Crook County School District
471 Ochoco Plaza Dr.
Prineville, OR 97754

Crook County School District Protocol and Procedures for Management of Sports-Related Concussions

Medical management of a sports-related concussion is evolving. In recent years, there has been a significant amount of research into sports-related concussions in middle school/high school athletes and legislation has been adopted to protect student-athletes and to ensure best practices among Oregon school districts.

Crook County School District (also referred to as the "District") has established this Protocol and Procedures for Management of Sports-Related Concussions (this "Protocol") to educate and guide persons who instruct or train members of a school athletic team, including employees, volunteers, and contract coaches/instructors ("Coaches"), in the treatment and management of sports-related concussions and to comply with applicable laws. This Protocol outlines procedures for staff to follow in managing head injuries and outlines school policy as it pertains to a student-athlete's resumption of athletic activities, including practice or conditioning, following a concussion ("Return to Play").

Crook County School District seeks to provide a safe "Return to Play" for all athletes after injury, particularly after a concussion. In order to effectively and consistently manage concussions, procedures have been developed to aid in insuring that concussed athletes are identified, treated, referred appropriately, receive proper follow-up medical care during the school day, including academic assistance, and are fully recovered prior to a "Return to Play".

In addition to recent research, ORS 336.485, OAR 581-022-0421, and five (5) primary documents were consulted in developing this protocol.
1) Journal of Athletic Training 2013;48(4):554–575 doi: 10.4085/1062-6050-48.4.05 by the National Athletic Trainers' Association, Inc www.natajournals.org consensus statement Consensus Statement on Concussion in Sport: The 4th International Conference on Concussion in Sport, Zurich, November 2012,
2) Journal of Athletic Training 2014;49(2):245–265 doi: 10.4085/1062-6050-49.1.07 by the National Athletic Trainers' Association, Inc www.natajournals.org position statement National Athletic Trainers' Association Position Statement: Management of Sport Concussion and
3) *Max's Law: Concussion Management Implementation Guide for School Administrators* ("Max's Law").
4) CBIRT/OCAMP sample school district concussion protocol
5) Silverberg ND, Iverson GL. Is Rest After Concussion "The Best Medicine?" : Recommendations for Activity Resumption Following Concussion in Athletes, Civilians, and Military Service Members. J Head Trauma Rehabil. 2013; 28 (4):250-259.

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I. Recognition of Concussion

A. For purposes of this Protocol, common signs and symptoms of sports-related concussions ("Signs and Symptoms" or "Symptomatic") include:

1. Signs (observed by others):
   - Athlete appears dazed
   - Confusion (about assignment, plays, days of week etc.)
   - Forgets plays or instructions
   - Unsure about game, score, opponent
   - Moves clumsily (altered coordination)
   - Balance problems
   - Personality change
   - Responds slowly to questions
   - Forgets events prior to hit
   - Forgets events after the hit
   - Loss of consciousness ("LOC") for any duration

2. Symptoms (reported by athlete):
   - Headache
   - Fatigue
   - Nausea or vomiting
   - Double vision, blurry vision
   - Sensitive to light or noise/ringing in ears
   - Feels sluggish
   - Feels "foggy"
   - Problems concentrating
   - Problems remembering

3. These signs and symptoms identified above are indicative of probable concussion. Other causes or symptoms should also be considered.

B. Cognitive Impairment Testing (altered or diminished cognitive function)

General cognitive status can be determined by simple sideline cognitive testing with SCAT5 (Form A SCAT5) If an AT is present then the AT will do a sideline assessment. If no AT is present then the coach can perform the testing using the Coaches Report (Form B-Coaches/CMT Concussion Report Form).

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C. Neurocognitive testing requirements

1. Neurocognitive testing (ImPACT) is a research-based software tool utilized to evaluate recovery after concussion. This testing evaluates multiple aspects of neurocognitive function, including memory, attention, and brain processing speed, reaction time, and post-concussion symptoms.

   a. Neurocognitive testing shall be utilized to help determine recovery after concussion. This test is given by the AT or a practitioner that is trained in ImPACT.

D. Athletes participating in athletics will be offered a baseline test prior to participating in sports during grades 7-12. These tests are administered by The Center Foundation athletic trainers at the High school level and the school nurse for grade 7-8.

E. Due to growth and brain development, baselines are obtained every 2 years, typically in the freshman and junior years. All athletes in their junior year will be required to take a "new" baseline test prior to participating in a Athletics. A baseline test will be done each year for 7th graders, as well as 8th graders new to SMS and/or sports.

F. Post-concussion neurocognitive testing is performed to help determine concussion recovery and is done at the school by athletic trainer at no charge or at the Center as part of concussion recovery assessment. Comparisons of results are made to baseline testing or if baselines aren't available, then to age matched controls

II. Management and Referral Guidelines for All Staff

A. Guidelines for Responding to this Protocol

1. Athletes experiencing/exhibiting signs and symptoms of concussion will be removed from participation and shall be evaluated by the athletic trainer or concussion team member and then referred to primary care providers, or emergency room (Form A-SCAT5 or B-Coaches/CMT Concussion Report Form).

2. Athletes experiencing a witnessed loss of consciousness of any duration should be transported immediately to the nearest hospital emergency department via emergency vehicle.

3. Any athlete who has signs and symptoms, and who is not stable (i.e., condition is persisting or deteriorating), must be transported immediately to the nearest hospital emergency department via emergency vehicle.

4. An athlete who is symptomatic, but stable, may be transported by his/her parents. The parents should be advised to contact a licensed physician, physician's assistant, Nurse practitioner, psychologist, Desert Orthopedic Center, The Center Now Care Clinic or seek care at the nearest hospital emergency department (collectively, "Health Care Professional"). The parents will be provided an informational sheet regarding concussion (Form C-Parent Concussion Information Packet).

   a. ALWAYS advise parents the option of emergency transportation, even if you do not

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feel it is necessary.

III. Procedures for the Certified Athletic Trainer – This section applies to schools with AT recourses

A. Following a suspected concussion, the Oregon Health Licensing Board requires the certified athletic trainer at the athlete's school (the "AT") to assess the injury, or provide guidance to the Coach(s) of the sport the athlete is currently participating in ("Sport Coach") if unable to personally attend to the athlete.

1. The AT will perform serial assessments following recommendations in the NATA Position Statement SCAT5 assessment tool (Form A-SCAT5)

    a. The AT will notify the athlete's parents and give written and verbal home and follow-up care instructions.

2. Referral to a health care professional will be mandatory and made when medically appropriate.

B. The AT will notify the Nurse or concussion management team (CMT) Team at the athlete's school of the injury, as soon as possible, so they can initiate appropriate follow-up care with the concussion management team upon the athlete's return to school.

1. The AT will continue to provide coordinated care with the School Nurse or CMT Team for the duration of the injury. However athletes with persistent symptoms, care will be managed in conjunction with the athlete's physician.

2. The School Nurse or CMT Team will communicate with the athlete's guidance counselor regarding the athlete's neurocognitive and recovery status, if needed.

C. The AT is responsible for administering ImPACT testing.

1. The post-concussion ImPACT test will be performed within 72 hours if there is a question regarding diagnosis of concussion. Otherwise, the post injury ImPACT test will be performed at the time of athlete's symptoms resolve.

2. The AT will review the post-concussion test data with the athlete and the athlete's parent.

3. The AT will forward testing results to the athlete's Health Care Professional, with parental permission and a signed release of medical information form.

4. The AT will advise and regularly update the Sport Coach, including the Sport Coach in the following season if the athlete transitions between sport seasons during the course of the Progression (defined and described in Section VI below), regarding the athlete's participation limitations.

