



## FREDERICKSBURG INDEPENDENT SCHOOL DISTRICT GUIDELINES FOR CONCUSSION MANAGEMENT

The Fredericksburg Athletics Department has developed and implemented the following concussion management guidelines for the students of the Fredericksburg Independent School District (FISD) in order to comply with HB 2038, 82. This comprehensive guideline is consistent with current standards of care and appropriate medical practices for the student athlete who suffers a sports related concussion. Developed and implemented by the Fredericksburg Athletics Department Concussion Oversight Team (FADCOT), the following guidelines are designed to facilitate a safe return to athletic activities and learning for the student athletes of FISD. It will be utilized in the evaluation, treatment, management, and return to play of all students who sustain or have been suspected to have sustained a concussion through athletics participation.

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### **II. BACKGROUND**

#### **A. Fredericksburg Athletic Department Concussion Oversight Team (FADCOT) Members**

- 1. Orthopedic Physician- Clint Beicker, MD
- 2. Orthopedic Physician- Richie Edeen, MD
- 3. Family Practice Physician- Kristi Stafford, MD
- 4. Athletic Trainer- Natalie Handley, MAT, LAT, ATC
- 5. Athletic Trainer- Lucas Scheidemantel, MS, LAT, ATC
- 6. Athletic Director- Wendy Dietrich

#### **B. Recovery and Safe Return-To-Play (RTP)**

- 1. It is crucial to allow enough healing and recovery time following a concussion to prevent further damage. Research suggests that the effects of repeated concussion are cumulative over time.

2. Most athletes who experience an initial concussion can recover completely as long as they do not return to contact sports too soon. Following a concussion, there is a period of temporary change in brain function that may last anywhere from 24 hours to 10 or more days (post-concussion syndrome). During this time, the brain may be vulnerable to more severe or permanent injury that can lead to devastating or even fatal results. If the athlete sustains a second concussion, (second impact syndrome) the risk of permanent brain injury or death increases.

### C. Definitions:

1. **Concussion/Mild Traumatic Brain Injury (MTBI)** –A Concussion is the common result of a blow to the head or body which causes the brain to move rapidly within the skull. This injury causes brain function to change, which results in an altered mental state (either temporary or prolonged). Disruptions of connections between some nerve cells in the brain can occur. Concussions can have serious and long-term health effects, even from a mild bump on the head. Symptoms include any combination of, but are not limited to:
  - a) 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.
2. **Second Impact Syndrome** - Second impact syndrome (SIS) refers to catastrophic events which may be the result of a second concussion occurring while the athlete is still symptomatic and healing from a previous concussion. The second injury may occur within days or weeks following the first injury. The second impact is more likely to cause increased brain swelling with other widespread damage to the brain. **This can be fatal.** Most often SIS occurs when an athlete returns to play too soon without being symptom free from another previous concussion.
3. **Post-Concussion Syndrome**- Post-concussion syndrome is when symptoms of the initial concussion are not resolving themselves as a 'normal' concussion. These prolonged symptoms can have a huge affect on daily tasks as a student athlete. It is important to treat the concussion appropriately and quickly after an incident to help prevent prolonged symptoms.

### D. Prevention Strategies:

1. Although the FISS athletic coaches and staff strive to make sure that the following prevention strategies are followed, it is the responsibility of the athlete to routinely inspect and notify his/her coach/athletic trainer if there is an issue with their equipment. The FISS athletics coaches and staff will ensure that:

- a) All athletes are aware of the risks involved with participating in any sport especially a contact sport of injury and specifically injury to the head and neck. (UIL Concussion Acknowledgment Form) [Appendix A]
- b) All headgear is NOCSAE certified.
- c) For all sports that require a headgear, a coach or proper designee will check headgear before use to make sure it fits and all air bladders work and are properly inflated.
- d) All helmets are secured at all times.
- e) All mouth guards fit and are used at all times.

**Properly fitted helmets, headgear, and mouth guards DO NOT prevent all concussions.**

### III. EVALUATION OF CONCUSSION

- A. At the time of injury, the athlete should be sent to the athletic trainer so a concussion assessment can be administered.
  - 1. Concussion Assessment Tools
    - a) Sports Concussion Assessment Tool (SCAT) [Appendix B]
    - b) Dermatomes, Myotomes, and Reflexes [Appendix C]
- B. In compliance with HB 2038. 82, every athlete who has any symptoms of a concussion regardless of severity will be removed from participation for further medical evaluation through a Physician or Athletic Trainer. They will not be allowed to return to participation in any sport until they have successfully completed the return to play guidelines in section five.
- C. Not every athlete who has a headache after a collision or head contact suffers from a concussion, but a thorough evaluation will be made in order to determine whether the athlete should be held from participation and referred for further medical evaluation.
  - 1. IF IN DOUBT, SIT THE ATHLETE OUT AND REFER FOR FURTHER MEDICAL EVALUATION.
- D. MEDICAL REFERRAL GUIDELINES (for the Athletic Trainer or Coach)
  - 1. **Immediate Emergency Referral**
    - a) Deterioration of neurologic function
    - b) Loss of consciousness
    - c) Decreasing level of consciousness
    - d) Decrease or irregularity in respiration
    - e) Decrease or irregularity in pulse
    - f) Unequal or unreactive pupils
    - g) Any signs or symptoms of an associated injury of the spine, skull, or excessive bleeding
    - h) Obvious mental status changes: lethargy, difficulty speaking, overly confused
    - i) Seizure activity

2. **Normal Medical Referral (Doctor's Appointment)**

- a) Any athlete who has been suspected of suffering from the symptoms of a concussion and has been informed they need further medical evaluation through a physician.
- b) Please let the athletic trainers know if you need help finding a doctor or making an appointment

**IV. Concussion Management and Return to Play**

A. Initial Management

1. Once an athlete has been referred to a physician for further evaluation for a concussion, the athletic department **must** receive a signed doctor's note with the following:
  - a) Doctors signature
  - b) Date of visitation
  - c) Date the athlete **may** be able to start the return to play protocol
  - d) Any special protocols or accommodations
  - e) Any academic modifications (athletic trainers will inform appropriate persons)

*Note.* A doctor's not supersedes any other information listed in the protocol.

