Return to Learn After Concussion

ECHO IDAHO: K12 School Nurses

January 8th, 2025

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Please keep in mind that your School District policies and Health Services procedures, medication administration protocols, process guidelines, remain the guiding principles to your practice.
None of the planners or presenters for this educational activity have relevant financial relationship(s) to disclose with ineligible companies whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients.

Learning Objectives

- Describe recent updates in the world of concussion. Attention to the 6th International Conference on Concussion in Sport.
- Understand the importance of a school concussion management plan.
- Identify three resources for school nurses when working with students during concussion recovery.

Concussion Definition

- A concussion is a traumatic brain injury that can't be seen on routine x-rays, CT scans or MRIs. It affects the way a person may think and remember things and can cause a variety of symptoms. Any blow to the head, face or neck, or a blow to the body that jars your head, could cause a concussion.
- *No abnormality is seen on standard structural neuroimaging studies.*
- May involve LOC, but most patients do not have a LOC.
- Symptoms and signs may be present immediately or evolve over minutes or hours or a day and commonly resolve within days but may be prolonged.

Consensus statement

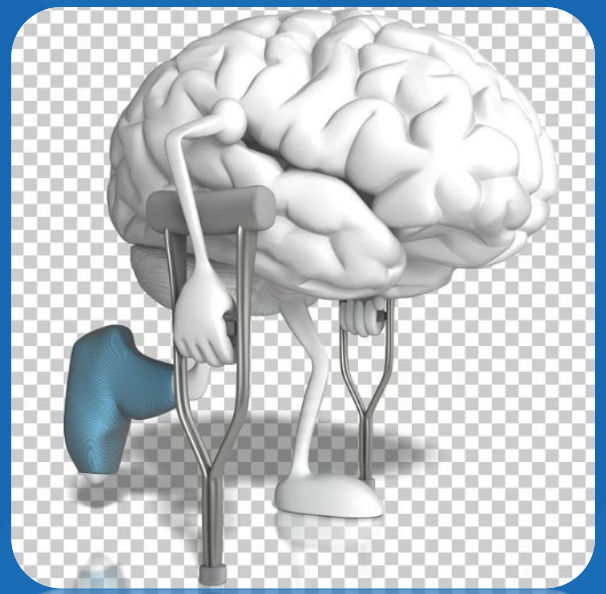
Consensus statement on concussion in sport: the 6th International Conference on Concussion in Sport– Amsterdam, October 2022