5. The AT will monitor the athlete, and keep the School Nurse or CMT Team informed of the individual's symptomatology and neurocognitive status, for the purposes of developing or modifying the Health Care Plan, as defined below, for the student-athlete. Athletes and

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parents sign a release for treatment and coordination of care to include school Nurse, CMT Team, and administrators as a part of their sport packet before playing sports.

6. The AT will work with the Health Care Professional to coordinate the progression.

7. The AT will maintain appropriate computerized documentation regarding assessment and management of the injury.

IV. Procedures for Coaches:

A. All Coaches shall receive annual training (no less than once every twelve months), prior to initiation of the season for the sport in which that Coach instructs or trains, to learn how to recognize the symptoms of a concussion. Each school in the District that sponsors athletics shall annually develop a list of all Coaches, identify the resources to be used to provide the training, develop training timelines for all Coaches, and document that each Coach completes the training described in subsection (B) below. Training will be tracked and documented annually.

B. Annual training shall include training on the following topics:

(a) Training in how to recognize the signs and symptoms of a concussion;

(b) Training in strategies to reduce the risk of concussions;

(c) Training in how to seek proper medical treatment for a person suspected of having a concussion; and

(d) Training in procedures of how an athlete may safely return to participation.

When a concussion is suspected, Coaches shall follow the general principles of RECOGNIZE, REMOVE, and REFER

C. Recognize concussion signs and symptoms (Form B-Coaches/CMT Concussion Report Form)

1. Use of Coaches Report Form (Form B-Coaches/CMT Concussion Report Form) to record signs and symptoms, copy should be given to parent/guardian at time of the incident.

D. Remove from activity

1. If a Coach suspects the athlete has sustained a concussion, the athlete shall be removed from activity immediately and for the day.

a. Any athlete who exhibits signs and symptoms following an observed or suspected blow to the head or body will be removed immediately from participation, assessed, and will not be allowed to Return to Participation that day.

E. Refer the athlete for medical evaluation

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1. Coaches shall report all head injuries to the AT or CMT Team, as soon as possible, for medical assessment and management, for coordination of home instructions and for follow-up care.

2. Coaches should seek assistance from the host site AT if at an away contest.

3. If the AT is unavailable, or the athlete is injured at an away event, The Sport Coach is responsible for:

   a. Contacting the athlete's parents to inform them of the injury and to make arrangements for them to pick-up the athlete.
   b. Providing the AT or CMT Team with the athlete's name and home phone number, so that the AT or CMT Team can initiate follow-up. Additional copies are available from the AT.
   c. Reminding the athlete to report directly to the School Nurse or CMT Team before school starts on the day the student returns to school after the injury.

4. In the event that an athlete's parents cannot be reached, and the athlete is able to be sent home:

   a. The AT or Sport Coach should ensure that the athlete will be with a responsible individual, who is capable of monitoring the athlete and understanding the home care instructions, before allowing the athlete to go home.
   b. The AT or Sport Coach should continue efforts to reach the parent.
   c. If there is any question about the status of the athlete, or if the athlete is not able to be monitored appropriately, the athlete should be referred to the emergency department at the nearest hospital for evaluation. The Sport Coach or AT should accompany the athlete and remain with the athlete until the athlete's parents arrive.
   d. Athletes exhibiting Signs and Symptoms should not be permitted to drive home.

V. FOLLOW-UP CARE OF THE ATHLETE DURING THE SCHOOL DAY

A. Responsibilities of the School Nurse or CMT Team after notification of student's suspected concussion.

1. The athlete will be instructed to report to the School Nurse or CMT Team for Return to Learn procedures.

2. Immediately notify the student's guidance counselor and teachers of the injury that a Concussion Accommodation Plan has been developed.

3. Notify the student's physical education teacher immediately that the athlete is restricted from physical activity until further notice from the School Nurse or CMT Team.

4. Bed rest should be no more than 3 days. Athletes should return to light activity following concussion guidelines. The school Nurse or CMT Team will utilize (Form D-OSAA Concussion Return Form) to assist with progression and direction from the physician**.**

5. If the School Nurse or CMT Team receives notification of a student-athlete who has

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sustained a concussion from someone other than the AT (i.e. the athlete, athlete's parent, Sport Coach, physician, etc.), the AT should be notified when AT resources are available.

6. Monitor the athlete as needed during recovery.

B. Responsibilities of the student's guidance counselor

1. Monitor the student closely and recommend appropriate academic accommodations for students who are exhibiting post-concussion symptoms. Reference materials for concussion related academic accommodations are listed in (Form D-OSAA Concussion Return Form).

2. Communicate with the School Nurse or CMT Team on a regular basis, to provide the most effective care for the student.

VI. RETURN TO PLAY PROCEDURES AFTER CONCUSSION

A. Returning to Activity on the same day of injury

1. An athlete who exhibits Signs and Symptoms following an observed or suspected blow to the head or body, or is otherwise diagnosed with a concussion is not permitted to Return to Play on the day of the injury.

2. "When in doubt, hold them out."

B. Return to Play after suspected concussion

1. Following a concussion, athletes will not be permitted to Return to Play until the athlete has completed the stepwise progression outlined in this subsection (Form D-Concussion Return Form).

2. As described in the Zurich 2012 the progression consists of the following steps:

a. No activity – on day of concussion.
b. No bed rest after 1-3 days max.
c. Allowed light aerobic exercise – walking, stationary bike 0 – 3 days
d. Sport-specific training (e.g., skating in hockey, running in soccer)
e. Non-contact training drills
f. Full-contact training after medical clearance
g. Game play (unrestricted activity)

Return to play progression will be monitored by the AT. In schools without AT's, then parents, or school Nurse or CMT Team members will be provided with (Form D-OSAA Concussion Return Form) for progression.

3. The athlete must meet all of the following criteria in each step of the Progression in order to return to participation:

a. No longer exhibits signs, symptoms or behaviors consistent with a concussion at rest

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and with exertion (including mental exertion in school);

b. Is participating in full school hours and classroom activities without accommodations, except for the need for more time for makeup work.
c. If athlete has a valid baseline test and is within normal range of baseline on post-concussion neurocognitive testing
d. If athlete has no baseline, then is testing within a range consistent with their academic performance and compared to age matched controls.
e. Have written clearance from the athlete's Health Care Professional using the OSAA form (Form D-OSAA Concussion Return Form)

4. The school Nurse or CMT Team will supervise the Return to Learn and determine the athlete's status in the progression with physician recommendations.

5. The AT or CMT Team will supervise the Return to Play and determine the athlete's status in the progression with physician recommendations.

6. The AT or CMT Team and athlete will discuss appropriate activities for each day the athlete participates in high school athletics. The athlete's participation will be limited to those appropriate activities until the AT or CMT Team instructs otherwise.

7. The athlete should see the school Nurse or CMT Team or counselor as needed for re-assessment and instructions until he/she has progressed to the Return to Play progression.

8. The athlete should see the AT or CMT Team member as needed for re-assessment and instructions until he/she has progressed to unrestricted activity, and received written clearance for Return to Play.

9. No additional testing is needed once the athlete is cleared to play.

VII. PROTOCOL UPDATES

A. Given that concussion related knowledge and best practices are rapidly evolving, Crook County School District will periodically re-evaluate and update the Protocol. It is recommended we review the protocol every 1 year on May 1, for completion by June 1.

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Appendix A
SCAT5

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SCAT5®

SPORT CONCUSSION ASSESSMENT TOOL – 5TH EDITION

DEVELOPED BY THE CONCUSSION IN SPORT GROUP

FOR USE BY MEDICAL PROFESSIONALS ONLY

supported by

FIFA

Patient details

Name: _____

DOB: _____

Address: _____

ID number: _____

Examiner: _____

Date of Injury: _____ Time: _____

WHAT IS THE SCAT5?

