlete appear to have nervous weakness or seem exhausted? Are they irritable or overly sensitive to sensory stimuli like touch, pain, or sound?

Administer these tests when the athlete is in a resting state.

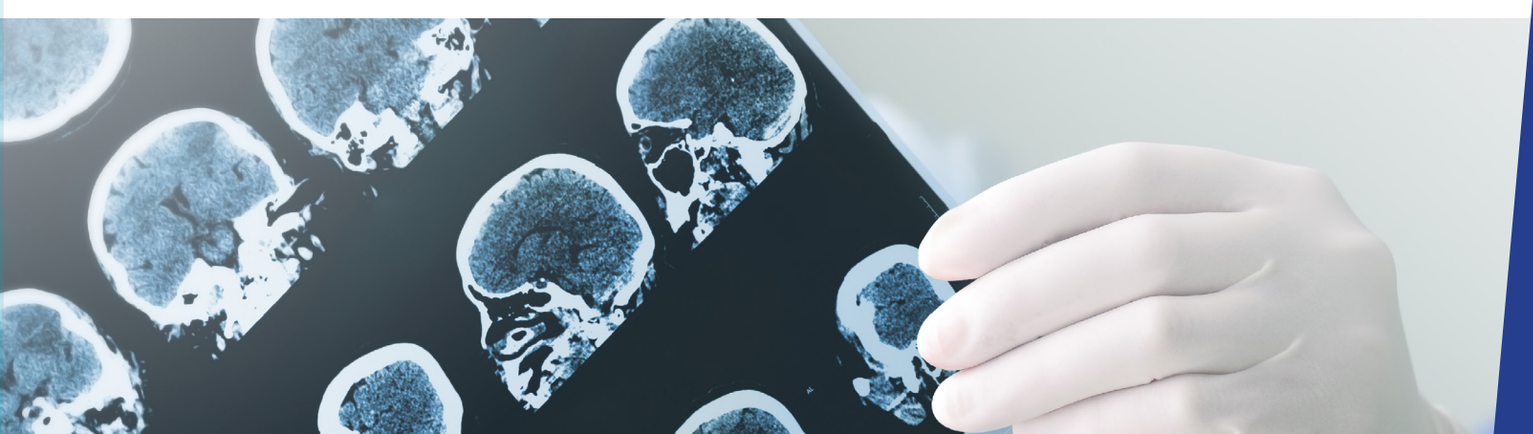
A coach is not permitted to clear an athlete for participation following a concussion/MTBI. The athlete Must see a physician. The stages of the Return-to-Play Protocol are as follows: The athlete must first see a physician. Then the athlete must be symptom free for 24 hours before beginning (48 hours symptom-free is preferred). The Return to Play Protocol steps can be supervised by an Athletic Trainer, coach or nurse. Only one step per day

Level 1. Mental rest. At least 24 hours symptom-free.
Level 2. Light aerobic exercise with no resistance training; 10-15 minutes. No resistance training/lifting.
Level 3. Moderate aerobic exercise (run / jog / bike) for 15–20 minutes, and can do light resistance training/ lifting.
Level 4. Sport-specific activity, non-contact drills. No head impact activities. 20-30 minutes. Continue resistance training.
Level 5. Sports-specific, light contact training drills with resistance training allowed. Any return of symptoms (physical or mental), Must see physician.
Level 6. Full contact practice. No games, scrimmage, or competitive play. Any return of symptoms (physical &/or mental) Must return to physician.
Level 7. Full game/competitive play. Any return of symptoms (physical &/or mental) Must return to physician.

Athlete progression continues as long as the athlete is asymptomatic at current level. If the athlete experiences any post-concussion symptoms, he or she must wait 24 hours and be asymptomatic before resuming. The athlete will start the progression again at the level of the program where he or she was last symptom free.

If the athlete still shows no symptoms, they can return to play.

Additional information regarding the UIL health and safety policies can be found at http://wwww.uil.utexas.edu/athletics/health.



Lightning Safety

Lightning often occurs during games and other athletic events, posing a hazard to student athletes. Roughly 75 percent of all lightning injuries happen between the months of May and September.

Steps to Preventing Lightning Casualties

- Create a chain of command, selecting individuals responsible for asking athletes to leave the field.
- Designate a "weather watcher", a person responsible for watching weather forecasts and alerting the chain of command to severe weather.
- Consistently monitor weather forecasts.
- Identify a safe shelter for every game.
- Once the flash-to-bang count reaches 30 seconds, all athletes should be moved to a safe shelter (Begin to count when you see a lightning flash and stop when you hear the associated thunder. Divide your number by five to determine the distance of the lightning in miles.).
- After a game or practice has been stopped, do not resume or return outside until at least 30 minutes following the last sound of thunder or lightning flash.
- During severe weather, do not play or practice at high elevation, in an open area, or near water. Avoid taking shelter under or near trees, a flag, or light structures.
- If you or athletes are caught in lightning, move into a lightning-safe position, feet together, crouched on the ground with body weight balanced on the balls of the feet, with head down and ears covered.
- **Follow first aid procedures if an athlete is struck by lightning:**
  - Call 911.
  - Move the athlete to a safer area, if needed (individuals struck by lightning are safe to touch).
  - Assess how the athlete is breathing and consider performing CPR, if needed.
  - Evaluate and treat the athlete for hypothermia, shock, fractures, or burns.