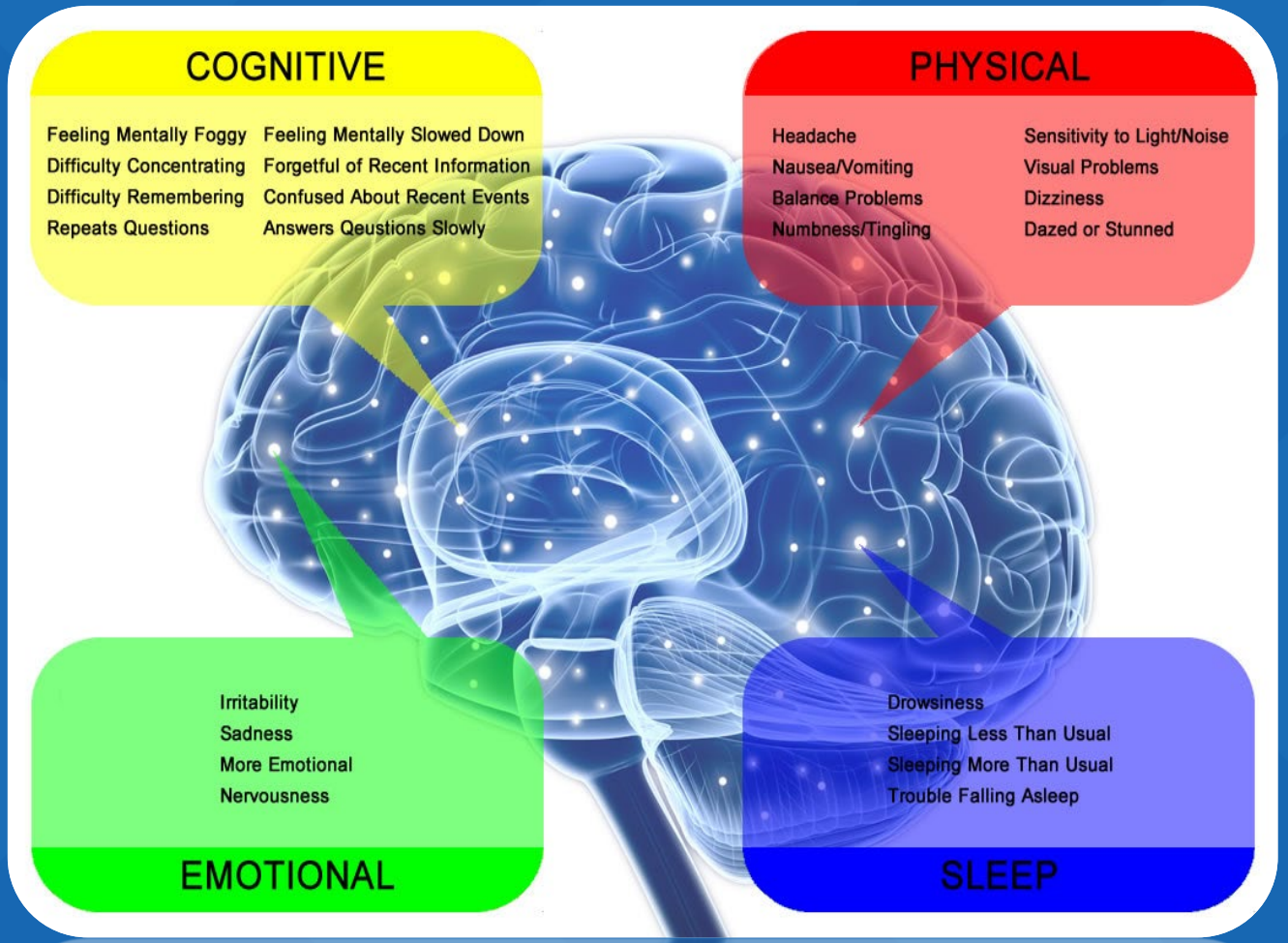
CDC

Parachute

PREVENTING INJURIES. SAVING LIVES.

Parachute is Canada's leading national charity dedicated to injury prevention




COGNITIVE
Feeling Mentally Foggy
Feeling Mentally Slowed Down
Difficulty Concentrating
Forgetful of Recent Information
Difficulty Remembering
Confused About Recent Events
Repeats Questions
Answers Questions Slowly
PHYSICAL
Headache
Sensitivity to Light/Noise
Nausea/Vomiting
Visual Problems
Balance Problems
Dizziness
Numbness/Tingling
Dazed or Stunned
Irritability
Sadness
More Emotional
Nervousness
EMOTIONAL
Drowsiness
Sleeping Less Than Usual
Sleeping More Than Usual
Trouble Falling Asleep
SLEEP

Legislation

Idaho's Youth Athlete Concussion Legislation HB 557/Section 33-1625

Primary Tenets of Idaho's Legislation

- ✓ Education coaches, parents & athletes
- ✓ Obtain written consent from parent/guardian
- ✓ Remove athlete from play
- ✓ Return to learn before return to play
- ✓ Obtain medical clearance from a qualified healthcare providers knowledgeable about concussion before return to play

Applies to Middle School, Junior High School, and High School sanctioned sports

****Youth sports organizations are strongly encouraged to comply with this legislation and afforded liability protection if comply**

https://legislature.idaho.gov/statutesrules/idstat/Title33/T33CH16/SECT33-1625/

Legislation

Idaho Youth Athlete Concussion Legislation HB 557/Section 33-1625

- *Return to learn* before *return to play*

"Students who have sustained a concussion and return to school may need informal or formal accommodations, modifications of curriculum, and monitoring by medical or academic staff until the student is fully recovered. A student athlete should be able to resume all normally scheduled academic activities without restrictions or the need for accommodation prior to receiving authorization to return to play by a qualified healthcare professional as defined in subsection (6) of this section."

What's the Latest?

Consensus statement

Consensus statement on concussion in sport: the 6th International Conference on Concussion in Sport–Amsterdam, October 2022

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ABSTRACT
For over two decades, the Concussion in Sport Group has held meetings and developed five international statements on concussion in sport. This 6th statement summarises the processes and outcomes of the 6th International Conference on Concussion in Sport held in Amsterdam on 27–30 October 2022 and should be read in conjunction with the (1) methodology paper that outlines the consensus process in detail and (2) methodology. The purpose of this Statement is to provide a summary of the evidence and practice recommendations based on science and expert panel consensus recommendations at the time of the conference. Additional outputs of the consensus process include freely available evidence-informed tools to assist in the detection and assessment of SRC, including the Concussion Recognition Tool-6 (CRT6), Sport Concussion Assessment Tool-6

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Key Points

- Strict rest is not beneficial, may be harmful
- Early return to physical activity recommended
- Reduced (not eliminated) screen time
- Aerobic exercise may be advanced based on tolerance, or per exercise testing

Updated Tools

CRT6™

Concussion Recognition Tool

To Help Identify Concussion in Children, Adolescents and Adults

What is the Concussion Recognition Tool?