The SCAT5 is a standardized tool for evaluating concussions designed for use by physicians and licensed healthcare professionals[1]. The SCAT5 cannot be performed correctly in less than 10 minutes.

If you are not a physician or licensed healthcare professional, please use the Concussion Recognition Tool 5 (CRT5). The SCAT5 is to be used for evaluating athletes aged 13 years and older. For children aged 12 years or younger, please use the Child SCAT5.

Preseason SCAT5 baseline testing can be useful for interpreting post-injury test scores, but is not required for that purpose.Detailed instructions for use of the SCAT5 are provided on page 7. Please read through these instructions carefully before testing the athlete. Brief verbal instructions for each test are given in italics. The only equipment required for the tester is a watch or timer.

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Recognise and Remove

A head impact by either a direct blow or indirect transmission of force can be associated with a serious and potentially fatal brain injury. If there are significant concerns, including any of the red flags listed in Box 1, then activation of emergency procedures and urgent transport to the nearest hospital should be arranged.

Key points

- Any athlete with suspected concussion should be REMOVED FROM PLAY, medically assessed and monitored for deterioration. No athlete diagnosed with concussion should be returned to play on the day of injury.
- If an athlete is suspected of having a concussion and medical personnel are not immediately available, the athlete should be referred to a medical facility for urgent assessment.
- Athletes with suspected concussion should not drink alcohol, use recreational drugs and should not drive a motor vehicle until cleared to do so by a medical professional.
- Concussion signs and symptoms evolve over time and it is important to consider repeat evaluation in the assessment of concussion.
- The diagnosis of a concussion is a clinical judgment, made by a medical professional. The SCAT5 should NOT be used by itself to make, or exclude, the diagnosis of concussion. An athlete may have a concussion even if their SCAT5 is "normal".

Remember:

- The basic principles of first aid (danger, response, airway, breathing, circulation) should be followed.
- Do not attempt to move the athlete (other than that required for airway management) unless trained to do so.
- Assessment for a spinal cord injury is a critical part of the initial on-field assessment.
- Do not remove a helmet or any other equipment unless trained to do so safely.

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IMMEDIATE OR ON-FIELD ASSESSMENT

The following elements should be assessed for all athletes who are suspected of having a concussion prior to proceeding to the neurocognitive assessment and ideally should be done on-field after the first first aid / emergency care priorities are completed.

If any of the "Red Flags" or observable signs are noted after a direct or indirect blow to the head, the athlete should be immediately and safely removed from participation and evaluated by a physician or licensed healthcare professional.

Consideration of transportation to a medical facility should be at the discretion of the physician or licensed healthcare professional.

The GCS is important as a standard measure for all patients and can be done serially if necessary in the event of deterioration in conscious state. The Maddocks questions and cervical spine exam are critical steps of the immediate assessment; however, these do not need to be done serially.

Name: _____

DOB: _____

Address: _____

ID number: _____

Examiner: _____

Date: _____

STEP 1: RED FLAGS

RED FLAGS:

- **Neck pain or tenderness**
- **Double vision**
- **Weakness or tingling/ burning in arms or legs**
- **Severe or increasing headache**
- **Seizure or convulsion**
- **Loss of consciousness**
- **Deteriorating conscious state**
- **Vomiting**
- **Increasingly restless, agitated or combative**

STEP 2: OBSERVABLE SIGNS

Witnessed ☐ Observed on Video ☐

Lying motionless on the playing surface	Y	N
Balance / gait difficulties / motor incoordination: stumbling, slow / laboured movements	Y	N
Disorientation or confusion, or an inability to respond appropriately to questions	Y	N
Blank or vacant look	Y	N
Facial injury after head trauma	Y	N

STEP 3: MEMORY ASSESSMENT MADDOCKS QUESTIONS[2]

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

Mark Y for correct answer / N for incorrect

What venue are we at today?	Y	N
Which half is it now?	Y	N
Who scored last in this match?	Y	N
What team did you play last week / game?	Y	N
Did your team win the last game?	Y	N

Note: Appropriate sport-specific questions may be substituted.

STEP 4: EXAMINATION GLASGOW COMA SCALE (GCS)[3]

Time of assessment			
Date of assessment			
Best eye response (E)			
No eye opening	1	1	1
Eye opening in response 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
Localizes to pain	5	5	5
Obeys commands	6	6	6
Glasgow Coma score (E + V + M)			

CERVICAL SPINE ASSESSMENT

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

In a patient who is not lucid or fully conscious, a cervical spine injury should be assumed until proven otherwise.

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OFFICE OR OFF-FIELD ASSESSMENT

Please note that the neurocognitive assessment should be done in a distraction-free environment with the athlete in a resting state.

STEP 1: ATHLETE BACKGROUND

Sport / team / school: _____

Date / time of injury: _____

Years of education completed: _____

Age: _____

Gender: M / F / Other

Dominant hand: left / neither / right

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

When was the most recent concussion?: _____

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

Has the athlete ever been:

Hospitalized for a head injury?	Yes	No
Diagnosed / treated for headache disorder or migraines?	Yes	No
Diagnosed with a learning disability / dyslexia?	Yes	No
Diagnosed with ADD / ADHD?	Yes	No
Diagnosed with depression, anxiety or other psychiatric disorder?	Yes	No

Current medications? If yes, please list:

_____

_____

_____

_____

_____

_____

Name: _____

DOB: _____

Address: _____

ID number: _____

Examiner: _____

Date: _____

2

STEP 2: SYMPTOM EVALUATION

The athlete should be given the symptom form and asked to read this instruction paragraph out loud then complete the symptom scale. For the baseline assessment, the athlete should rate his/her symptoms based on how he/she typically feels and for the post injury assessment the athlete should rate their symptoms at this point in time.

Please Check: ☐ **Baseline** ☐ **Post-Injury**

Please hand the form to the athlete

	none	mild		moderate		severe	
Headache	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
Total number of symptoms:							of 22
Symptom severity score:							of 132
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 form back to examiner

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STEP 3: COGNITIVE SCREENING

Standardised Assessment of Concussion (SAC)[4]

Name: _____

DOB: _____

Address: _____

ID number: _____

Examiner: _____

Date: _____

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
Orientation score		of 5

IMMEDIATE MEMORY

The Immediate Memory component can be completed using the traditional 5-word per trial list or optionally using 10-words per trial to minimise any ceiling effect. All 3 trials must be administered irrespective of the number correct on the first trial. Administer at the rate of one word per second.

Please choose EITHER the 5 or 10 word list groups and circle the specific word list chosen for this test.

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. For Trials 2 & 3: I am going to repeat the same list again. Repeat back as many words as you can remember in any order, even if you said the word before.

List	Alternate 5 word lists					Score (of 5) Trial 1	Trial 2	Trial 3
A	Finger	Penny	Blanket	Lemon	Insect			
B	Candle	Paper	Sugar	Sandwich	Wagon			
C	Baby	Monkey	Perfume	Sunset	Iron			
D	Elbow	Apple	Carpet	Saddle	Bubble			
E	Jacket	Arrow	Pepper	Cotton	Movie			
F	Dollar	Honey	Mirror	Saddle	Anchor			
					Immediate Memory Score			of 15
					Time that last trial was completed			

List	Alternate 10 word lists					Score (of 10) Trial 1	Trial 2	Trial 3
G	Finger Candle	Penny Paper	Blanket Sugar	Lemon Sandwich	Insect Wagon			
H	Baby Elbow	Monkey Apple	Perfume Carpet	Sunset Saddle	Iron Bubble			
I	Jacket Dollar	Arrow Honey	Pepper Mirror	Cotton Saddle	Movie Anchor			
					Immediate Memory Score			of 30
					Time that last trial was completed			

CONCENTRATION

DIGITS BACKWARDS

Please circle the Digit list chosen (A, B, C, D, E, F). Administer at the rate of one digit per second reading DOWN the selected column.

