



LAKE TRAVIS

INDEPENDENT SCHOOL DISTRICT

Every heart. Every mind. Every day.

Middle School
**Guidelines for Sports Concussion Management,
Neurocognitive Testing & Return to Play Protocol**

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INTRODUCTION

A concussion is a type of traumatic brain injury (TBI) that can occur to any person or any age group.¹ Youth athletes are more susceptible to getting a concussion due to their brains still developing as they age.² It can be caused by a bump to the head, blow, or jolt that can alter the way your brain normally works.^{1,3} Signs and symptoms can occur in a rapid onset or be delayed anywhere from several minutes to a couple hours after an injury.³ Concussions and/or head injuries can also occur when the body takes a hit that causes the head to move rapidly back and forth.¹ Concussions can occur in *any* sport or recreational activity.⁴ All coaches, parents, and student-athletes need to be aware of concussion signs and symptoms and what to do if a concussion and/or head injury occur. There is an estimated 1.6-3.8 million concussions that occur every year in sports and recreational activities.⁵ Athletes that have sustained at least one concussion in their life are 4-6 times more likely to sustain another concussion.⁵ If an athlete is suspected of having a concussion and/or head injury, they need to be seen by a medical provider.¹ In order for the athlete to return to sport or their respected activity, the student-athlete must undergo a return to play protocol with the LTISD middle school nurse and coaching staff. Additionally, the LTISD Athletic Trainers and Coaching Staff have the right to pull an athlete from practice/games and initiate the concussion protocol, based on an athlete's presentation and observation during concussion sideline assessment or performing the SCAT5.^{6,7} To have a standard method of managing concussions to LTISD athletes, the following guidelines are intended to serve as a written protocol for concussion management.

WHAT IS A CONCUSSION?

A sports-related concussion (SRC) can be defined as the representation of acute and sudden symptoms that are comparative with a TBI.³ A SRC can be the result of biomechanical forces that cause the brain to move rapidly within the skull.³ Due to the impact of the forces placed on the body, it can cause brain function to change which results in an altered mental state (either temporary or prolonged).³ Student-athletes can have symptoms that are somatic, cognitive and/or emotional.³ Some of those symptoms include, but are not limited to: a brief loss of consciousness, headache, amnesia, nausea, dizziness, confusion, blurred vision, ringing in the ears, loss of balance, moodiness, poor concentration or mentally slow, lethargy, photosensitivity, sensitivity to noise, and a change in sleeping patterns.³ There is also a concern for the risk of repeated concussions and second impact syndrome (SIS) to young athletes.⁶ SIS can occur when an athlete returns to play before they have fully recovered from a concussion and/or head injury.^{2,8} These two problems can have long lasting, and even fatal effects, on the individual.^{3,8}



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HISTORY

The following events played a significant role leading up to the development and implementation of the LTISD concussion management and return to play protocol:

- 1) October 2016: the 5th International Conference on Concussion in Sport convened in Berlin, Germany and published its *Consensus Statement on Concussion in Sport*
- 2) January 2015: the NCAA Executive Committee updated its policy statement regarding concussions.
- 3) April 2019: the National Federation of State High School Associations published *Suggested Guidelines for the Management of Concussion in Sports*.
- 4) June 2011: The Texas' Legislature's House Bill 2038, also known as Natasha's Law, was passed, and signed into law. This is a law relating to prevention, treatment, and oversight of concussions affecting public school students' participation in interscholastic athletics.
- 5) Summer 2011: Texas Education Code updated *Chapter 38, Sub Chapter D* regarding concussion management of student-athletes participating in interscholastic sports in Texas.
- 6) Summer 2011: The University Interscholastic League updated its requirements for concussion management in student-athletes participating in activities under the jurisdiction of the UIL, and published *Implementation Guide NFHS Suggested Guidelines for Concussions and Chapter 38, Sub Chapter D of the Texas Education Code*

PURPOSE

Lake Travis Independent School District will continue to keep the health, safety, and welfare of its student-athletes foremost. In addition, this Protocol complies with HB 2038, the UIL's concussion management protocol and TEC Section 38.153.