A concussion is a brain injury. The Concussion Recognition Tool 6 (CRT6) is to be used by non-medically trained individuals for the identification and immediate management of suspected concussion. It is not designed to diagnose concussion.

Recognise and Remove

Red Flags: CALL AN AMBULANCE

If **ANY** of the following signs are observed or complaints are reported after an impact to the head or body the athlete should be immediately removed from play/game/activity and transported for urgent medical care by a healthcare professional (HCP):

- **Neck pain or tenderness**
- **Seizure, 'fits', or convulsion**
- **Loss of vision or double vision**
- **Loss of consciousness**
- **Increased confusion or deteriorating conscious state (becoming less responsive, drowsy)**
- **Weakness or numbness/tingling in more than one arm or leg**
- **Repeated Vomiting**
- **Severe or increasing headache**
- **Increasingly restless, agitated or combative**
- **Visible deformity of the skull**

Remember

- In all cases, the basic principles of first aid should be followed: assess danger at the scene, check airway, breathing, circulation; look for reduced awareness of surroundings or slowness or difficulty answering questions.
- Do not attempt to move the athlete (other than required for airway support) unless trained to do so.
- Do not remove helmet (if present) or other equipment.
- Assume a possible spinal cord injury in all cases of head injury.
- Athletes with known physical or developmental disabilities should have a lower threshold for removal from play.

If there are no Red Flags, identification of possible concussion should proceed as follows:

Concussion should be suspected after an impact to the head or body when the athlete seems different than usual. Such changes include the presence of **any one or more** of the following: visible clues of concussion, signs and symptoms (such as headache or unsteadiness), impaired brain function (e.g. confusion), or unusual behaviour.

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CRT6™

Developed by: The Concussion in Sport Group (CISG)

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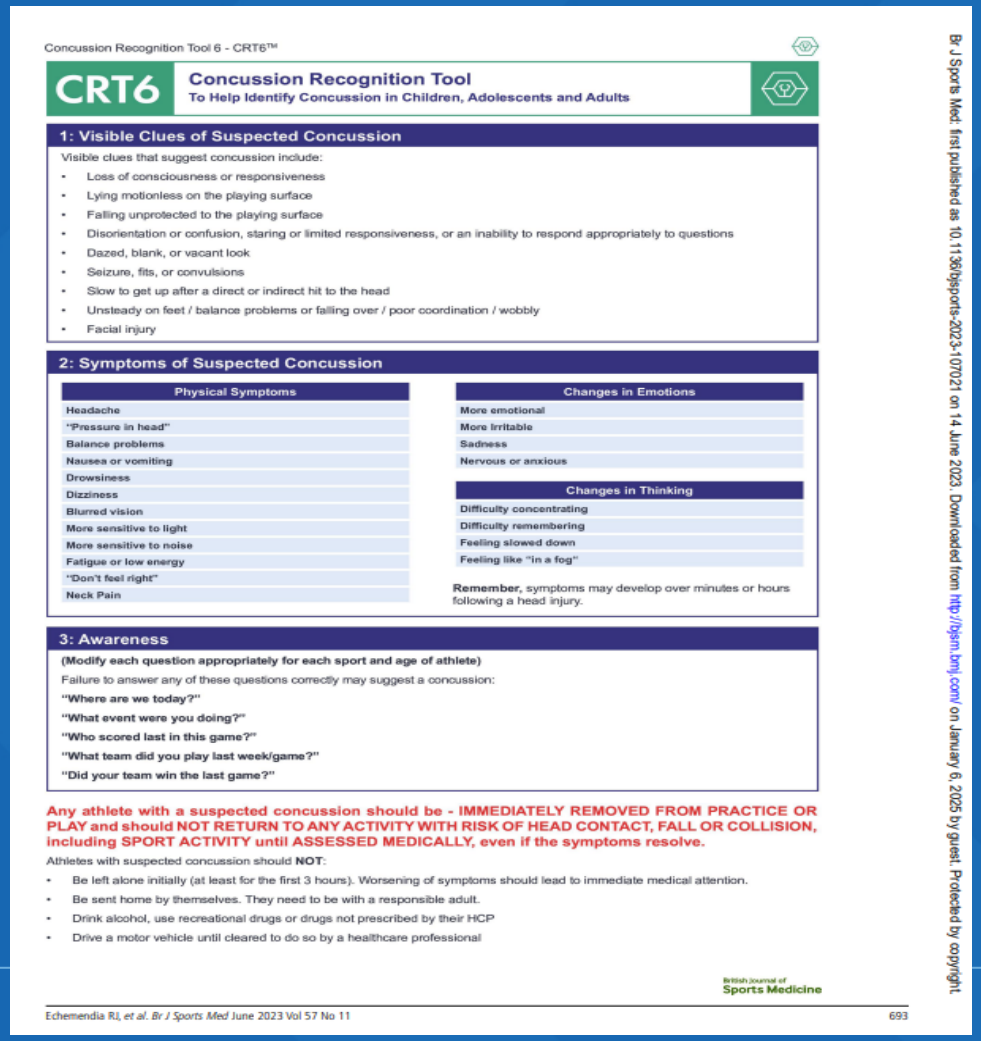