2. In addition to the doctor's note, the athlete **must** return the Fisd Concussion Home Instructions signed by a parent or guardian to the Athletic Trainer or Coach. [Appendix D]
3. The athlete should check in with the athletic trainer and/or coach **daily** to track symptom progression and adjust modifications as needed.
4. The athlete may walk on the track during athletics **but** must not exacerbate symptoms; light exercise can be beneficial for healing.
  - a) Vestibular-Ocular Motor Exercises may be given to help aid the recovery of symptoms. [Appendix E]

B. Return to play

1. Once an athlete is asymptomatic for 24 hours **and** reached the designated date by the physician they may start the return to play protocol.
  - a) *Note: This may be after the date written on the doctor's note.*
2. The return to play protocol is a 5-Step gradual progression back to full activity and a 6th Step where the athlete will follow-up and return documents. The return to play protocol is under the supervision of a coach or athletic trainer and is as follows [Appendix F and G]:
  - a) *Step 1:* Light aerobic activity (approx. 50% max effort): 20-minute stationary bike or walk-jog a mile

- b) *Step 2*: Increased aerobic activity (approx. 60% max effort): 30 secs of: T-run, sit-ups, air-squats, Russian twists, box run, variation planks, and single leg balance (3 total sets. Approximately 15 minutes)
  - c) *Step 3*: Repeat the above exercises but increase the time to 45 secs and increase the effort to 75%. If appropriate and/or available, add a weight ball to squats and core exercises. (3 total sets. Approximately 20 minutes)
  - d) *Step 4*: Non-contact Practice at 100% max effort
  - e) *Step 5*: Full contact practice
  - f) *Step 6*: Athlete maintains symptom free status and UIL Concussion Management Form is returned and signed by a parent or guardian (this form will be provided by the Athletic Trainer or Coach) [Appendix H].
3. In order to progress in the protocol, the athlete must be asymptomatic for 24 hours following the completion of the following day.
- a) If the athlete develops symptoms within the 24 hours between steps, they will be held from activity until they are asymptomatic for 24 hours. They will then continue the protocol from the FIRST step.
    - (1) Example: If the athlete has symptoms on step 4, after being asymptomatic for 24 hours, they will start on step 1.
4. After each step, the athletic trainer or coach needs to initial next to each step that was completed that day on the Fisd Concussion Checklist [Appendix I]. Once all steps are completed, the athletic trainer or coach will sign at the bottom and attach all documentation to said form.
- a) Documentation to attach: Doctor's notes, Fisd Concussion Home Instructions (signed), UIL Return to Play Form (Signed), and any other relevant documents.

**V. Informational Links**

- A. [Certification – NOCSAE](#)
- B. [Concussions and Concussion Management Protocol Requirements and Information](#)
- C. [National Athletic Trainers' Association Position Statement: Management of Sport Concussion](#)
- D. <https://bjsm.bmj.com/content/bjsports/early/2017/04/28/bjsports-2017-097699.full.pdf>

VI. Appendix

Appendix A.

Revised 2017



# CONCUSSION ACKNOWLEDGEMENT FORM

Name of Student \_\_\_\_\_

**Definition of Concussion** - means a complex pathophysiological process affecting the brain caused by a traumatic physical force or impact to the head or body, which may: (A) include temporary or prolonged altered brain function resulting in physical, cognitive, or emotional symptoms or altered sleep patterns; and (B) involve loss of consciousness.

- Prevention** – Teach and practice safe play & proper technique.
- Follow the rules of play.
  - Make sure the required protective equipment is worn for all practices and games.
  - Protective equipment must fit properly and be inspected on a regular basis.

**Signs and Symptoms of Concussion** – The signs and symptoms of concussion may include but are not limited to: Headache, appears to be dazed or stunned, tinnitus (ringing in the ears), fatigue, slurred speech, nausea or vomiting, dizziness, loss of balance, blurry vision, sensitive to light or noise, feel foggy or groggy, memory loss, or confusion.

**Oversight** - Each district shall appoint and approve a Concussion Oversight Team (COT). The COT shall include at least one physician and an athletic trainer if one is employed by the school district. Other members may include: Advanced Practice Nurse, neuropsychologist or a physician's assistant. The COT is charged with developing the Return to Play protocol based on peer reviewed scientific evidence.

**Treatment of Concussion** - The student-athlete/cheerleader shall be removed from practice or participation immediately if suspected to have sustained a concussion. Every student-athlete/cheerleader suspected of sustaining a concussion shall be seen by a physician before they may return to athletic or cheerleading participation. The treatment for concussion is cognitive rest. Students should limit external stimulation such as watching television, playing video games, sending text messages, use of computer, and bright lights. When all signs and symptoms of concussion have cleared and the student has received written clearance from a physician, the student-athlete/cheerleader may begin their district's Return to Play protocol as determined by the Concussion Oversight Team.