I am 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.

Concentration Number Lists (circle one)					
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	1
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	1
6-2-9-7-1	4-8-5-2-7	4-9-1-5-3	Y	N	0
1-5-2-8-6	6-1-8-4-3	6-8-2-5-1	Y	N	1
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	1
List D	List E	List F			
7-8-2	3-8-2	2-7-1	Y	N	0
9-2-6	5-1-8	4-7-9	Y	N	1
4-1-8-3	2-7-9-3	1-6-8-3	Y	N	0
9-7-2-3	2-1-6-9	3-9-2-4	Y	N	1
1-7-9-2-6	4-1-8-6-9	2-4-7-5-8	Y	N	0
4-1-7-5-2	9-4-1-7-5	8-3-9-6-4	Y	N	1
2-6-4-8-1-7	6-9-7-3-8-2	5-8-6-2-4-9	Y	N	0
8-4-1-9-3-5	4-2-7-9-3-8	3-1-7-8-2-6	Y	N	1
		Digits Score:			of 4

MONTHS IN REVERSE ORDER

Now tell me the months of the year in reverse order. Start with the last month and go backward. So you'll say December, November. Go ahead.

Dec - Nov - Oct - Sept - Aug - Jul - Jun - May - Apr - Mar - Feb - Jan	0 1
Months Score	of 1
Concentration Total Score (Digits + Months)	of 5

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STEP 4: NEUROLOGICAL SCREEN

See the instruction sheet (page 7) for details of test administration and scoring of the tests.

Can the patient read aloud (e.g. symptom check-list) and follow instructions without difficulty?	Y	N
Does the patient have a full range of pain-free PASSIVE cervical spine movement?	Y	N
Without moving their head or neck, can the patient look side-to-side and up-and-down without double vision?	Y	N
Can the patient perform the finger nose coordination test normally?	Y	N
Can the patient perform tandem gait normally?	Y	N

BALANCE EXAMINATION

Modified Balance Error Scoring System (mBESS) testing[a]

Which foot was tested (i.e. which is the non-dominant foot) ☐ Left ☐ Right

Testing surface (hard floor, field, etc.) _____

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

Condition	Errors
Double leg stance	of 10
Single leg stance (non-dominant foot)	of 10
Tandem stance (non-dominant foot at the back)	of 10
Total Errors	of 30

Name: _____

DOB: _____

Address: _____

ID number: _____

Examiner: _____

Date: _____

5

STEP 5: DELAYED RECALL:

The delayed recall should be performed after 5 minutes have elapsed since the end of the Immediate Recall section. Score 1 pt. for each correct response.

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 _____

Please record each word correctly recalled. Total score equals number of words recalled.

_____

_____

_____

Total number of words recalled accurately: _____ of 5 or _____ of 10

6

STEP 6: DECISION

Domain	Date & time of assessment:		
Symptom number (of 22)			
Symptom severity score (of 132)			
Orientation (of 5)			
Immediate memory	of 15 of 30	of 15 of 30	of 15 of 30
Concentration (of 5)			
Neuro exam	Normal Abnormal	Normal Abnormal	Normal Abnormal
Balance errors (of 30)			
Delayed Recall	of 5 of 10	of 5 of 10	of 5 of 10

Date and time of injury: _____

If the athlete is known to you prior to their injury, are they different from their usual self?
☐ **Yes** ☐ **No** ☐ **Unsure** ☐ **Not Applicable**
(If different, describe why in the clinical notes section)

Concussion Diagnosed?
☐ **Yes** ☐ **No** ☐ **Unsure** ☐ **Not Applicable**

If re-testing, has the athlete improved?
☐ **Yes** ☐ **No** ☐ **Unsure** ☐ **Not Applicable**

I am a physician or licensed healthcare professional and I have personally administered or supervised the administration of this SCAT5.

Signature: _____

Name: _____

Title: _____

Registration number (if applicable): _____

Date: _____

SCORING ON THE SCAT5 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 COMPETITION AFTER CONCUSSION.

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CLINICAL NOTES:

Name: _____

DOB: _____

Address: _____

ID number: _____

Examiner: _____

Date: _____

CONCUSSION INJURY ADVICE

(To be given to the person monitoring the concussed athlete)

This patient has received an injury to the head. A careful medical examination has been carried out and no sign of any serious complications has been found. Recovery time is variable across individuals and the patient will need monitoring for a further period by a responsible adult. Your treating physician will provide guidance as to this timeframe.

If you notice any change in behaviour, vomiting, worsening headache, double vision or excessive drowsiness, please telephone your doctor or the nearest hospital emergency department immediately.

Other important points:

Initial rest: Limit physical activity to routine daily activities (avoid exercise, training, sports) and limit activities such as school, work, and screen time to a level that does not worsen symptoms.

1) Avoid alcohol

2) Avoid prescription or non-prescription drugs without medical supervision. Specifically:

   a) Avoid sleeping tablets

   b) Do not use aspirin, anti-inflammatory medication or stronger pain medications such as narcotics

3) Do not drive until cleared by a healthcare professional.

4) Return to play/sport requires clearance by a healthcare professional.

Clinic phone number: _____

Patient's name: _____

Date / time of injury: _____

Date / time of medical review: _____

Healthcare Provider: _____

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Contact details or stamp

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INSTRUCTIONS

Words in *Italics* throughout the SCAT5 are the instructions given to the athlete by the clinician

Symptom Scale

The time frame for symptoms should be based on the type of test being administered. At baseline it is advantageous to assess how an athlete "typically" feels whereas during the acute/post-acute stage it is best to ask how the athlete feels at the time of testing.

The symptom scale should be completed by the athlete, not by the examiner. In situations where the symptom scale is being completed after exercise, it should be done in a resting state, generally by approximating his/her resting heart rate.

For total number of symptoms, maximum possible is 22 except immediately post injury, if sleep item is omitted, which then creates a maximum of 21.

For Symptom severity score, add all scores in table, maximum possible is 22 x 6 = 132, except immediately post injury if sleep item is omitted, which then creates a maximum of 21x6=126.

Immediate Memory

The Immediate Memory component can be completed using the traditional 5-word per trial list or, optionally, using 10-words per trial. The literature suggests that the Immediate Memory has a notable ceiling effect when a 5-word list is used. In settings where this ceiling is prominent, the examiner may wish to make the task more difficult by incorporating two 5–word groups for a total of 10 words per trial. In this case, the maximum score per trial is 10 with a total trial maximum of 30.

Choose one of the word lists (either 5 or 10). Then perform 3 trials of immediate memory using this list.

Complete all 3 trials regardless of score on previous trials.

"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." The words must be read at a rate of one word per second.

Trials 2 & 3 MUST be completed regardless of score on trial 1 & 2.

Trials 2 & 3:

"I am going to repeat the same list again. Repeat back as many words as you can remember in any order, even if you said the word before."

Score 1 pt. for each correct response. Total score equals sum across all 3 trials. Do NOT inform the athlete that delayed recall will be tested.

Concentration

Digits backward

Choose one column of digits from lists A, B, C, D, E or F and administer those digits as follows:

Say: *"I am 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."*

Begin with first 3 digit string.

If correct, circle "Y" for correct and go to next string length. If incorrect, circle "N" for the first string length and read trial 2 in the same string length. One point possible for each string length. Stop after incorrect on both trials (2 N's) in a string length. The digits should be read at the rate of one per second.