CRT6 Concussion Recognition Tool

To Help Identify Concussion in Children, Adolescents and Adults

1: Visible Clues of Suspected Concussion

Visible clues that suggest concussion include:

- Loss of consciousness or responsiveness
- Lying motionless on the playing surface
- Falling unprotected to the playing surface
- Disorientation or confusion, staring or limited responsiveness, or an inability to respond appropriately to questions
- Dazed, blank, or vacant look
- Seizure, fits, or convulsions
- Slow to get up after a direct or indirect hit to the head
- Unsteady on feet / balance problems or falling over / poor coordination / wobbly
- Facial injury

2: Symptoms of Suspected Concussion

Physical Symptoms
Headache
"Pressure in head"
Balance problems
Nausea or vomiting
Drowsiness
Dizziness
Blurred vision
More sensitive to light
More sensitive to noise
Fatigue or low energy
"Don't feel right"
Neck Pain

Changes in Emotions
More emotional
More Irritable
Sadness
Nervous or anxious

Changes in Thinking
Difficulty concentrating
Difficulty remembering
Feeling slowed down
Feeling like "in a fog"

Remember, symptoms may develop over minutes or hours following a head injury.

3: Awareness

(Modify each question appropriately for each sport and age of athlete)

Failure to answer any of these questions correctly may suggest a concussion:

"Where are we today?"

"What event were you doing?"

"Who scored last in this game?"

"What team did you play last week/game?"

"Did your team win the last game?"

Any athlete with a suspected concussion should be - IMMEDIATELY REMOVED FROM PRACTICE OR PLAY and should NOT RETURN TO ANY ACTIVITY WITH RISK OF HEAD CONTACT, FALL OR COLLISION, including SPORT ACTIVITY until ASSESSED MEDICALLY, even if the symptoms resolve.

Athletes with suspected concussion should **NOT**:

- Be left alone initially (at least for the first 3 hours). Worsening of symptoms should lead to immediate medical attention.
- Be sent home by themselves. They need to be with a responsible adult.
- Drink alcohol, use recreational drugs or drugs not prescribed by their HCP
- Drive a motor vehicle until cleared to do so by a healthcare professional

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PedsConcussion
LIVING GUIDELINE FOR PEDIATRIC CONCUSSION CARE

Living Guideline Return to School/Learn Protocol

Step	Activity	Examples of activities
1	**Activities of daily living and relative rest*** (Maximum of 24-48 hours)	Activities at home such as social interactions and light walking that do not result in more than mild and brief** exacerbation (worsening) of concussion symptoms. Minimize screentime.
2	**School activities with encouragement to return to school as soon as possible (as tolerated)**	Reading or other cognitive activities at school or at home. Goal: Increase tolerance to cognitive work, and connect socially with peers. Take breaks and adapt activities if concussion symptom exacerbation (worsening) is more than mild and brief**. Clearance from your doctor is not required to return to low-risk in-person or at-home school activities. **A complete absence from the school environment for more than one week is not generally recommended.**
3	**Part-time or full days at school with academic accommodations if needed**	Gradual reintroduction of school work. May require partial school days with access to breaks throughout the day, or with academic accommodations to tolerate the classroom or school environment. Gradually reduce accommodations and increase workload until full days without concussion-related accommodations are tolerated.
4	**Return to school full-time.** No academic accommodations (related to concussion)	Return to full days at school and academic activities without requiring concussion-related accommodations. Medical clearance is NOT required to return to school.

Date Updated: Sept 2023

Instructions:

Students should begin a gradual increase in their cognitive load with the goal of minimizing time away from the school environment. The return to school should not be restricted if the student is tolerating full days. Progression through the strategy may be slowed when there is more than a mild and brief symptom exacerbation**; however, missing more than one week of school is not generally recommended.