**Return to Play** - According to the Texas Education Code, Section 38.157:

A student removed from an interscholastic athletics practice or competition (including per UIL rule, cheerleading) under Section 38.156 may not be permitted to practice or participate again following the force or impact believed to have caused the concussion until:

- (1) the student has been evaluated, using established medical protocols based on peer-reviewed scientific evidence, by a treating physician chosen by the student or the student's parent or guardian or another person with legal authority to make medical decisions for the student;
- (2) the student has successfully completed each requirement of the return-to-play protocol established under Section 38.153 necessary for the student to return to play;
- (3) the treating physician has provided a written statement indicating that, in the physician's professional judgment, it is safe for the student to return to play; and
- (4) the student and the student's parent or guardian or another person with legal authority to make medical decisions for the student:
  - (A) have acknowledged that the student has completed the requirements of the return-to-play protocol necessary for the student to return to play;
  - (B) have provided the treating physician's written statement under Subdivision (3) to the person responsible for compliance with the return-to-play protocol under Subsection (c) and the person who has supervisory responsibilities under Subsection (c); and
  - (C) have signed a consent form indicating that the person signing:
    - (i) has been informed concerning and consents to the student participating in returning to play in accordance with the return-to-play protocol;
    - (ii) understands the risks associated with the student returning to play and will comply with any ongoing requirements in the return-to-play protocol;
    - (iii) consents to the disclosure to appropriate persons, consistent with the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191), of the treating physician's written statement under Subdivision (3) and, if any, the return-to-play recommendations of the treating physician; and
    - (iv) understands the immunity provisions under Section 38.159.

\_\_\_\_\_  
Parent or Guardian Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

## Appendix B.

Sport Concussion Assessment Tool 6 - SCAT6™



# SCAT6™

## Sport Concussion Assessment Tool

For Adolescents (13 years +) & Adults



Athlete Name:	<input type="text"/>	ID Number:	<input type="text"/>
Date of Birth:	<input type="text"/>	Date of Examination:	<input type="text"/>
Time of Injury:	<input type="text"/>	Date of Injury:	<input type="text"/>
Sex:	Male <input type="checkbox"/>	Female <input type="checkbox"/>	Prefer Not To Say <input type="checkbox"/>
Dominant Hand:	Left <input type="checkbox"/>	Right <input type="checkbox"/>	Ambidextrous <input type="checkbox"/>
Sport/Team/School:	<input type="text"/>		
Current Year in School (if applicable):	<input type="text"/>	Years of Education Completed (Total):	<input type="text"/>
First Language:	<input type="text"/>	Preferred Language:	<input type="text"/>
Examiner:	<input type="text"/>		

### Concussion History

How many diagnosed concussions has the athlete had in the past?:

When was the most recent concussion?:

Primary Symptoms:

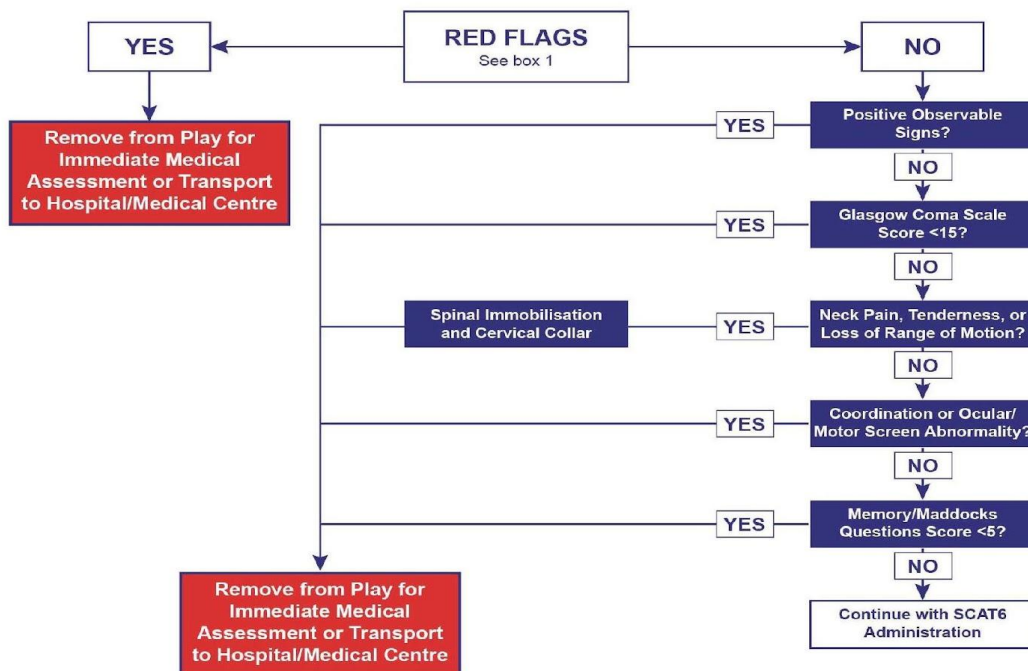
How long was the recovery (time to being cleared to play) from the most recent concussion?:  (Days)

### Immediate Assessment/Neuro Screen (Not Required at Baseline)

The following elements should be used in the evaluation of all athletes who are suspected of having a concussion prior to proceeding to the cognitive assessment, and ideally should be completed "on-field" after the first aid/emergency care priorities are completed.