This Concussion Management (CM) and Return to Play Protocol (RTP) is designed to help the LTISD Athletic Department treat its student-athletes who are suspected of having sustained a concussion and/or head injury in a safe, efficient, and objective manner. By following this protocol, LTISD will be able to provide an efficient treatment plan to keep the student-athlete's health and well-being a top priority. In addition, this Protocol complies with the *UIL's Implementation Guide for NFHS Suggested Guidelines for Concussions* and Chapter 38, Sub Chapter D of the Texas Education Code and HB 2038.



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DESCRIPTION

According to this CM & RTP protocol:

- A) LTISD Athletic Department will create and implement a Concussion Oversight Team.
“The governing body of each school district and open-enrollment charter school with students enrolled who participate in an interscholastic athletic activity shall appoint or approve a concussion oversight team. Each concussion oversight team shall establish a return-to-play protocol, based on peer reviewed scientific evidence, for a student's return to interscholastic athletics practice or competition following the force or impact believed to have caused a concussion.” (UIL Concussion Management Protocol Implementation Guide)

The members of the Concussion Oversight Team are made up of the LTISD Athletic Training staff, Registered Nurse's, and Dr. Michael Shane Reardon.

- B) LTISD Athletic Training staff, middle school nurses and coaching staff will:
- 1) Complete all UIL-required training regarding concussion management.
 - 2) Educate student-athletes about concussions.
 - 3) Educate the coaching staff about the LTISD CM and RTP protocol and the coaches' role within the protocol.
 - 4) Maintain documentation of the incident, evaluation, continued management and clearance of student-athletes who have suffered a concussion and/or head injury.
 - 5) Maintain documentation of the completed UIL Concussion Management Protocol Return to Play Form. This form must be completed and signed by the appropriate people prior to a student-athlete's return to play following a concussion and/or head injury.
 - 6) Communicate with LTISD coaches as to the medical clearance of student-athletes who have suffered concussions and/or head injury.
- C) The coaching staff of LTISD will:
- 1) Complete all UIL-required training regarding concussions.
 - 2) Educate student-athletes about concussions.
 - 3) Remove a student-athlete from a practice or competition if they show any signs, symptoms, or behaviors consistent with a concussion and/or head injury, and refer them for evaluation by an appropriate, licensed health care professional (Medical Doctor, Athletic Trainer, Nurse Practitioner, etc.).
 - 4) Follow all participation restrictions that are placed on a student-athlete by an appropriate, licensed healthcare professional that has evaluated the student-athlete.



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- D) A student-athlete must be removed from a practice or competition immediately if struck with an object above the neck region during the practice or competition.
- E) A student-athlete must be removed from a practice or competition immediately if one of the following persons believes the student might have sustained a concussion and/or head injury during practice or competition:
- Coach
 - Athletic Trainer
 - Medical Doctor
 - Licensed Health Care Professional
 - Parent, guardian, or another person with legal authority to make medical decisions for the student.
- F) If a student-athlete shows any signs, symptoms, or behaviors consistent with a concussion and/or head injury:
- 1) The student-athlete shall be immediately removed from game/practice.
 - 2) The student-athlete shall be evaluated by an appropriate, licensed health care professional as soon as it is practical to do so (Medical Doctor, Athletic Trainer, Nurse Practitioner, etc.).
 - 3) Inform the student-athlete's parent or guardian about the possible concussion and/or head injury and provide them:
 - Educational material on concussions and/or head injuries, including instructions for monitoring the student-athlete.
 - Return to Play Guidelines
 - 4) The student-athlete shall not be allowed to return to participation that day regardless of how quickly the signs or symptoms of the concussion and/or head injury resolve and shall be kept from activity until a Medical Doctor indicates they are symptom-free and gives clearance to return to activity as described below with the LTISD middle school nurse and coaching staff.
 - 5) A coach of an interscholastic athletics team may not authorize a student's return to play.

EVOLUTION & FUTURE CONSIDERATIONS

This protocol as well as the issue of sports concussion management should be continually updated following established guidelines and new standards of care as they become available.



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Parental Information

What is a concussion?