Definitions:

- *Relative rest: activities of daily living including walking and other light physical and cognitive activities are permitted as tolerated.
- **Mild exacerbation (worsening) of symptoms: No more than a 2-point increase when compared with the pre-activity value on a 0-10-point symptom severity scale***. "Brief" exacerbation of symptoms: Worsening of symptoms for up to 1 hour.
- ***0-10 point symptom severity scale: Please see the Visual analog scale for an example of a 0-10 symptom severity scale.

These definitions and instructions were harmonized with and modified with permission from the Amsterdam International Consensus Statement on Concussion in Sport)

PedsConcussion
LIVING GUIDELINE FOR PEDIATRIC CONCUSSION CARE

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LIVING GUIDELINE FOR PEDIATRIC CONCUSSION CARE

Living Guideline Return to Activity/Sport Protocol

Step	Activity	Examples of activities
1	**Activities of daily living and relative rest*** (Maximum of 24-48 hours)	Activities at home such as social interactions and light walking that do not result in more than mild and brief** exacerbation (worsening) of concussion symptoms. Minimize screentime.
2	**Aerobic exercise** **Step 2A:** Light effort (up to approx 55% of maximum heart rate) **Step 2B:** Moderate effort (up to approx 70% of maximum heart rate)	Start with stationary cycling or walking at slow to medium pace. Take a break and modify activities as needed with the aim of gradually increasing tolerance and the intensity of aerobic activities. Light resistance training that does not result in more than mild and brief** exacerbation (worsening) of concussion symptoms. **Goal: increase the heart rate.**
3	**Individual sport-specific activities that do not have a risk of inadvertent head impact**	Sport-specific training away from the team sport environment (e.g., running, change of direction, and/or individual training drills and individual gym class activities that do not have a risk of head impact and are supervised by a teacher or coach). **Goal: Increase the intensity of aerobic activities and introduce low-risk sport-specific movements and changing of directions.**
	Medical clearance and a full return to school are required to progress to Step 4	
4	**Non-contact training drills and activities**	Exercise to high intensity including more challenging training drills and activities (e.g., passing drills, multiplayer training, high-intensity exercises, supervised non-contact gym class activities, and practices without body contact). **Goal: Resume usual intensity of exercise, coordination, and activity-related cognitive skills**
5	**Return to all non-competitive activities, all gym class activities, and full-contact practices**	Participate in higher-risk activities including normal training activities, all school gym-class activities, and full-contact sports practices and scrimmages. Avoid competitive gameplay. **Goal: return to activities that have a risk of falling or body contact, restore game-play confidence, and have coaches assess functional skills.**
6	**Return to sport**	Normal, unrestricted competitive gameplay, school gym class, and physical activities

This return-to-activity/sport table was modified with permission from the Amsterdam International Consensus Statement on Concussion in Sport)

Instructions:

Begin Step 1 (i.e., relative rest) within 24 hours of injury, with progression through each subsequent step taking a minimum of 24 hours. If more than mild exacerbation (worsening) of symptoms (i.e., more than 2 points on a 0-10 scale***) occurs during Steps 1-3, stop the activity and attempt to exercise the next day. People experiencing concussion-related symptoms during Steps 4-6 should return to Step 3 to establish full resolution of symptoms with exertion before engaging in at-risk activities. Written determination of medical clearance should be provided before unrestricted Return to Sport as directed by local laws and/or sporting regulations.

Definitions:

- *Relative rest: activities of daily living including walking and other light physical and cognitive activities are permitted as tolerated.
- **Mild exacerbation (worsening) of symptoms: No more than a 2-point increase when compared with the pre-activity value on a 0-10-point symptom severity scale***. "Brief" exacerbation of symptoms: Worsening of symptoms for up to 1 hour.
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www.pedsconcussion.com Date Updated: Sept 2023

Return to School

This tool is a guideline for managing a student's return to school following a concussion and does not replace medical advice. Every concussion is unique, and recovery is very different for each individual. Not everyone will require a Return to School Strategy. Timelines and activities may vary based on direction from a doctor, nurse practitioner, or licensed healthcare professional with relevant training. Note: For information about returning to activities that pose risk of head contact, please refer to Return to School or Return to Activity.

STEP 1:

Activities of daily living and relative rest*

- Maximum of 24-48 hours
- Activities at home such as social interactions and light walking that do not result in more than mild and brief** exacerbation (worsening) of concussion symptoms.

Examples:
- Preparing meals
- Housework
- Light walking

- Minimize screen time for the first 24-48 hours following concussion.
- Avoid driving during the first 24-48 hours after a concussion.

Contact school to create a Return to School plan.