If any of the observable signs of concussion are noted after a direct or indirect blow to the head, the athlete should be immediately and safely removed from participation and evaluated by an HCP.

The Glasgow Coma Scale is important as a standard measure for all patients and can be repeated over time to monitor deterioration of consciousness. The Maddocks questions and cervical spine exam are also critical steps of the immediate assessment.



For use by Health Care Professionals only

British Journal of Sports Medicine

**Step 1: Observable Signs**Witnessed  Observed on Video 

Lying motionless on playing surface	Y	N
Falling unprotected to the surface	Y	N
Balance/gait difficulties, motor incoordination, ataxia: stumbling, slow/laboured movements	Y	N
Disorientation or confusion, staring or limited responsiveness, or an inability to respond appropriately to questions	Y	N
Blank or vacant look	Y	N
Facial injury after head trauma	Y	N
Impact seizure	Y	N
High-risk mechanism of injury (sport-dependent)	Y	N

**Step 2: Glasgow Coma Scale**

Typically, GCS is assessed once. Additional scoring columns are provided for monitoring over time, if needed.

Time of Assessment: Date of Assessment: 

Best Eye Response (E)			
No eye opening	1	1	1
Eye opening to pain	2	2	2
Eye opening to speech	3	3	3
Eyes opening spontaneously	4	4	4

Best Verbal Response (V)			
No verbal response	1	1	1
Incomprehensible sounds	2	2	2
Inappropriate words	3	3	3
Confused	4	4	4
Oriented	5	5	5

Best Motor Response (M)			
No motor response	1	1	1
Extension to pain	2	2	2
Abnormal flexion to pain	3	3	3
Flexion/withdrawal to pain	4	4	4
Localized to pain	5	5	5
Obeys commands	6	6	6

Glasgow Coma Score (E + V + M)			

**Box 1: Red Flags**

- Neck pain or tenderness
- Seizure or convulsion
- Double vision
- Loss of consciousness
- Weakness or tingling/burning in more than 1 arm or in the legs
- Deteriorating conscious state
- Vomiting
- Severe or increasing headache
- Increasingly restless, agitated or combative
- GCS <15
- Visible deformity of the skull

**Step 3: Cervical Spine Assessment**

In a patient who is not lucid or fully conscious, a cervical spine injury should be assumed and spinal precautions taken.

Does the athlete report neck pain at rest?	Y	N
Is there tenderness to palpation?	Y	N
If NO neck pain and NO tenderness, does the athlete have a full range of ACTIVE pain free movement?	Y	N
Are limb strength and sensation normal?	Y	N

**Step 4: Coordination & Ocular/Motor Screen**

Coordination: Is finger-to-nose normal for both hands with eyes open and closed?	Y	N
Ocular/Motor: Without moving their head or neck, can the patient look side-to-side and up-and-down without double vision?	Y	N
Are observed extraocular eye movements normal? If not, describe:	Y	N

**Step 5: Memory Assessment Maddocks Questions<sup>1</sup>**

Say "I am going to ask you a few questions, please listen carefully and give your best effort. First, tell me what happened?"

Modified Maddocks questions (Modified appropriately for each sport; 1 point for each correct answer)

What venue are we at today?	0	1
Which half is it now?	0	1
Who scored last in this match?	0	1
What team did you play last week/game?	0	1
Did your team win the last game?	0	1
<b>Maddocks Score</b>	/5	

Note: Appropriate sport-specific questions may be substituted



## Off-Field Assessment

Please note that the cognitive assessment should be done in a distraction-free environment with the athlete in a resting state **after** completion of the Immediate Assessment/Neuro Screen.

### Step 1: Athlete Background

Has the athlete ever been:

Hospitalised for head injury? (If yes, describe below)	Y	N
Diagnosed/treated for headache disorder or migraine?	Y	N
Diagnosed with a learning disability/dyslexia?	Y	N

Diagnosed with attention deficit hyperactivity disorder (ADHD)?	Y	N
Diagnosed with depression, anxiety, or other psychological disorder?	Y	N

Notes:

Current medications? If yes, please list:

### Step 2: Symptom Evaluation

Baseline:  Suspected/Post-injury:  Time elapsed since suspected injury:  mins/hours/days

The athlete will complete the symptom scale (below) after you provide instructions. Please note that the instructions are different for baseline versus suspected/post-injury evaluations.

**Baseline:** Say *“Please rate your symptoms below based on how you typically feel with “1” representing a very mild symptom and “6” representing a severe symptom.”*

**Suspected/Post-injury:** Say *“Please rate your symptoms below based on how you feel now with “1” representing a very mild symptom and “6” representing a severe symptom.”*

PLEASE HAND THE FORM TO THE ATHLETE

Symptom	Rating
Headaches	0 1 2 3 4 5 6
Pressure in head	0 1 2 3 4 5 6
Neck pain	0 1 2 3 4 5 6
Nausea or vomiting	0 1 2 3 4 5 6
Dizziness	0 1 2 3 4 5 6
Blurred vision	0 1 2 3 4 5 6
Balance problems	0 1 2 3 4 5 6
Sensitivity to light	0 1 2 3 4 5 6
Sensitivity to noise	0 1 2 3 4 5 6
Feeling slowed down	0 1 2 3 4 5 6
Feeling like “in a fog”	0 1 2 3 4 5 6
“Don’t feel right”	0 1 2 3 4 5 6
Difficulty concentrating	0 1 2 3 4 5 6
Difficulty remembering	0 1 2 3 4 5 6
Fatigue or low energy	0 1 2 3 4 5 6
Confusion	0 1 2 3 4 5 6
Drowsiness	0 1 2 3 4 5 6
More emotional	0 1 2 3 4 5 6
Irritability	0 1 2 3 4 5 6
Sadness	0 1 2 3 4 5 6
Nervous or anxious	0 1 2 3 4 5 6
Trouble falling asleep (if applicable)	0 1 2 3 4 5 6

Do your symptoms get worse with physical activity? Y N

Do your symptoms get worse with mental activity? Y N

If 100% is feeling perfectly normal, what percent of normal do you feel?