A sports-related concussion (SRC) can be defined as the representation of acute and sudden symptoms that are comparative with a TBI.³ A SRC can be the result of biomechanical forces that cause the brain to move rapidly within the skull.³ Due to the impact of the forces placed on the body, it can cause brain function to change which results in an altered mental state (either temporary or prolonged).³ Student-athletes can have symptoms that are somatic, cognitive and/or emotional.³ Some of those symptoms include, but are not limited to: a brief loss of consciousness, headache, amnesia, nausea, dizziness, confusion, blurred vision, ringing in the ears, loss of balance, moodiness, poor concentration or mentally slow, lethargy, photosensitivity, sensitivity to noise, and a change in sleeping patterns.³

What are the symptoms of a concussion?

Due to the impact of the forces placed on the body, it can cause brain function to change which results in an altered mental state (either temporary or prolonged).³ Student-athletes can have symptoms that are somatic, cognitive and/or emotional.³ Some of those symptoms include, but are not limited to: a brief loss of consciousness, headache, amnesia, nausea, dizziness, confusion, blurred vision, ringing in the ears, loss of balance, moodiness, poor concentration or mentally slow, lethargy, photosensitivity, sensitivity to noise, and a change in sleeping patterns.³ Signs and symptoms can last anywhere between 7-10 days or be prolonged up to several weeks or months.^{2,3,8}

What should be done if a concussion is suspected?

1. Immediately remove student from practice or game
2. Seek medical attention right away.
3. Do not allow the student to return to play until proper medical clearance and return to play guidelines have been followed. The permission for return to play will come from the appropriate health care professional or professionals.

If you have any questions concerning concussions or the return to play policy, you may contact the LTISD athletic trainers.

What are risks of returning to activity too soon from or currently with a concussion and/or head injury?

Student-athletes cannot participate in practice/games with a concussion and/or head injury. Rest is key after a concussion and/or head injury. There is also a concern for the risk of repeated concussions and second impact syndrome (SIS) to young athletes. SIS can occur when an athlete returns to play before they have fully recovered from a concussion and/or head injury.² This condition presents when the brain has not recovered from the initial concussion—usually within a short time (hours, days, and weeks) and can slow recovery or increase the chances for long-term problems and be fatal.³ Student-athletes are not allowed to return to play the day of injury unless cleared by a licensed health care professional. Sometimes athletes, parents, and other school or league officials wrongfully believe that it shows strength and courage to play while injured. Discourage others from pressuring injured athletes to play. Don't let your athlete convince you that they're "just fine." Parents should encourage their student-athlete to be honest when reporting signs and symptoms to the appropriate health care provider. As a result, education of administrators, coaches, parents, and students is the key for student-athlete's safety.



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Liability Provisions

The student and the student's parent or guardian or another person with legal authority to make medical decisions for the student understands this policy does not:

1. Waive any immunity from liability of a school district or open-enrollment charter school or of district of charter school officers or employees.
2. Create any liability for a cause of action against a school district or open-enrollment charter school or against district or charter school officers or employees.
3. Waive any immunity from liability under Section 74.151, Civil Practice and Remedies Code.
4. Create any liability for a member of a concussion oversight team arising from the injury or death of a student participating in an interscholastic athletics practice or competition, based only on service on the concussion oversight team.



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Name: _____
 Sport: _____
 Grade/ Team: _____

Date of Injury: _____
 Date: _____
 Time: _____

How do you feel? You should score yourself on the following symptoms, based on how you feel now.

	None	Mild		Moderate		Severe	
1. Headache	0	1	2	3	4	5	6
2. "Pressure in head"	0	1	2	3	4	5	6
3. Neck Pain	0	1	2	3	4	5	6
4. Nausea or vomiting	0	1	2	3	4	5	6
5. Dizziness	0	1	2	3	4	5	6
6. Blurred vision	0	1	2	3	4	5	6
7. Balance problems	0	1	2	3	4	5	6
8. Sensitivity to light	0	1	2	3	4	5	6
9. Sensitivity to noise	0	1	2	3	4	5	6
10. Feeling slowed down	0	1	2	3	4	5	6
11. Feeling like "in a fog"	0	1	2	3	4	5	6
12. "Don't feel right"	0	1	2	3	4	5	6
13. Difficulty concentrating	0	1	2	3	4	5	6
14. Difficulty remembering	0	1	2	3	4	5	6
15. Fatigue or low energy	0	1	2	3	4	5	6
16. Confusion	0	1	2	3	4	5	6
17. Drowsiness	0	1	2	3	4	5	6
18. Trouble falling asleep	0	1	2	3	4	5	6
19. More emotional	0	1	2	3	4	5	6
20. Irritable	0	1	2	3	4	5	6
21. Sadness	0	1	2	3	4	5	6
22. Nervous or Anxious	0	1	2	3	4	5	6