Months in reverse order

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

1 pt. for entire sequence correct

Delayed Recall

The delayed recall should be performed after 5 minutes have elapsed since the end of the Immediate Recall section.

"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."

Score 1 pt. for each correct response

Modified Balance Error Scoring System (mBESS)[5] testing

This balance testing is based on a modified version of the Balance Error Scoring System (BESS)[4]. A timing device is required for this testing.

Each of 20-second trial/stance is scored by counting the number of errors. The examiner will begin counting errors only after the athlete has assumed the proper start position. The modified BESS is calculated by adding one error point for each error during the three 20-second tests. The maximum number of errors for any single condition is 10. If the athlete commits multiple errors simultaneously, only one error is recorded but the athlete should quickly return to the testing position, and counting should resume once the athlete is set. Athletes that are unable to maintain the testing procedure for a minimum of five seconds at the start are assigned the highest possible score, ten, for that testing condition.

OPTION: 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).

Balance testing – types of errors

1. Hands lifted off iliac crest
2. Opening eyes
3. Step, stumble, or fall
4. Moving hip into > 30 degrees abduction
5. Lifting forefoot or heel
6. Remaining out of test position > 5 sec

"I am now going to test your balance. Please take your shoes off (if applicable), roll up your pant legs above ankle (if applicable), and remove any ankle taping (if applicable). This test will consist of three twenty second tests with different stances."

(a) Double leg stance:

"The first stance is standing with your feet together with your hands on your hips and with your eyes closed. You should try to maintain stability in that position for 20 seconds. I will be counting the number of times you move out of this position. I will start timing when you are set and have closed your eyes."

(b) Single leg stance:

"If you were to kick a ball, which foot would you use? [This will be the dominant foot] *Now stand on your non-dominant foot. The dominant leg should be held in approximately 30 degrees of hip flexion and 45 degrees of knee flexion. Again, you should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."*

(c) Tandem stance:

"Now stand heel-to-toe with your non-dominant foot in back. Your weight should be evenly distributed across both feet. Again, you should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."

Tandem Gait

Participants are instructed to stand with their feet together behind a starting line (the test is best done with footwear removed). Then, they walk in a forward direction as quickly and as accurately as possible along a 38mm wide (sports tape), 3 metre line with an alternate foot heel-to-toe gait ensuring that they approximate their heel and toe on each step. Once they cross the end of the 3m line, they turn 180 degrees and return to the starting point using the same gait. Athletes fail the test if they step off the line, have a separation between their heel and toe, or if they touch or grab the examiner or an object.

Finger to Nose

"I am going to test your coordination now. Please sit comfortably on the chair with your eyes open and your arm (either right or left) outstretched (shoulder flexed to 90 degrees and elbow and fingers extended), pointing in front of you. When I give a start signal, I would like you to perform five successive finger to nose repetitions using your index finger to touch the tip of the nose, and then return to the starting position, as quickly and as accurately as possible."

References

1. McCrory et al. Consensus Statement On Concussion In Sport – The 5th International Conference On Concussion In Sport Held In Berlin, October 2016. British Journal of Sports Medicine 2017 (available at www.bjsm.bmj.com)
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3. Jennett, B., Bond, M. Assessment of outcome after severe brain damage: a practical scale. Lancet 1975; i: 480-484
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5. Guskiewicz KM. Assessment of postural stability following sport-related concussion. Current Sports Medicine Reports. 2003; 2: 24-30

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CONCUSSION INFORMATION

Any athlete suspected of having a concussion should be removed from play and seek medical evaluation.

Signs to watch for

Problems could arise over the first 24-48 hours. The athlete should not be left alone and must go to a hospital at once if they experience:

- Worsening headache
- Drowsiness or inability to be awakened
- Inability to recognize people or places
- Repeated vomiting
- Unusual behaviour or confusion or irritable
- Seizures (arms and legs jerk uncontrollably)
- Weakness or numbness in arms or legs
- Unsteadiness on their feet.
- Slurred speech

Consult your physician or licensed healthcare professional after a suspected concussion. Remember, it is better to be safe.

Rest & Rehabilitation

After a concussion, the athlete should have physical rest and relative cognitive rest for a few days to allow their symptoms to improve. In most cases, after no more than a few days of rest, the athlete should gradually increase their daily activity level as long as their symptoms do not worsen. Once the athlete is able to complete their usual daily activities without concussion-related symptoms, the second step of the return to play/sport progression can be started. The athlete should not return to play/sport until their concussion-related symptoms have resolved and the athlete has successfully returned to full school/learning activities.

When returning to play/sport, the athlete should follow a stepwise, **medically managed exercise progression, with increasing amounts of exercise.** For example:

Graduated Return to Sport Strategy

Exercise step	Functional exercise at each step	Goal of each step
1. Symptom-limited activity	Daily activities that do not provoke symptoms.	Gradual reintroduction of work/school activities.
2. Light aerobic exercise	Walking or stationary cycling at slow to medium pace. No resistance training.	Increase heart rate.
3. Sport-specific exercise	Running or skating drills. No head impact activities.	Add movement.
4. Non-contact training drills	Harder training drills, e.g., passing drills. May start progressive resistance training.	Exercise, coordination, and increased thinking.
5. Full contact practice	Following medical clearance, participate in normal training activities.	Restore confidence and assess functional skills by coaching staff.
6. Return to play/sport	Normal game play.	

In this example, it would be typical to have 24 hours (or longer) for each step of the progression. If any symptoms worsen while exercising, the athlete should go back to the previous step. Resistance training should be added only in the later stages (Stage 3 or 4 at the earliest).

Written clearance should be provided by a healthcare professional before return to play/sport as directed by local laws and regulations.

Graduated Return to School Strategy

Concussion may affect the ability to learn at school. The athlete may need to miss a few days of school after a concussion. When going back to school, some athletes may need to go back gradually and may need to have some changes made to their schedule so that concussion symptoms do not get worse. If a particular activity makes symptoms worse, then the athlete should stop that activity and rest until symptoms get better. To make sure that the athlete can get back to school without problems, it is important that the healthcare provider, parents, caregivers and teachers talk to each other so that everyone knows what the plan is for the athlete to go back to school.

Note: If mental activity does not cause any symptoms, the athlete may be able to skip step 2 and return to school part-time before doing school activities at home first.

Mental Activity	Activity at each step	Goal of each step
1. Daily activities that do not give the athlete symptoms	Typical activities that the athlete does during the day as long as they do not increase symptoms (e.g. reading, texting, screen time). Start with 5-15 minutes at a time and gradually build up.	Gradual return to typical activities.
2. School activities	Homework, reading or other cognitive activities outside of the classroom.	Increase tolerance to cognitive work.
3. Return to school part-time	Gradual introduction of school-work. May need to start with a partial school day or with increased breaks during the day.	Increase academic activities.
4. Return to school full-time	Gradually progress school activities until a full day can be tolerated.	Return to full academic activities and catch up on missed work.

If the athlete continues to have symptoms with mental activity, some other accomodations that can help with return to school may include:

- Starting school later, only going for half days, or going only to certain classes
- More time to finish assignments/tests
- Quiet room to finish assignments/tests
- Not going to noisy areas like the cafeteria, assembly halls, sporting events, music class, shop class, etc.
- Taking lots of breaks during class, homework, tests
- No more than one exam/day
- Shorter assignments
- Repetition/memory cues
- Use of a student helper/tutor
- Reassurance from teachers that the child will be supported while getting better

The athlete should not go back to sports until they are back to school/learning, without symptoms getting significantly worse and no longer needing any changes to their schedule.