If not 100%, why?

PLEASE HAND THE FORM BACK TO THE EXAMINER

Once the athlete has completed answering all symptom items, it may be useful for the clinician to revisit items that were endorsed positively to gather more detail about each symptom.

Total number of symptoms:  of 22

Symptom severity score:  of 132



### Step 3: Cognitive Screening (Based on Standardized Assessment of Concussion; SAC)<sup>2</sup>

#### Orientation

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? (within 1 hour)	0	1
<b>Orientation Score</b>	of 5	

#### Immediate Memory

All 3 trials must be administered irrespective of the number correct on Trial 1. Administer at the rate of one word per second.

Trial 1: Say "I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order."

Trials 2 and 3: Say "I am going to repeat the same list. Repeat back as many words as you can remember in any order, even if you said the word before in a previous trial."

Word list used: A  B  C

List A				Alternate Lists	
	Trial 1	Trial 2	Trial 3	List B	List C
Jacket	0 1	0 1	0 1	Finger	Baby
Arrow	0 1	0 1	0 1	Penny	Monkey
Pepper	0 1	0 1	0 1	Blanket	Perfume
Cotton	0 1	0 1	0 1	Lemon	Sunset
Movie	0 1	0 1	0 1	Insect	Iron
Dollar	0 1	0 1	0 1	Candle	Elbow
Honey	0 1	0 1	0 1	Paper	Apple
Mirror	0 1	0 1	0 1	Sugar	Carpet
Saddle	0 1	0 1	0 1	Sandwich	Saddle
Anchor	0 1	0 1	0 1	Wagon	Bubble
<b>Trial Total</b>					

**Immediate Memory Score** of 30      **Time Last Trial Completed:** \_\_\_\_\_

**Step 3: Cognitive Screening (Continued)****Concentration****Digits Backward:**

Administer at the rate of one digit per second reading **DOWN** the selected column. If a string is completed correctly, move on to the string with next higher number of digits; if the string is completed incorrectly, use the alternate string with the same number of digits; if this is failed again, end the test.

Say *"I'm going to read a string of numbers and when I am done, you repeat them back to me in reverse order of how I read them to you. For example, if I say 7-1-9, you would say 9-1-7. So, if I said 9-6-8 you would say? (8-6-9)"*

Digit list used: A  B  C

List A	List B	List C			
4-9-3	5-2-6	1-4-2	Y	N	0 1
6-2-9	4-1-5	6-5-8	Y	N	0 1
3-8-1-4	1-7-9-5	6-8-3-1	Y	N	0 1
3-2-7-9	4-9-6-8	3-4-8-1	Y	N	0 1
6-2-9-7-1	4-8-5-2-7	4-9-1-5-3	Y	N	0 1
1-5-2-8-6	6-1-8-4-3	6-8-2-5-1	Y	N	0 1
7-1-8-4-6-2	8-3-1-9-6-4	3-7-6-5-1-9	Y	N	0 1
5-3-9-1-4-8	7-2-4-8-5-6	9-2-6-5-1-4	Y	N	0 1
				<b>Digits Score</b>	of 4

**Months in Reverse Order:**

Say *"Now tell me the months of the year in reverse order as QUICKLY and as accurately as possible. Start with the last month and go backward. So, you'll say December, November... go ahead"*

Start stopwatch and **CIRCLE** each correct response:

December    November    October    September    August    July    June    May    April    March    February    January

Time Taken to Complete (secs):       Number of Errors:

1 point if no errors and completion under 30 seconds

Months Score:  of 1

**Concentration Score (Digits + Months)**  of 5

**Step 4: Coordination and Balance Examination****Modified Balance Error Scoring System (mBESS)<sup>3</sup> testing**

(see detailed administration instructions)

Foot Tested: Left  Right  (i.e. test the **non-dominant** foot)

Testing Surface (hard floor, field, etc.):

Footwear (shoes, barefoot, braces, tape etc.):

**OPTIONAL** (depending on clinical presentation and setting resources): For further assessment, the same 3 stances can be performed on a surface of medium density foam (e.g., approximately 50cm x 40cm x 6cm) with the same instructions and scoring.



### Step 4: Coordination and Balance Examination (Continued)

#### Modified BESS

(20 seconds each)

Double Leg Stance:  of 10  
 Tandem Stance:  of 10  
 Single Leg Stance:  of 10  
 Total Errors:  of 30

#### On Foam (Optional)

Double Leg Stance:  of 10  
 Tandem Stance:  of 10  
 Single Leg Stance:  of 10  
 Total Errors:  of 30

**Note:** If the mBESS yields normal findings then proceed to the **Tandem Gait/Dual Task Tandem Gait**.

If the mBESS reveals abnormal findings or clinically significant difficulties, **Tandem Gait** is not necessary at this time.