Activites of daily living, as tolerated

After a maximum of 24-48 hours after injury,
BEGIN STEP 2

STEP 2:

School activities (as tolerated)

- Returning to school as soon as possible (as tolerated) is encouraged.
- Reading or other cognitive activities at school or at home. Goal: Increase tolerance to cognitive work, and connect socially with peers.
- Take breaks and adapt activities if concussion symptom exacerbation (worsening) is more than mild and brief.**
- Use of devices with screens may be gradually resumed, as tolerated.
- Clearance from your doctor is not required to return to low-risk in-person or at-home school activities.
- A complete absence from the school environment for more than one week is not generally recommended.

Communicate with school on student's progression

Return to school as soon as possible, as tolerated

If can tolerate school activities,
BEGIN STEP 3

STEP 3:

Part-time or full-time days at school with accomodations (if needed)

- Gradually reintroduce schoolwork.
- May require accomodations, such as:
  - Partial school days with access to breaks throughout the day
  - Academic accommodations (extra time to complete work, reduced workload) to tolerate the classroom or school environment.

Communicate with school on student's progression.

Gradually reduce accommodations and increase workload

If can tolerate full days without concussion-related accommodations,
BEGIN STEP 4

STEP 4:

Return to school full-time

Return to full days at school and academic activities without requiring accommodations (related to the concussion).

Note: Medical clearance is NOT required to return to school

For returning to P.E. or sports, please refer to **Return to Sport** protocol.

Full academic load (no academic accommodations related to the concussion)

Return to School completed

Students should begin a gradual increase in their cognitive load with the goal of minimizing time away from the school environment. The return to school should not be restricted if the student is tolerating full days. Progression through the strategy may be slowed when there is more than a mild and brief symptom exacerbation**; however, missing more than one week of school is not generally recommended. Driving should resume after consultation with a doctor, nurse practitioner, or healthcare professional.

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Mild exacerbation (worsening) of symptoms: No more than a 2-point increase when compared with the pre-activity value on a 0-10-point symptom severity scale.* "Brief" exacerbation of symptoms: Worsening of symptoms for up to 1 hour.
***0-10 point symptom severity scale: Please see the Visual Analog Scale for an example of a 0-10 symptom severity scale.

www.cattonline.com

Adapted from: Zemek, R., Reed, N., Dawson, J., et al . "Living Guideline for Pediatric Concussion Care." www.pedsconcussion.com
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CATT | CONCUSSION AWARENESS TRAINING TOOL

BC INJURY research and prevention unit
www.injuryresearch.bc.ca

Case Example Cont....

- Call with parent and school revealed:
  - ✓ *Communication had been with attendance line not school nurse*
  - ✓ *School nurse reported they had received no medical documents or indication as to why student had been missing school. Had not heard from student after initially recommending they follow-up with a physician.*
  - ✓ *School team very willing to help student*
  - ✓ *Initial medical team had given no guidance regarding return to learn (urgent care, ED, PCP)*

Common themes regardless of patient:

- ✓ *Communication between school, parent, student, and healthcare team breakdowns*
- ✓ *Need for concussion management plan (based on current research)*
- ✓ *One or two teachers would benefit from understanding concussion*
- ✓ *School team sending student home when they became symptomatic*

Benefits of a Concussion Management Plan

- Key team members identified.
- School team knows what to do and why and the why behind it before it happens.
- Not just about symptoms – “what can I do to help you?” Likely different for each student.
- Much easier to follow a plan in place vs create each time.
- Focus on positive recovery from concussion vs impairment.
- School staff knowledge on how to support student with adjustments and why vs “when are you going to be over this???”
- Will be ready to move to more formal supports if symptoms persist, however, most of the time if a plan is in place, this will be avoided.