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Appendix B
Coaches/CMT Form

THE CENTER FOUNDATION

Coaches/CMT Concussion Report

Athlete Name:_____ Date of Birth:_____ Current Time:_____

Team:_____ Venue:_____ Date of Injury:_____

Time of Injury:_____ Parent Name/Phone:_____

Describe injury details:_____

_____

- Any athlete who experiences one or more of the signs and symptoms listed below after a bump, blow, or jolt to the head or body may have a concussion and should be immediately removed from practice or game.
- Athlete is not allowed to return to play/practice until they have been evaluated by a health care professional and cleared for return to activity.

Danger Signs: *If any are present, seek immediate medical attention, call 911*

One pupil larger than the other
Repeated vomiting
Slurred speech
Convulsions or seizures
Loses consciousness
Cannot recognize people or places
Has unusual behavior
Drowsy and cannot be awakened

Symptoms Reported by Athlete (Check all that apply)

- ☐ Headache or "pressure" in head
- ☐ Nausea or vomiting
- ☐ Balance problems or dizziness
- ☐ Double or blurry vision
- ☐ Sensitivity to light/noise
- ☐ Concentration or memory problems
- ☐ Feeling sluggish, hazy, foggy
- ☐ Confusion
- ☐ Does not feel "right"
- ☐ Other:

Signs Observed by Coaching Staff (Check all that apply)

- ☐ Appears dazed or stunned
- ☐ Forgets plays
- ☐ Moves clumsily
- ☐ Loses consciousness
- ☐ Is confused about plays
- ☐ Can't recall events prior to injury
- ☐ Can't recall events after injury
- ☐ Answers questions slowly (days of the week etc.)
- ☐ Shows behavior changes
- ☐ Is unsure of game, score, opponent

Completed by:_____ Signature:_____

Contact parent/guardian of the injured athlete and provide this completed form.
Continue to monitor athlete under the care of parent/guardian.

What should I do if I suspect a concussion?

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Regardless of whether the athlete is a key member of the team or the game is about to end, an athlete with a suspected concussion should immediately be removed from play. To help you know how to respond follow the CDC's "Heads Up" four-step action plan:

1. **Remove** the athlete from play.
2. **Ensure** athlete is evaluated by appropriate health care professional.
3. **Inform** the athlete's parent or guardian.
4. **Keep** the athlete out of play.

Follow-up care instructions:

- If any symptoms are getting worse, seek higher medical attention right away.
- Acetaminophen (Tylenol) is the only pain reliever that should be given for a concussion-related headache; avoid ibuprofen (Advil, Motrin) and aspirin.
- Gentle activity that doesn't worsen symptoms is encouraged after day 3 post concussion. The Center on Brain Injury Research and Training www.cbirt.org
- Athlete should also avoid TV, excessive reading, movies, computer use, tablet use, and texting since these activities will exacerbate the brain injury.
- Your athlete must be seen by a primary care physician or concussion specialist before returning to any physical activity.

NOW CARE. NEURO & ORTHO WALK-IN CLINIC

To be evaluated immediately, check in through NOWcare at The Center Monday through Friday, 9 a.m. – 4 p.m.

If your athlete has a suspected concussion, he/she can be seen immediately through NOWcare at The Center located at 2200 NE Neff Road in Bend. Hours of operation are Monday through Friday 9 a.m. – 4 p.m. If you have any questions please contact Dr. Viviane Ugalde, Medical Director for concussion management at 541-322-2214.

For additional information on concussions, see below resources:

ImPACT Concussion Testing www.impacttest.com
The Center on Brain Injury Research and Training www.cbirt.org
CDC "Heads Up" www.cdc.gov/headsup
Brain 101 www.brain101.orcasinc.com

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Appendix C
Concussion Information Sheet

THE CENTER FOUNDATION

Parent Concussion Information Packet

Athlete Name:_____ Date:_____

Date of Birth:_____ Date of Injury:_____ School:_____

A concussion is a traumatic brain injury that alters the way a brain functions. Although concussions are usually caused by a blow to the head, they can also occur when the head and upper body are violently shaken causing the brain to be forced back and forth inside the skull. They can range from mild to severe and 90% of all concussions occur without a loss of consciousness. Signs and symptoms can present immediately or can take a few hours or days to fully appear. All concussions are potentially serious and may result in complications including prolonged brain damage and death if not recognized and managed properly.

Observed Signs & Symptoms

Physical		Thinking	Emotional	Sleep
Headache	Sensitivity to light	Feeling mentally foggy	Irritable	Drowsiness
Nausea	Sensitivity to noise	Problems concentrating	Sadness	Sleeping more than usual
Fatigue	Numbness/tingling	Problems remembering	Feeling more emotional	Sleeping less than usual
Visual problems	Vomiting	Feeling more slowed	Nervousness	Trouble falling asleep
Dizziness	Balance problems			

RED FLAGS: Call your doctor or go to your emergency department if you experience any of the following			
Headache that worsens	Increasing confusion	Can't recognize people or places	Unusual behavior
Seizures	Repeated vomiting	Look very drowsy, can't be awakened	Increasing irritability
Slurred speech	Unequal pupils	Weakness/numbness in arms/legs	Loss of consciousness

If your athlete has a suspected concussion and is not exhibiting any of the above red flags, he/she should be seen by a health care professional within 24-72 hours. Your athlete can be seen immediately, without an appointment, through NOWCARE at The Center located at 2200 NE Neff Road in Bend. Hours of operation are M –F 9am – 4pm. Your athlete may also be seen by their primary care provider or through urgent care.

First 24 Hours after a Concussion: Common Questions

Q: Do I need to wake my child up every hour when s/he is sleeping?

A. No. Sleep is the best treatment for a concussion. It is OK to let him/her sleep without interruption the night of the injury after evaluation by a health care professional, or if you have spoken with your child's physician and s/he does not think your child needs further evaluation in the emergency department.

Q. Is it okay to give my child medicine for his/her headache?

A. Relieving headache pain is certainly appropriate, but it does not replace the need for cognitive and physical rest if symptoms are present. Be aware that symptom improvement with medication does not mean that the brain has recovered. After a concussion is diagnosed, talk to your physician about the use of medication — including type of medication and dose — for headache pain and other symptoms.

Q. My child wants to sleep all day long. Should I allow him/her to sleep as much as s/he wants?

A. A concussion affects how the brain works, so resting the brain as much as possible is necessary for recovery. Large amounts of sleep are normal. When your child is sleeping, his/her brain is recovering. It is a good idea to track the amount your child is sleeping and report it to your medical professional.

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Q. Does my child need to give up sports if s/he has suffered a concussion?
A. Athletes should not return to sports while still having symptoms from a concussion because they are at risk for prolonging symptoms and further injury. It is very rare that any child is told to give up playing sports after a single injury. However, if the recovery is quite prolonged (greater than 6 months), you should consult with a concussion specialist to further discuss the possible risks of return to playing sports. An evaluation with a concussion specialist should be considered in any child who has had more than one sports-related concussion.

Q. My doctor told my child to have mental rest. What exactly does "rest" mean? Can my child watch television, play video games, text, etc.?
A. Mental rest means avoiding activities that require the brain to work hard to process information. This includes critical thinking and problem solving activities such as schoolwork, homework, and technology use. Restrictions from the following should be considered, because these activities increase brain function and can therefore worsen symptoms and delay recovery: Computer work/Internet use, video games, television, text messaging/cell phone use, bright lights, such as strobe lights at school dances, listening to loud music or music through headphones, loud noises, parties, concerts, pep rallies, driving, or work.
- See more at: cbirt.org/ocamp/parents

Returning to Daily Activities

1. Get lots of rest. Be sure to get enough sleep at night, try to keep the same bedtime.
2. Take daytime naps or rest breaks when you feel tired or fatigued.
3. Limit physical activity as well as activities that require a lot of thinking or concentration. These activities can make symptoms worse.
    a. Physical activities include PE, sports practices, weight training, running, exercising, etc.
    b. Thinking and concentration activities include homework, classroom work, job-related activity
4. Drink lots of fluids and eat carbohydrates and protein to maintain appropriate blood sugar levels
5. As symptoms decrease, you may begin to gradually return to your daily activities. If symptoms worsen or return, lessen your activities, then try again the next day to increase your activities gradually.
6. During recovery it is normal to feel frustrated and sad when you do not feel right and you can't be as active as usual.
7. Repeated evaluation of your symptoms is recommended to help guide recovery, see symptom tracking form.