Both the **Tandem Gait** and optional **Dual Task** component may be administered later in the office setting as needed (see SCOAT6).

#### Timed Tandem Gait

Place a 3-metre-long line on the floor/firm surface with athletic tape. The task should be timed. Please complete all 3 trials.

**Say** *“Please walk heel-to-toe quickly to the end of the tape, turn around and come back as fast as you can without separating your feet or stepping off the line.”*

Single Task:

Time to Complete Tandem Gait Walking (seconds)				
Trial 1	Trial 2	Trial 3	Average 3 Trials	Fastest Trial
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

#### Dual Task Gait (Optional. Timed Tandem Gait must be completed first)

Place a 3-metre-long line on the floor/firm surface with athletic tape. The task should be timed.

**Say** *“Now, while you are walking heel-to-toe, I will ask you to count backwards out loud by 7s. For example, if we started at 100, you would say 100, 93, 86, 79. Let’s practise counting. Starting with 93, count backward by sevens until I say “stop”.”* Note that this practice only involves counting backwards.

**Dual Task Practice:** Circle correct responses; record number of subtraction counting errors.

Task													Errors	Time
Practice	93	86	72	65	58	51	44	37						

**Say** *“Good. Now I will ask you to walk heel-to-toe and count backwards out loud at the same time. Are you ready? The number to start with is 88. Go!”*

**Dual Task Cognitive Performance:** Circle correct responses; record number of subtraction counting errors.

Task													Errors	Time (circle fastest)	
Trial 1	88	81	74	67	60	53	46	39	32	25	18	11	4		
Trial 2	90	83	76	69	62	55	48	41	34	27	20	13	6		
Trial 3	98	91	84	77	70	63	56	49	42	35	28	21	14		

Alternate double number starting integers may be used and recorded below.

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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Starting Integer:  Errors:  Time:



### Step 4: Coordination and Balance Examination (Continued)

Were any single- or dual-task, timed tandem gait trials not completed due to walking errors or other reasons?

Yes  No

If yes, please explain why:

### Step 5: Delayed Recall

The Delayed Recall should be performed after **at least 5 minutes** have elapsed since the end of the Immediate Memory section:  
**Score 1 point for each correct response.**

Say *"Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order."*

Time started:

Word list used: A  B  C

Word list used: A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/>		Alternate Lists	
List A	Score	List B	List C
Jacket	0 1	Finger	Baby
Arrow	0 1	Penny	Monkey
Pepper	0 1	Blanket	Perfume
Cotton	0 1	Lemon	Sunset
Movie	0 1	Insect	Iron
Dollar	0 1	Candle	Elbow
Honey	0 1	Paper	Apple
Mirror	0 1	Sugar	Carpet
Saddle	0 1	Sandwich	Saddle
Anchor	0 1	Wagon	Bubble
<b>Delayed Recall Score</b>	<b>of 10</b>		

### Total Cognitive Score

Orientation:  of 5  
 Immediate Memory:  of 30  
 Concentration:  of 5  
 Delayed Recall:  of 10  
 Total:  of 50

If the athlete was known to you prior to their injury, are they different from their usual self?

Yes  No  Not applicable  (If different, describe why in the [clinical notes](#) section)



## Step 6: Decision

Domain	Date:	Date:	Date:
Neurological Exam (Acute Injury evaluation only)	Normal/Abnormal	Normal/Abnormal	Normal/Abnormal
Symptom number (of 22)			
Symptom Severity (of 132)			
Orientation (of 5)			
Immediate Memory (of 30)			
Concentration (of 5)			
Delayed Recall (of 10)			
Cognitive Total Score (of 50)			
mBESS Total Errors (of 30)			
Tandem Gait fastest time			
Dual Task fastest time			

### Disposition

Concussion diagnosed?

Yes  No  Deferred

## Health Care Professional Attestation

I am an HCP and I have personally administered or supervised the administration of this SCAT6.

Name:

Signature:  Title/Speciality:

Registration/License number (if applicable):  Date:

## Additional Clinical Notes

**Note:** Scoring on the SCAT6 should not be used as a stand-alone method to diagnose concussion, measure recovery, or make decisions about an athlete's readiness to return to sport after concussion. Remember: An athlete can score within normal limits on the SCAT6 and still have a concussion.

**Appendix C.**

<b>Dermatome</b>	<b>Note</b>	<b>Myotome</b>	<b>Note</b>	<b>Reflex</b>	<b>Note</b>
C4 (Collar)		C4 (Shoulder Shrug)			
C5 (Lat. Shoulder)		C5 (Wrist Pro.)		C5: Bicep	
C6 (1st Digit)		C6 (Wrist Sup. Bicep Flex)			
C7 (3rd Digit)		C7 (Tricep Ext.)		C7: Tricep	
C8 (5th Digit)		C8 (Finger Piano)			
T1 (med. forearm)		T1 (Finger ABD)			
L1: Groin		L1-2: Hip Flex.			
L2: Mid Thigh					
L3: VMO		L3: Knee Flex.		L2-4: Patellar	
L4: Medial knee		L4: Ankle DF			
L5: Shin		L5: Hallux Ext.		L5-S1: Achilles	
S1: Lateral Malleolus		S1: Ankle Eversion			
S2: Medial Ankle		S2: Knee Flex			

**Appendix D.**

Date: \_\_\_\_\_

## **FISD Concussion Home Instructions**

\_\_\_\_\_ has sustained a concussion during \_\_\_\_\_ today. To make sure s/he recovers in as timely a manner as possible please assist the athletic department in adhering to the following recommendations:

1. If your son/daughter is bringing this form home, then they have been evaluated as suffering from a concussion and will need to see your family physician for further medical evaluation and treatment.