Refer to UIL guidelines regarding lightning safety for additional details:

http://www.-uil.utexas.edu/athletics/health/

Heat Illness

Heat illness develops as a result of environmental exposure to heat. It includes minor conditions, like heat cramps and heat exhaustion, as well as a severe condition known as heat stroke.

Heat Cramps: Symptoms can include muscle pain and twitching that happens during heavy exercise in hot weather. Treatments include cooling the body with a fan or ice, ingesting more fluids like sports drinks, and gentle stretching.

Heat Exhaustion: This often comes before heat stroke and includes heavy sweating, rapid breathing, normal- or elevated-temperature, thirst, weak pulse, headaches, and an altered mental state. Treatments can include removing the athlete from heat, cooling the body with fans or cold water, and having them ingest fluids.

Heat Stroke: Heat stroke is a medical emergency caused by the body's inability to regulate temperature. Signs are dry skin (the athlete is no longer sweating), a high temperature (over 105 degrees), hot and dry flush, strong pulse, dizziness, and mental impairment ranging from disorientation to agitation or coma. Always call 911 to have the athlete moved to the hospital. Move the athlete out of the heat, cool them off, and track their vitals.

Shoulder Injury

Shoulder injuries often occur during sports like baseball, tennis, volleyball, and swimming, where overhead motions can cause stress to the joint. Common injuries include shoulder impingement, separated shoulder, and dislocated shoulder.

Shoulder Impingement: Caused by overuse, resulting in the pinching of the rotator cuff muscles in the shoulder. Tendons in the rotator cuff can become inflamed, swollen, and painful.

Separated Shoulder: Caused by a tear in the ligament that holds the collarbone or clavicle, this can occur when someone falls on or gets hit on the shoulder or falls on an outstretched arm. Symptoms include pain and deformity, with the end of the clavicle closest to the shoulder appearing raised compared to the other shoulder. A separated shoulder needs immediate medical care.

Disclocated Shoulder: A shoulder becomes dislocated when it comes out of its joint as a result of falling down on the shoulder, falling on an outstretched arm, or having the arm pushed backwards while it's out to the side at shoulder level. The upper arm will appear to be situated towards the front of the body instead of to the side, and the shoulder will appear to have a drop off instead of being rounded.

If an athlete suffers from a shoulder injury:

- Talk to the athlete to find out how the injury occurred.
- Note the way the athlete is carrying their arm.
- When did the injury occur?
- Did the athlete hear or feel anything like a pop or snap?
- Look for swelling, temperature difference, asymmetry, or difference in color or shape.
- Feel the bone structure to determine origin of pain and any inconsistencies.
- Immobilize the shoulder joint while making sure the athlete is comfortable. If you wrap the arm, make sure it's loose so it won't restrict circulation.
- Ensure the athlete is seen by a physician.

Elbow Injury

The elbow can often be subject to high stress, especially from sports like tennis or golfing, which involve repetitive motions. Elbow pain usually occurs in the epicondyles, causing Tennis or Golfers Elbow.

Tennis Elbow: The most common overuse injury of the elbow, Tennis Elbow is caused by microscopic tears and inflammation to the tendons and muscles that help extend the arm. Pain often will radiate from the elbow toward the wrist.

Golfers Elbow: Pain from Golfers Elbow is noticeable on the inside portion of the elbow.

If an athlete has an elbow injury:

- Ask them how the injury occurred.
- Assess how the athlete is carrying the hand or arm.
- Did the athlete hear or feel anything, like a pop or snap?
- Does the athlete have a history of elbow injuries? Did they receive medical care?
- Visually inspect the area for deformity, asymmetry, difference in color, difference in appearance compared to the other elbow, swelling, or a change in temperature.
- If the elbow appears to be dislocated, call 911.

Wrist and Hand Injury

Many bones, ligaments, tendons, and joints keep hands and wrists working, presenting more opportunity for injury. Common injuries are either traumatic, such as joint dislocations, sprains, muscle strains, broken bones, tendon inflammation, or ligament tears, or result from overuse, like tendon inflammation and dislocation, nerve injury, or overuse-related fracture.

If an athlete has experienced a wrist or hand injury:

- Gather details from the athlete about what happened.
- Monitor how the athlete is carrying their hand.
- What caused the injury, and when did it occur?
- Did the athlete hear or feel anything, like a pop or snap?
- Does the athlete have a history of hand or wrist injuries? Did they receive medical care for it?
- Evaluate the injured area for deformity, symmetry, discoloration, difference in appearance from the other hand or wrist, swelling, or changes in temperature.
- If you notice any of these symptoms, seek immediate medical care.