Returning to School

1. After sustaining a concussion, if you awaken in the morning feeling poorly, headache, nauseated, dizzy, you should stay home from school and continue to rest as needed for the first three days.
2. Extra help may be needed to perform school-related homework and classroom work, academic accommodations can be provided by physician to the school. These can be removed gradually as symptoms decrease.
3. If your symptoms linger and are not resolving or return, you should return to see the physician for further assessment.

Returning to Sports/Physical activity

1. Once you are completely symptom free and attending school full time without academic accommodations, post-injury ImPACT testing will be completed. Those scores will be compared with your baseline, or if you do not have a baseline will be compared with age matched norms.
2. With approval from physician you may begin the graduated return to play steps under the supervision of athletic trainer, see Return to Play Post-Concussion Steps form.
3. Once all steps are completed without return of symptoms and written clearance is given by physician, you are cleared to participate in all physical activity.

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Appendix D
OSAA Concussion Return to Participation Form

Oregon School Activities Association
25200 SW Parkway Avenue, Suite 1
Wilsonville, OR 97070

503.682.6722 FAX 503.682.0960 http://www.osaa.org

CONCUSSION – RETURN TO PARTICIPATION MEDICAL RELEASE

Student Name: _____ Date of Birth: ___/___/___ School/Grade: _____

Date of Injury: ____ / ____ / ____ Sport/ Injury Details: _____

At this time, the student is:
- ☐ symptom-free at rest
- ☐ symptom-free at exertion
- ☐ scoring within a normal range on ImPACT
- ☐ NOT symptom-free at rest
- ☐ NOT symptom-free at exertion
- ☐ NOT scoring within a normal range on ImPACT

When ImPACT is utilized, please either attach or allow access to baseline and post concussive scores with percentiles.

Comments: _____

_____

Completed by (Printed name): _____ Signature: _____ Date: _____

☐ Registered Athletic Trainer ☐ Coach ☐ Athletic Director ☐ Other: _____

Graduated, Step-wise Return-to-Participation Progression

1. No activity: Complete rest, both physical and cognitive. This may include staying home from school or limiting school hours and/or homework as activities requiring concentration and attention may worsen symptoms and delay recovery.
2. Light aerobic exercise: Walking or stationary bike at low intensity; no weight lifting or resistance training.

Before progressing to the next stage the student must be healthy enough to return to school full time

3. Sport-specific exercise: Sprinting, dribbling basketball or soccer; no helmet or equipment, no head impact activities.
4. Non-contact training: More complex drills in full equipment. Weight training or resistance training may begin.
5. Full contact practice: Participate in normal training activities.
6. Unrestricted Return-to-Participation/full competition. (Earliest Date of Return-to-Participation: _____)

The student should spend a minimum of one day at each step. If symptoms re-occur, the student must stop the activity and contact their trainer or other health care professional. Depending upon the specific type and severity of the symptoms, the student may be told to rest for 24 hours and then resume activity one-step below where he or she was when the symptoms occurred. Graduated return applies to all activities including sports and PE classes.

This section to be completed by Physician/Health Care Professional:

☐ Student may NOT return to any sport activity until medically cleared.

☐ Student should remain home from school to rest and recover with a projected return date _____

☐ Please allow classroom accommodations, such as extra time on tests, a quiet room to take tests, and a reduced workload when possible.

Additional Recommendations: _____

_____

☐ Student may begin graduated return at stage circled above. If symptom free at rest and with graded exertion, can return to participation on date above.

☐ Student is now cleared for full contact practice/participation: symptom free at rest and exertion and has completed a graduated Return-to-Participation protocol.

Physician/Health Care Professional Signature: _____ Date: _____

Physician/Health Care Professional Name/Title: _____ Phone: _____

Per OAR 581-022-0421 "Health Care Professional" means a Physician (MD), Physician's Assistant (PA), Doctor of Osteopathic (DO) licensed by the Oregon State Board of Medicine, nurse practitioner licensed by the Oregon State Board of Nursing, or Psychologist licensed by the Oregon Board of Psychologist Examiners.

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Oregon School Activities Association
25200 SW Parkway Avenue, Suite 1
Wilsonville, OR 97070

503.682.6722 FAX 503.682.0960 http://www.osaa.org

The Oregon School Activities Associations' (OSAA) Sports Medicine Advisory Committee has developed a physician release form for students to return to participation following a concussion. The committee reviewed extensively the literature available on concussions in sport. No definitive data exists that allow us to absolutely predict when a student with a concussion can safely return to participation. We have found significant differences that exist among physicians relating to when they will permit a student to return to participation after having a concussion.

Neither the OSAA nor the Sports Medicine Advisory Committee presumes to dictate to professionals how to practice medicine. Neither is the information on this form meant to establish a standard of care. The committee does feel, however, that the guidelines included on the form represent a summary consensus of the literature. The committee also feels that the components of the form are very relevant to addressing the concerns of coaches, parents, students, and physicians that lead to the research into this subject and to the development of this form.

GOALS FOR ESTABLISHING A WIDELY USED FORM:

1. Protect students from further harm. Young students appear to be particularly vulnerable to the effects of concussion. They are more likely than older students to experience problems after concussion and often take longer to recover. Teenagers also appear to be more prone to a second injury to the brain that occurs while the brain is still healing from an initial concussion. This second impact can result in long-term impairment or even death. The importance of proper recognition and management of concussed young students cannot be over-emphasized.
2. Allow students to participate as soon as it is reasonably safe for them to do so.
3. Establish guidelines to help minimize major differences in management among physicians who are signing "return to competition forms". Consistent use of these guidelines should minimize students from returning to participation too soon and protect them from inequalities as to who can or cannot participate.
4. Provide a basis to support physician decisions on when a student can or cannot participate. This should help the physician who may face incredible pressure from many fronts to return a student to competition ASAP. This can involve "Joe Blow who rides the bench" or the next state champion with a scholarship pending.

IMPORTANT COMPONENTS FOR AN EFFECTIVE FORM:

1. Inclusion of the latest consensus statements so physicians will understand that students must be symptom free at rest and exertion and complete a graduated return to participation. Returning students at an arbitrary date is not an option.
2. Inclusion of the date and nature of injury as well as earliest date to return to participation to minimize the need for a family to incur the expense of additional office visits to return for clearance after completing a graduated return to participation.
3. Inclusion of consensus statements and return to participation progression before returning the student to participation as discussed above. This should enhance the likelihood that all students are managed safely and fairly.
4. Inclusion of all of the components discussed has the potential to remove liability from a school making a medical decision. If a return to participation is questioned, the school's role could appropriately be only to see if the student can provide a fully completed medical release form allowing the student to return to participation.

Note to Physicians/Health Care Professionals: Please familiarize yourself with the "Summary and Agreement Statements of International Conferences on Concussion in Sport", from Vienna in 2001, Prague in 2004, and Zurich in 2008. These documents summarize the most current research and treatment techniques in head injuries. The most noteworthy items to come from these conferences are the discontinuation of initial symptom based grading scales and the addition of standardized return to participation guidelines.