If any of the following criteria are being met, call 9-1-1 and seek emergency medical assistance:

1. Slurred speech
2. Loss of consciousness
3. Vomiting
4. Increased head pressure or complaining of the “worst headache they have had in their life”
5. Numbness or tingling in their extremities
6. Unequal or unreactive pupils
7. Obvious mental status changes: lethargy, personality changes, overly confused
8. Seizure activity

2. Things that you **CAN** do:

- a. Take acetaminophen (Tylenol) only as needed
- b. Use ice packs on head or neck for comfort
- c. Eat a light diet
- d. Get some sleep (rest is very important)

3. Things that you should **NOT** do:

- a. Take any NSAIDS
- b. Have excessive amounts of screen time
- d. Reading for long periods of time
- e. **NO SPORTS ON YOUR OWN** (including club and recreational sports)
- f. Be around bright lights &/or loud noises
- g. Wake them up every hour (sleep is how the brain repairs itself)

4. Make sure your son/daughter reports the athletic training room at **FHS** for follow up the next day they are at school.

Further recommendations:

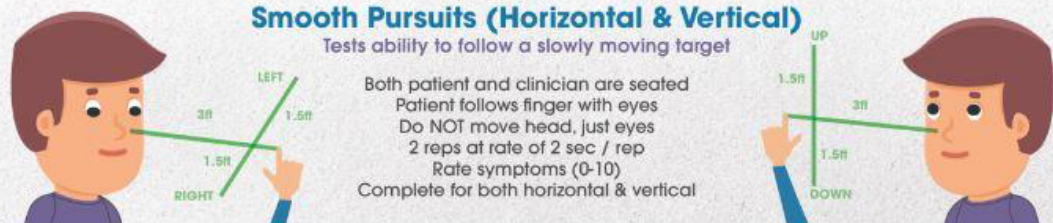
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Natalie Handley, MAT, LAT, ATC (830)456-3677  
Lucas Scheidemantel, MS, LAT, ATC (724)513-7056  
Office: (830)990-4550

**Parent Signature**

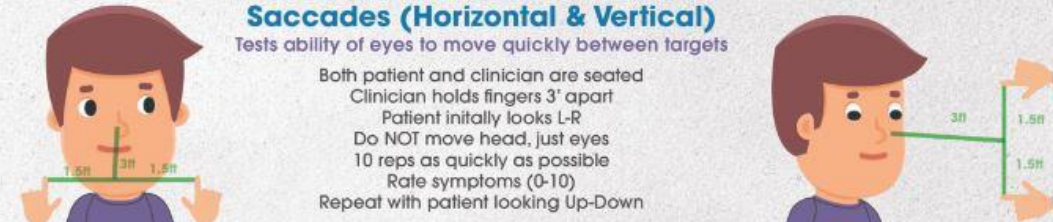
# Vestibular/Ocular-Motor Screening (VOMS)

**Smooth Pursuits (Horizontal & Vertical)**  
Tests ability to follow a slowly moving target




Both patient and clinician are seated  
Patient follows finger with eyes  
Do NOT move head, just eyes  
2 reps at rate of 2 sec / rep  
Rate symptoms (0-10)  
Complete for both horizontal & vertical

**Saccades (Horizontal & Vertical)**  
Tests ability of eyes to move quickly between targets



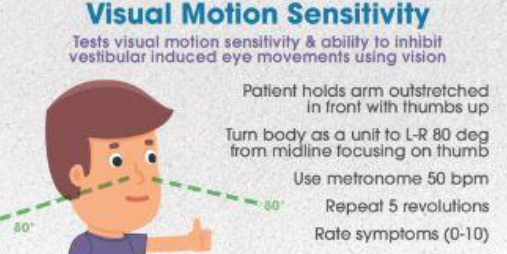
Both patient and clinician are seated  
Clinician holds fingers 3' apart  
Patient initially looks L-R  
Do NOT move head, just eyes  
10 reps as quickly as possible  
Rate symptoms (0-10)  
Repeat with patient looking Up-Down

**Convergence**  
Measures ability to view a near target without double vision




Patient holds target with 14-point font "X" at arms length  
Patient brings target toward eyes focusing on the "X"  
Stop when they see double  
Clinician measures distance from tip of nose to target (cm)  
Repeat 3x; record all 3  
Rate symptoms (0-10)

**Visual Motion Sensitivity**  
Tests visual motion sensitivity & ability to inhibit vestibular induced eye movements using vision



Patient holds arm outstretched in front with thumbs up  
Turn body as a unit to L-R 80 deg from midline focusing on thumb  
Use metronome 50 bpm  
Repeat 5 revolutions  
Rate symptoms (0-10)

**Vestibular-Ocular Reflex (Horizontal & Vertical)**  
Assess ability to stabilize vision as head moves



Clinician holds target 3' from patient's eye level  
Patient initially turns head L-R 10x  
Keep eyes focused on target  
Use metronome 180 bpm  
Wait 10 seconds  
Rate symptoms (0-10)  
Repeat with patient looking Up-Down

Visit [natafoundation.org/for-the-profession](http://natafoundation.org/for-the-profession) for more info including the NATA Foundation e-article on VOMS

- Collins MW, Kontos AP, Reynolds E, et al. A comprehensive, targeted approach to the clinical care of athletes following sport-related concussion. *Knee Surg Sports Traumatol Arthrosc.* 2014;22:235-246.
- Khan S, Chang R. Anatomy of the vestibular system: a review. *NeuroRehabilitation.* 2013;32:437-443.
- Kontos AP, Sufrinko A, Elbin RJ, Puskar A, Collins MW. Reliability and associated risk factors for performance on the vestibular/ocular motor screening (VOMS) tool in healthy collegiate athletes. *Am J Sports Med.* 2016;44:1400-1406.
- Mucha A, Collins MW, et al. A brief vestibular/ocular motor screening (VOMS) assessment to evaluate concussions: preliminary findings. *Am J Sports Med.* 2014;42:2479-2486.