Initial Considerations

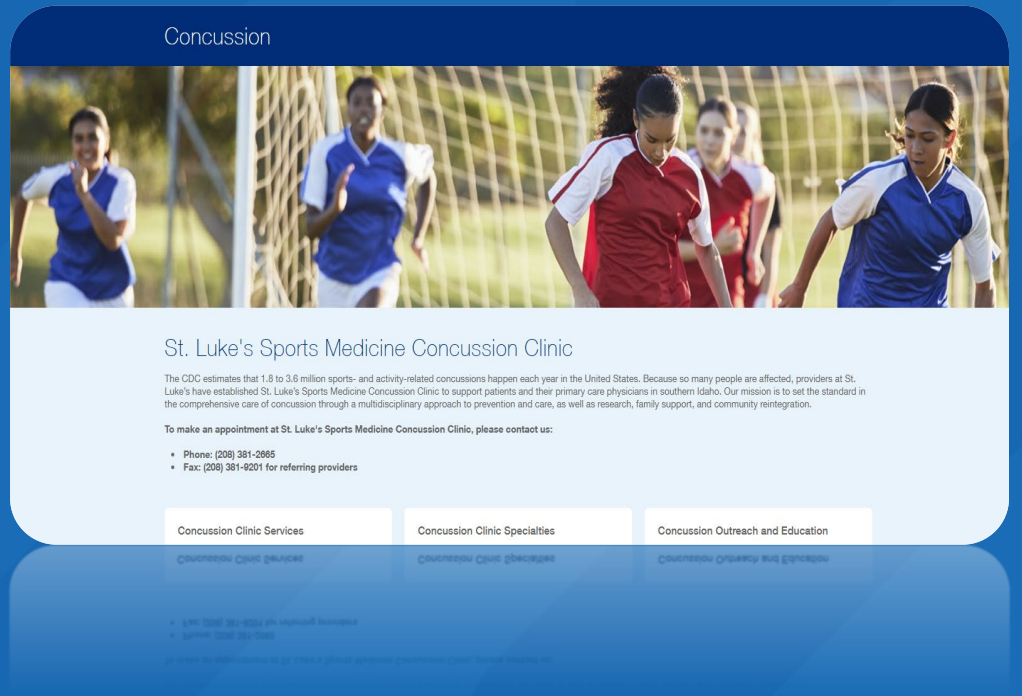
***Positive expectations with appropriate accommodations/adjustments*

- Look at student's schedule to determine easiest transition
- Avoid cafeteria, identify alternative location with 1-2 friends
- Exempt from non-essential work
- No testing or no more than one a day
- Focus on core classes initially depending on time of year
- Consider grade and time of year
- Limit homework
- State and standardized tests delayed until fully tolerating school
- Class transition before bell
- Rest breaks – identify location and schedule of break time
- Grades are not an indicator in high achieving students
- Consider premorbid difficulties
- Prior history of difficulties does not negate the possibility of new difficulties

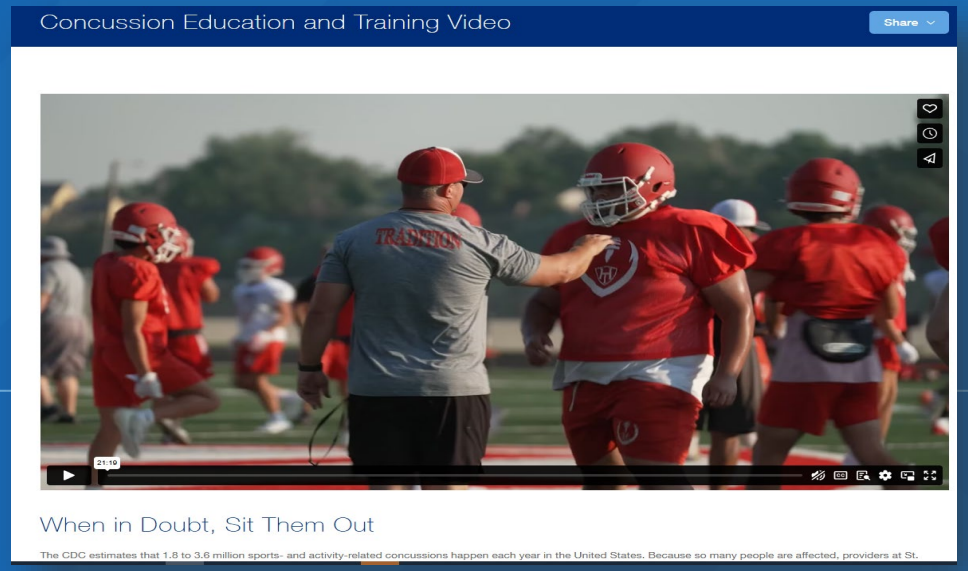
- *"Screen time" can mean something different to each person. i.e. 6 hours of video games vs texting a friend. Might be tiring but its not dangerous.*