Note: ImPACT stands for Immediate Post-Concussion Assessment and Cognitive Test. It is sophisticated software developed to help sports-medicine clinicians evaluate recovery following concussion. ImPACT evaluates multiple aspects of neurocognitive functioning including memory, brain processing speed, reaction time, and post-concussive symptoms. For information on implementing a baseline-testing program, contact the Oregon Concussion Awareness & Management Program (OCAMP) at http://cbirt.org/ocamp.

Note: In 1990, the AMA recognized the certified athletic trainer as an allied health care professional. In 1998, a resolution passed urging all schools to provide the services of a certified athletic trainer for student-athletes (AMA Resolution 431, A-97). For more information on athletic trainers, contact Oregon Athletic Trainers' Society via their website: http://oatswebsite.org.

This form may be reproduced, if desired. In addition, the OSAA Sports Medicine Advisory Committee would welcome comments for inclusion in future versions, as this will continue to be a work in progress.

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Appendix E
Return To Learn

Sports Concussion Program

Mild TBI/Concussion
Temporary Accommodations Plan

Patient Name: _____ Date of Evaluation: _____

Current Symptoms: □ Headaches □ Difficulty remembering □ Sensitivity to light □ Fatigue
□ Decreased attention □ Other: _____

The student named above has recently suffered a concussion; symptoms and recovery timelines are individual to each student. *These are initial recommendations and over time may need to be adjusted through the school Concussion Management Team.*

GENERAL RECOMMENDATIONS:
No return to school until specified. To be reviewed on: _____

Return to school with the following supports:
- □ Adjust class schedule (every other day, shortened day, shortened classes, breaks)
  - o Shortened day: _____/_____ hours/day
- □ No physical education classes
- □ Physical education classes with the following restriction(s): _____
- □ May not be able to participate in courses (band, choir, shop, drama, computer) if symptoms present
- □ Consider reducing in-class work and homework (critical tasks only, remove non-essential, consider maximum hours of nightly homework, offer alternative ways for student to demonstrate knowledge)
- □ No or limited testing during recovery period (midterms, finals, high stakes, unit tests) until student is cleared
- □ Short quizzes/tests okay

RECOMMENDATIONS FOR COGNITIVE ISSUES:
- □ Provide extended time to complete assignments and/or shortened assignments
- □ Provide extended time to take tests in a quiet environment **(*do not mark if student is deferred from test taking*)**
- □ Allow breaks from electronics if symptoms are present
- □ Provide written instructions for homework
- □ Provide class notes by teacher or peer (online notes, recording, teacher provides notes)

RECOMMENDATIONS FOR FATIGUE/PHYSICAL ISSUES:
- □ Allow time to visit school nurse for treatment of headaches or other symptoms, if needed
- □ Allow rest breaks during the day
- □ Allow "hall passing time" before or after the crowds have cleared
- □ Allow student to wear sunglasses indoors to control for light sensitivity

RECOMMENDATIONS FOR EMOTIONAL ISSUES:
- □ Encourage student to share progress and difficulties with parents, school nurse, counselor, physician and athletic trainer
- □ Develop an emotional support plan for the student (may include an adult with whom the student can talk, if feeling overwhelmed)

Family has signed a release of information for bi-directional communication with _____.

Signature: _____ Date: _____

Printed Name: _____

Revised 10/23/15

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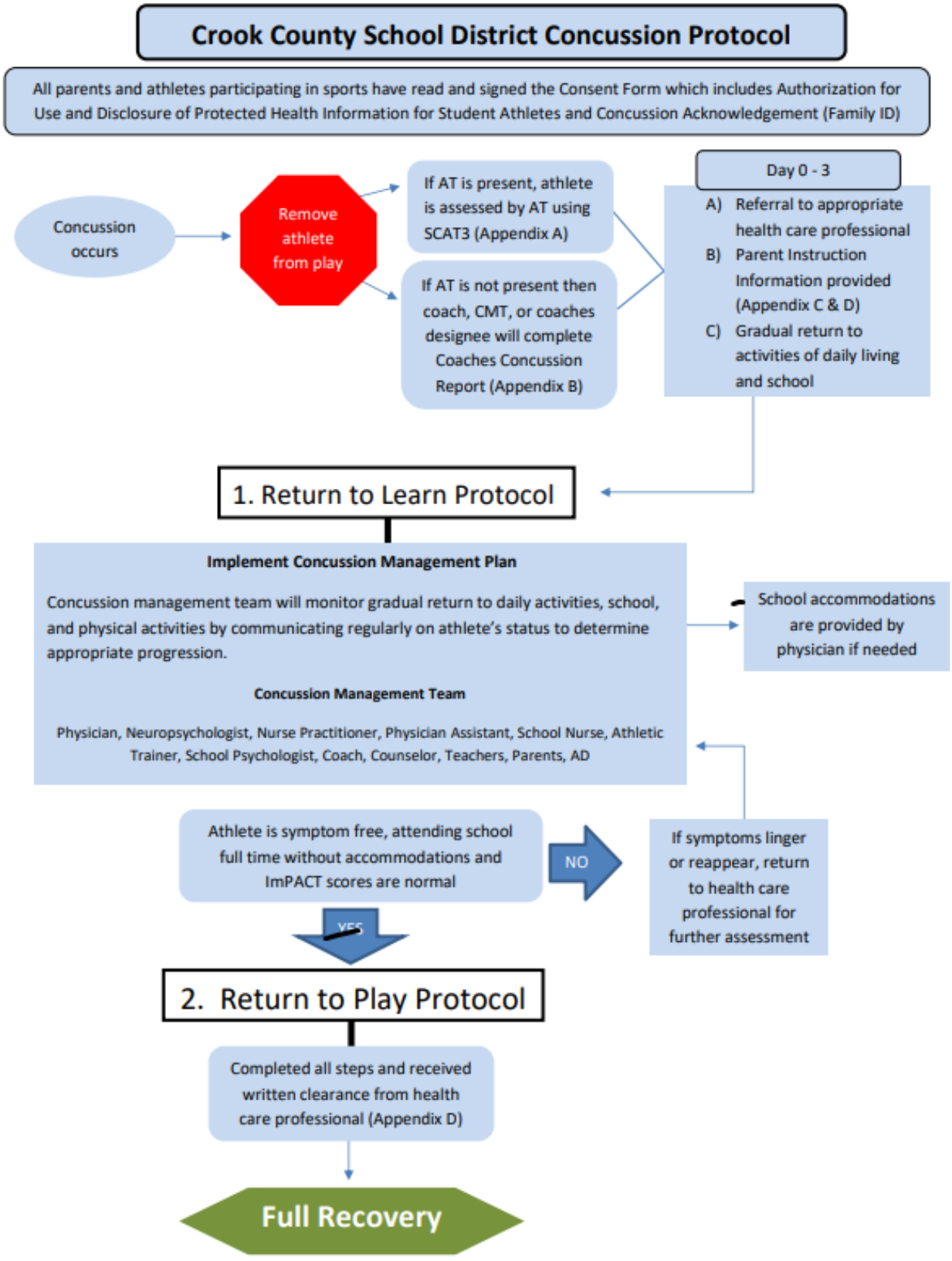
Appendix F
Crook County School District Concussion Policy Flowchart



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Appendix G
Additional Resources

Additional resource available to coaches, teachers, and administrators

- Viviane Ugalde, MD: Medical Director of The Center Foundation Concussion Management Program, 541-382-3344
- St Charles Behavioral Health – Pediatric Neuropsychologists – 541-706-7730
- OCAMP (Oregon Concussion Awareness and Management Program) ocamp.org
- Brain 101 http://brain101.orcasinc.com/

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