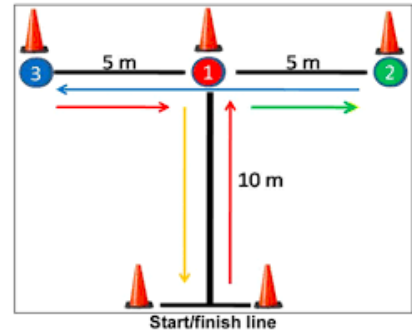


**Appendix F.****6 Step Return to Play Protocol**

	Exertion Level	Approx. Time	Exercise	Sets/Reps
Step 1	50% of Max	20 Minutes	Stationary Bike or Walk-Jog 1-mile	1 Set
Step 2	60% of Max	15 Minutes	T-Run, Sit-ups, Air Squats, Russian Twists, Box Run, Variation Plank, Single Leg Balance	3 Sets of 30s each 1 Minute Rest
Step 3	75% of Max	20 Minutes	*See Above* Add weighted ball	3 Sets of 45s each 1 Minute Rest
Step 4	100% of Max	Practice	Non-Contact Practice	1 Set
Step 5	100% of Max	Practice	Full Contact Practice	1 Set
Step 6	NA	NA	UIL RTP Form signed and Returned	NA

Appendix G.

T-Run:



Reach Ups:



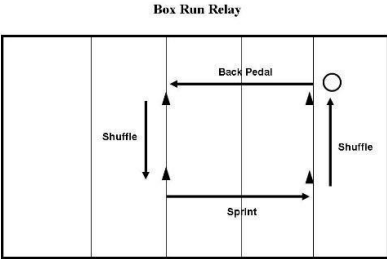
Air Squats:



Russian Twists:



Box Run:

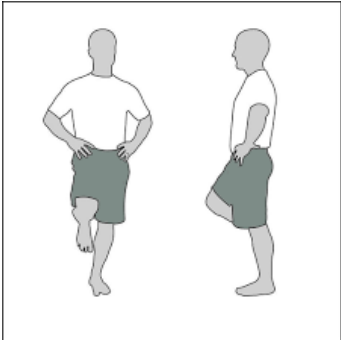


Variation Plank:



Single Leg Balance:

Hands on Hips, eyes closed



Appendix H.



## Concussion Management Protocol Return to Play Form

*This form must be completed and submitted to the athletic trainer or other person (who is not a coach) responsible for compliance with the Return to Play protocol established by the school district Concussion Oversight Team, as determined by the superintendent or their designee (see Section 38.157 (c) of the Texas Education Code).*

\_\_\_\_\_  
*Student Name (Please Print)*

\_\_\_\_\_  
*School Name (Please Print)*

**Designated school district official verifies:**

*Please Check*

- The student has been evaluated by a treating physician selected by the student, their parent or other person with legal authority to make medical decisions for the student.
- The student has completed the Return to Play protocol established by the school district Concussion Oversight Team.
- The school has received a written statement from the treating physician indicating, that in the physician's professional judgment, it is safe for the student to return to play.

\_\_\_\_\_  
*School Individual Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*School Individual Name (Please Print)*

-----  
**Parent, or other person with legal authority to make medical decisions for the student signs and certifies that he/she:**

*Please Check*

- Has been informed concerning and consents to the student participating in returning to play in accordance with the return to play protocol established by the Concussion Oversight Team.
- Understands the risks associated with the student returning to play and will comply with any ongoing requirements in the return to play protocol.
- Consents to the disclosure to appropriate persons, consistent with the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191), of the treating physician's written statement under Subdivision (3) and, if any, the return to play recommendations of the treating physician.
- Understands the immunity provisions under Section 38.159 of the Texas Education Code.

\_\_\_\_\_  
*Parent/Responsible Decision-Maker Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Parent/Responsible Decision-Maker Name (Please Print)*

Appendix I.

FISD Concussion Checklist

Date Completed	Description	Initials
	Concussion Occurred	
	FISD Concussion Home Instructions Sent Home	
	FISD Concussion Home Instructions Returned	
	Initial Doctor's note received; Athlete can start RTP on ___/___/___	
	Last day symptoms were reported ___/___/___	
	Return to play (RTP) started	
	Step 1 of the RTP Completed (Exercises can be found in section IV.C.2)	
	Step 2 of the RTP Completed	
	Step 3 of the RTP Completed	
	Step 4 of the RTP Completed	
	Step 5 of the RTP Completed	
	UIL RTP Form Sent Home	
	UIL RTP Form Returned (Step 6)	
<p>Additional Notes:</p>		

FISD Employee Signature: \_\_\_\_\_ Date: \_\_\_\_\_