Knee Injury

Sports can place a great amount of stress on the knee, one of the most traumatized joints in the human body and one of the most complex. Common knee injuries include Patellofemoral pain, cartilage or ligament tear, and Patella Tendonitis.

Patellofemoral Pain: Patellofemoral pain is pain under or around the knee cap, experienced when moving from a bent to straight position or while bearing weight (squatting or ascending and descending stairs) and kneeling. Athletes may also experience pain after sitting for a long period of time. The pain is often caused when the kneecap deviates out of the patellar groove.

Cartilage Tear: This often occurs in the knee when bearing weight and extending or flexing the knee. Knee cartilage acts as a cushion between the femur and tibia. Symptoms of a tear may include severe pain and loss of motion, a locked knee that can't flex or extend fully, or pain in the area of the tear.

Ligament Tear: When the Anterior Cruciate Ligament (ACL) is torn, it can be one of the most serious ligament tears an athlete can experience. This often happens when an athlete decelerates and makes a sharp cutting motion or when the knee is hit from the front with the foot planted. Usually athletes will feel a pop and experience some instability, as well as swelling. The Medial Collateral Ligament (MCL) and Lateral Collateral Ligament (LCL), located on either side of the knee, can be torn when the knee suffers a blow from the side.

Patella Tendonitis: The tendon just below the kneecap can become inflamed with sudden or repetitive forceful exertion. Pain can occur during and after practice.

If an athlete has experienced a knee injury:

- Ask them what happened.
- Pay attention to how the athlete is walking.
- Ask the athlete what caused the injury and when it occurred.
- Did the athlete hear or feel anything, like a pop or snap?
- Does the athlete have a history of knee injuries? Did they receive medical care?
- Check the injured area for swelling, discoloration, deformity, differences from the other knee, changes in temperature, and symmetry.
- If you notice any of these symptoms, the athlete should be seen by a physician.

Ankle Injury

Ankle injuries represent 10 to 30 percent of all sports-related injuries. Injury usually occurs due to "rolling" of the foot when running, pivoting, or jumping and landing, often affecting the outside portion of the ankle. Athletes will often experience sprains with swelling, bruising, loss of function, and instability.

Grade ankle sprains according to the level of severity:

Grade I: The ligament stretches, causing mild pain with little to no swelling.

Grade II: This involves 25 to 75 percent tearing of ligaments, with moderate to severe pain and swelling.

Grade III: This involves more than 75 percent of the ligaments, causing severe pain, swelling, and instability.

If an athlete experiences an ankle injury:

- Speak with them to find out what happened.
- How is the athlete walking? Are they limping?
- What caused the injury, and when did it happen?
- Did the athlete hear or feel anything, like a pop or snap?
- Does the athlete have a history of knee injuries? Did they receive medical care?
- Look over the area for signs of swelling, discoloration, deformity, and differences from the other ankle, differences in temperature or symmetry.
- Assess the athlete's ability to return to play by having the athlete stand on their toes, walk, jog, and run, changing direction.
- **Rehabilitate ankle sprains in three phases:**
  - Phase One: Zero to three days. Use a brace or ace wrap. Rest the injured ankle in an elevated position. Ice it every two to four hours for 20 minutes to reduce swelling and pain.
  - Phase Two: When the athlete can bear full weight on the ankle, they can consult a physical therapist or athletic trainer for exercises to restore normal range of motion, flexibility, and strength.
  - Work on restoring functional strength, agility, and sport/exercise-specific activity.
- If swelling and pain are severe, seek a physician to rule out a fracture.
- Ensure the athlete is restored to normal function of their ankle and is pain-free before returning to activity.

Internal Injuries

Sports-related abdominal injuries are rare, but some studies suggest they are increasing. Common injuries include those of the kidney, spleen, liver, and abdomen.

Kidney Injury: Kidney injuries can cause flank pain and blood in the urine.

Spleen Injury: Characterized by pain in the upper left side of the abdomen, injuries to the spleen can cause rapid and life-threatening internal bleeding.

Liver Injury: Characterized by pain in the upper right side of the abdomen, a torn liver can also cause severe bleeding.

Abdominal Injury: This can result in injury to the pancreas, diaphragm, stomach, gallbladder, bladder, or intestines.

Signs of these injuries can include abdominal pain, tenderness in the injured area, a rigid abdomen, left arm and shoulder pain, right-side abdominal pain, right shoulder pain, blood in the urine, cold and sweaty skin, bluish discoloration of the belly, nausea and vomiting, rapid pulse, low blood pressure, or loss of consciousness. If you spot signs of internal injury, call 911.

If an athlete has received an abdominal or internal injury:

- Ask the athlete how the injury occurred.
- Take note of how the athlete is walking.
- Ask the athlete how and when the injury occurred.
- Does the athlete have a history of internal injury? Did they receive medical care?
- Inspect the area for distention, discoloration, deformity, a change in temperature, or asymmetry.
- If you notice any of these symptoms, the athlete should be seen by a physician.

Contact Us

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