Resources

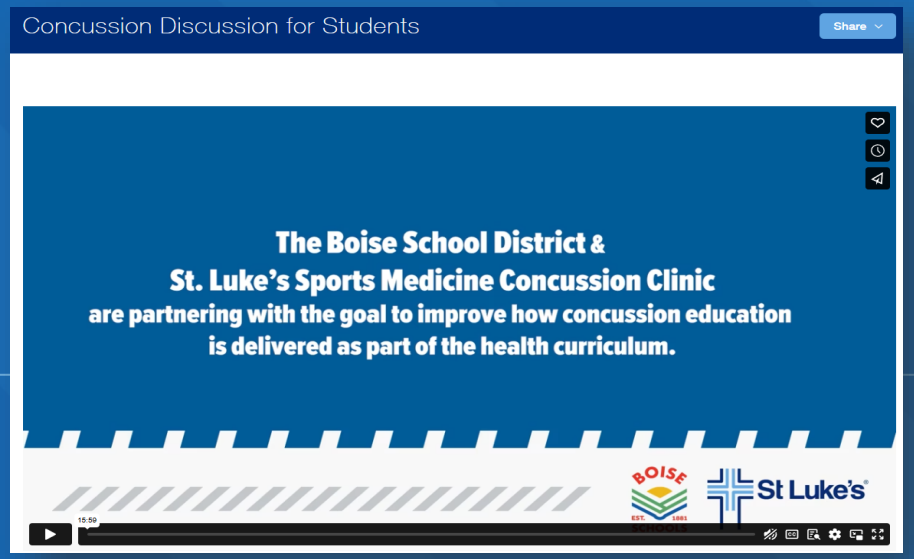
- stlukesonline.org/concussion



Updated IHSAA Statewide Concussion Education Video
Fall 2024

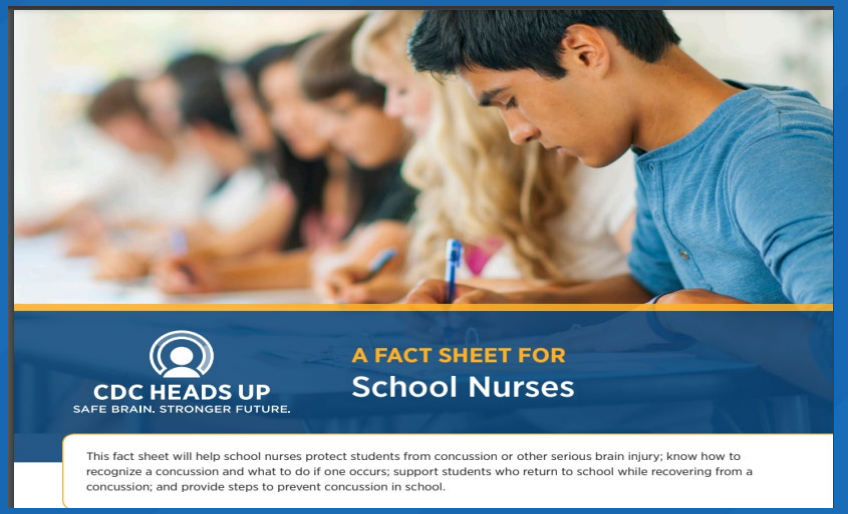


8th grade health curriculum video – Boise School District

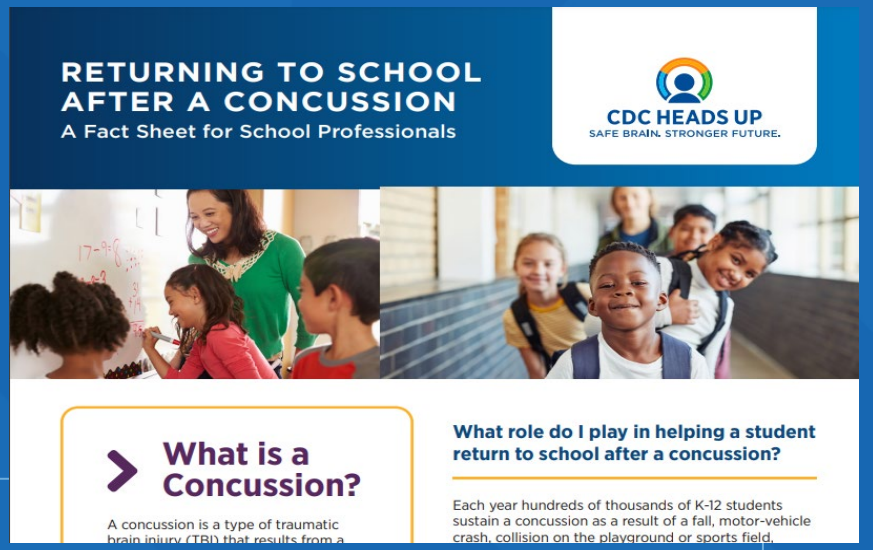


Resources

pedsconcussion.com



cdc.gov/heads-up



Key Points

- Utilize updated concussion information based on current research.
- Educate your school team *before* concussion happens by developing a concussion management plan.
- Ongoing **team** communication – student & family, academic team and medical team.

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