

## ADOPTING CONCUSSION LEGISLATION BEST PRACTICES

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## What we will cover

- History
  - Concussions in the NFL
  - Concussions in college
  - Centers for Disease Control (CDC) Reported Concussion Data
- Zackery Lystedt Law
  - Education
  - Remove from play
  - Return to play
- State Legislation
- Secondary School Sports Medicine Advisory Cmte
- Resources for Education
- Who is responsible for removing an athlete from participation
- Who can clear an athlete to return to play
  - Graded return to play
- Community programs
- Concussion Management plans
- Safe Schools
- Athletic Trainers



## NFL and concussions

- “NFL announces a four-year, \$60 million effort to develop imaging technology for detecting, treating and preventing brain injuries.
- \$40 million building specialized equipment for diagnosing head trauma.
- \$20 million to challenge researchers to develop new ideas for helmets and other safety equipment.” (This report is an excerpt. Source: Bloomberg)
- “[The] NFL and Riddell face lawsuits filed by more than 4,000 ex-players. The litigation focuses on Riddell’s helmets and whether the league covered up long-term damage to players’ brains.”

• (<http://www.bloomberg.com/news/2013-03-18/helmets-preventing-concussion-seen-quashed-by-nfl-riddell.html>)



## The National Collegiate Athletic Association

### NCAA CONCUSSION POLICY AND LEGISLATION

#### The NCAA Executive Committee adopted (April 2010) the following policy for institutions in all three divisions:

“Institutions shall have a concussion management plan on file such that a student-athlete who exhibits signs, symptoms or behaviors consistent with a concussion shall be removed from practice or competition and evaluated by an athletics health care provider with experience in the evaluation and management of concussions. Student-athletes diagnosed with a concussion shall not return to activity for the remainder of that day. Medical clearance shall be determined by the team physician or his or her designee according to the concussion management plan.

“In addition, student-athletes must sign a statement in which they accept the responsibility for reporting their injuries and illnesses to the institutional medical staff, including signs and symptoms of concussions. During the review and signing process, student-athletes should be presented with educational material on concussions.”

#### NCAA adopted concussion management plan legislation

An active member institution shall have a concussion management plan for its student-athletes. The plan shall include, but is not limited to, the following:

- (a) An annual process that ensures student-ath-

letes are educated about the signs and symptoms of concussions. Student-athletes must acknowledge that they have received information about the signs and symptoms of concussions and that they have a responsibility to report concussion-related injuries and illnesses to a medical staff member.

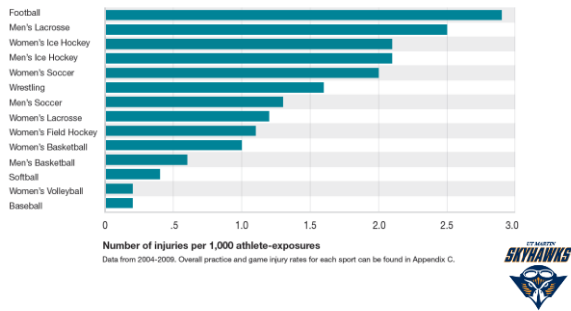
- (b) A process that ensures a student-athlete who exhibits signs, symptoms or behaviors consistent with a concussion shall be removed from athletics activities (e.g., competition, practice, conditioning sessions) and evaluated by a medical staff member (e.g., sports medicine staff, team physician) with experience in the evaluation and management of concussions;
- (c) A policy that precludes a student-athlete diagnosed with a concussion from returning to athletic activity (e.g., competition, practice, conditioning sessions) for at least the remainder of that calendar day; and
- (d) A policy that requires medical clearance for a student-athlete diagnosed with a concussion to return to athletics activity (for example, competition, practice, conditioning sessions) as determined by a physician (e.g., team physician) or the physician’s designee.

**Effect of violation.** A violation of Constitution 3.2.4.17 shall be considered an institutional violation per Constitution 2.8.1; however, the violation shall not affect the student-athlete’s eligibility.




## NCAA Concussion Rates

Figure 1: Rate of competition concussion injury in 14 NCAA sports




## CDC Concussion Data

- CDC analyzed data from the National Electronic Injury Surveillance System-All Injury Program (NEISS-AIP) for the years 2001-2010
  - Emergency department (ED) visits for children ≤ 19 years of age suffering from a sports or recreation-related concussion or traumatic brain injury (TBI) rose 62%
  - Highest rates of increase were seen in males aged 10-19 years
  - Activities resulting in the greatest number of ED visits were bicycling, football, playground activities, basketball, and soccer
- 

## Concussion Data

SEX	AGE ≤ 9	AGE 10-19
MALE	1. Playground activities 2. Biking	1. Football 2. Biking
FEMALE	1. Playground activities 2. Biking	1. Soccer/Basketball 2. Biking



## Zackery Lystedt



Source: <http://www.seattletimes.com/article/story-behind-zackery-lystedt-law>

### Returning to play too soon can keep your child out of the game.

“He was injured when he tackled another player and hit the back of his head on the playing field.” Victor Lystedt recalled about his son Zack’s last junior high football game.