Do symptoms get worse with physical activity? **Yes / No**

Do symptoms get worse with mental activity? **Yes / No**

Total Number of Symptoms: _____ Symptom Severity Score: _____



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Athlete Name: _____ Date/Time of injury: _____ Sport: _____
 Examiner: _____ Age: ____ Gender: **M / F** Current Grade: _____ Dominant hand: **Right / Left**
 How many concussions have you had in the past? _____ Most recent concussion: _____
 How long was your recovery from the most recent concussion? _____

Have you ever been hospitalized for a head injury? Yes / No	
Have you ever been diagnosed with headaches or migraines? Yes / No	
- Have you ever been prescribed medication for headaches/migraines? Yes / No	
- Do you normally take medication for headaches/migraines? Yes / No	
- Have you taken that medication today? Yes / No	
Have you been diagnosed by ad doctors with a learning disability, dyslexia, ADD / ADHD? Yes / No	
- Have you been prescribed ADD/ADHD medication? Yes / No	
- Do you normally take your ADD/ADHD medication? Yes / No	
- Have you taken that medication today? Yes / No	
Have you been diagnosed with depression, anxiety, or any other psychiatric disorder? Yes / No	
- Have you been prescribed with psychiatric medication? Yes / No	
- Do you normally take medication for a psychiatric disorder? Yes / No	
- Have you taken that medication today? Yes / No	
Have you been to the eye doctor in the last year? Yes / No	
- Have you been prescribed glasses or contacts? Yes / No	
- Which do you wear while participating in sports? Contacts / Glasses / None	
- Which one are you wearing today? Contacts / Glasses / None	
Are you color-blind? Yes / No	
- What color are you color-blind to? Red / Green/ Unsure	
Please list all other medications:	
How many hours ago did you last work-out? _____	
- What work-out/activity did you perform?	
- What was the intensity? Low Moderate Vigorous	
How many hours did you sleep last night? _____	
- How many hours do you normally sleep? _____	
Are you feeling 100% normal today? Yes / No What percent? _____	
- Why if not, why?	

NOTES: MOI/ UE&LE Findings/ ROM/ Tenderness

Delayed Recall Eat Dog Run **Y / N**
Concentration months in reverse order **Y / N**
Dec – Nov – Oct – Sept – Aug – Jul – Jun – May – Apr – Mar – Feb – Jan

Balance Examination
 Footwear: Shoes / Barefoot / Braces Which foot was tested?

		L / R
Double Leg Stance	Errors	
Single Leg Stance	Errors	
Tandem Stance	Errors	

Coordination Examination
 Upper limb coordination: Which arm was tested: **L / R Both**
 Coordination score: ___ of 1

Digits Backwards			
List A	List B	List C	
4-9-3	5-2-6	1-4-2	Y N 0
6-2-9	4-1-5	6-5-8	Y N 0
3-8-1-4	1-7-9-5	6-8-3-1	Y N 0
3-2-7-9	4-9-6-8	3-4-8-1	Y N 0
6-2-9-7-1	4-8-5-2-7	4-9-1-5-3	Y N 0
1-5-2-8-9	6-1-8-4-3	6-8-2-5-1	Y N 0
7-1-8-4-6-2	8-3-1-9-6-4	3-7-6-5-1-9	Y N 0
5-3-9-1-4-8	7-2-4-8-5-6	9-2-6-5-1-4	Y N 0
Digits Score:			/4

Immediate Memory: 5 Word List	Trial 1	Trial 2	Trial 3
Finger Penny Blanket Lemon Insect			
Candle Paper Sugar Sandwich Wagon			
Baby Monkey Perfume Sunset Iron			
Elbow Apple Carpet Saddle Bubble			
Dollar Honey Mirror Saddle Anchor			
Jacket Arrow Pepper Cotton Movie			
Total:			

Cognitive Assessment		
What month is it?	0	1
What is the date today?	0	1
What is the day of the week?	0	1
What year is it?	0	1
What time is it right now? (w/i hour)	0	1
Orientation score	___ of 5	



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Athlete Name: _____

Date of Injury: _____

Sport /Team: _____

Time of Injury: _____

Lake Travis ISD has developed a protocol for managing concussions and/or head injuries. This policy includes a multidiscipline approach involving Athletic Trainer clearance, Medical Doctor referral and clearance, the middle school nurse and successful completion of activity progressions related to their sport. The following is an outline of this procedure; the injured athlete must complete and successfully pass all phases (with 0 symptoms) of the protocol to return to sport activity after having a concussion and/or head injury.

- I. **All athletes who sustain head injuries are required to be evaluated by a Medical Doctor and will complete the Return to Play Protocol.** This includes athletes who were initially referred to an emergency department.
- II. The student will be monitored daily at school by the middle school nurse and coaching staff. His/her teachers will be notified of their injury and what to expect. Accommodations may need to be given according to Medical Doctor recommendations and observations.
- III. The student must be asymptomatic at rest and exertion to move on to the next phase. Additionally, the student must be asymptomatic for **3 calendar days before starting the Return to Play Protocol.**
- IV. Once cleared to begin activity, the student will start a progressive step-by-step procedure outlined in the Prague statement. The progressions will advance at the rate of one step per day (24 hours in between phases). Each phase of the protocol **MUST be completed with the middle school nurse and coaching staff.**
- V. Upon completion of the return to play protocol, he/she may return to their sport with no restrictions, with a **DOCTORS CLEARANCE.**

Name/Number of Parent Called: _____

Evaluating Athletic Trainer/ Supervising Coach: _____ Date: _____

Last date with symptoms: _____ Concussion Checklist Completion Date: _____

Name of Physician _____ Date of Visit: _____

Cleared to return to activities: Yes: No: Reason: _____

Restrictions if needed: _____

Phase 0 – Asymptomatic for 3 days - Date: _____

Phase 1 – Stationary Bike (15min) - Date: _____

Phase 2 – Jog on track or field (20min) - Date: _____

Phase 3 – Practice w/ No Contact & Weights (30+ min) - Date: _____

FB – Helmet, Shoulder Pads, Shorts, Girdle

Phase 4 – Full Athletic Practice - Date: _____

Phase 5 – Return to Play

Parent Signature _____ **Doctors Signature** _____

By signing this form, I (parent/guardian/ person with legal authority) grant permission and understand the risks and dangers related with returning to play too soon after a concussion. Furthermore, if my son/daughter is diagnosed with a concussion and/or head injury, I give my consent for my son/daughter to participate in and comply with the Lake Travis ISD return to play protocol.



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REFERENCES

1. Mild tbi and concussion. <https://www.cdc.gov/traumaticbraininjury/concussion/index.html#print>. Updated November 14, 2022. Accessed 2023.
2. Halstead ME, Walter KD. Clinical report-sports-related concussion in children and adolescents. *Aca Pediatr*. 2010;126(6):597-611 doi:10.1542/peds.2010-2005
3. McCrory P, Meeuwisse W, Dvorak J, et al. Consensus statement on concussion in sports- the 5th international conference on concussion in sport held in Berlin, October 2016. *Br J Sports Med*. 2018;51:838-847 doi:10.1136/bjsports-2017-097699
4. Gessel KM, Fields SK, Collins CL, Dick RW, Comstock RD. Concussions among United States high school and collegiate athletes. *J Ath Train*. 2007;42(4):495-503.
5. Brain injury research institute. <https://www.protectthebrain.org/>. Accessed 2023.
6. May T, Foris LA, Donnally III CJ. *Second impact syndrome*. Treasure Island (FL): StatPearls; 2022.
7. SCAT 5. Br J Sports Med Web site. <https://bjsm.bmj.com/content/bjsports/early/2017/04/26/bjsports-2017-097506SCAT5.full.pdf>. Accessed 2023.
8. Echemendia RJ, Meeuwisse W, McCrory P, et al. The sports concussion assessment tool 5th edition (SCAT5): background and rationale. *Br J Sports Med*. 2017;51:848-850 doi:10.1136/bj-sm-2017-097506