In the first quarter of play, the game official signaled a time out on the field in accordance to the league rule after Zack’s hit, and Zack exited the field before the end of the quarter. Zack, 13 years old at the time, returned to play in the second half.

“He always wanted to be part of the play,” his father recalled. A star player, Zack played both offense and defense on the team.

His father noticed that during the fourth quarter Zack made a lot of contact with other players. By the end of the game, his father walked out onto the field to find Zack unable to stand.

“He didn’t pass out right away, but he did grab his head and he rocked back-and-forth in pain. I went out to the field to see how he was doing,” Lystedt remembered.

*“I never knew how serious it could be. I want the message to get out there. [Parents] need to know what to look for and that it can be a life-changing event.”*  
— Victor Lystedt  
Zack’s Father

Source: [http://www.cdc.gov/concussion/pdf/03\\_parents\\_story-a.pdf](http://www.cdc.gov/concussion/pdf/03_parents_story-a.pdf)

## History of concussion legislation

### Lystedt Law

- Named for Zackery Lystedt who, in 2006, suffered a brain injury following his return to a middle school football game after sustaining a concussion.
- Lystedt family and supporters lobbied for a law to protect young athletes in all sports from returning to play too soon.
- The Lystedt Law (2009) contains three essential elements:
  - Athletes, parents and coaches must be educated about the dangers of concussions each year.
  - If a young athlete is suspected of having a concussion, he/she must be removed from a game or practice and not be permitted to return to play. "When in doubt, sit them out."
  - A licensed health care professional must clear the young athlete to return to play in the subsequent days or weeks.

(Source: <http://apps.leg.wa.gov/rcw/default.aspx?cite=28A.600.190>)



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## Legislation Table

**Start here**

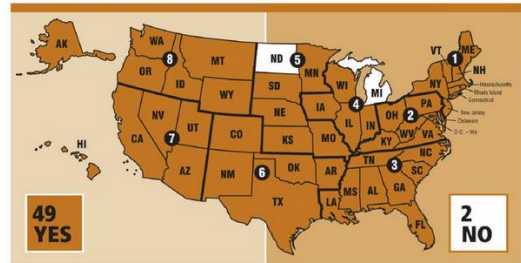
**Did you know?**  
 In the past six years, every state and the District of Columbia has passed a law intended to protect youth athletes from repeat TBI's. The majority of these laws are structured following a three-tiered approach based upon the first youth sports concussion law passed in Washington.

[Read more](#)

<http://www.lawAtlas.org/query/dataset=sc-reboot>

## National Federation of High School Assn

Question: Do you have a Sports Medicine Advisory Committee?



Source: <http://www.nfhs.org/sports-resource-content/member-state-associations-with-sports-medicine-sites-and-advisory-committees/>

## Tenet 1: Participant/Parent/Coaches Information and Acknowledgement

The first condition of the Lystedt Law is education

- Information distributed to the athlete and parent
  - [What is a concussion](#)
  - Signs and symptoms
  - Return to play procedures
  - Dangers of 2<sup>nd</sup> impact
  - Acknowledge receipt of educational information
- Coaches must have concussion training
- Common sources for information
  - National Federation of High Schools (NFHS)
  - Centers for Disease Control (CDC)
  - USA Football



## Training Resources - NFHS

**CONCUSSION IN SPORTS - WHAT YOU NEED TO KNOW**

**ELECTIVE COURSE**  
**Concussion in Sports - v2.0**  
**FREE COURSE!**

Sports related concussion in high school sports can be serious or even life threatening situations if not managed correctly. National Federation of State High School Associations (NFHS) and Centers for Disease Control and Prevention (CDC) have teamed up to provide information and resources to help educate coaches, officials, parents and students on the importance of proper concussion management and management in high school sports. Moch Koster M.D., ATC, Chief of the NFHS Sports Medicine Advisory Committee and Director of the Secure Sports Concussion in Eugene, Oregon takes you through this course. In this course you will understand the impact sports related concussion can have on your players, how to recognize a suspected concussion, the proper protocols to manage a suspected concussion, and steps to help your player return to play safely after experiencing a concussion.

[COURSE PREVIEW](#) [PLEASE LOGIN TO ENROLL](#)

**NEWS FEED**

- A look at what's to come Tuesday in high school sports coverage for Jan. 28 ... Plain Dealer
- 'Hollibaek' have become common in high school sports - Los Angeles Times
- High school sports: Prep of the week - Deseret News
- Spilling's Breakback wins big - dreamzigger - CapitalGazette.com
- High school sports roundup: Bay Area Thunder sports Bay City Wolves in ... MLive.com

Source: <http://www.nfhslearn.com/electiveDetail.aspx?courseId=38000>

## Training Resources - CDC

**"Heads Up" on Concussion**  
CDC has created two free online courses – one for health care professionals and another for youth and high school sports coaches, parents, athletes – that provide important information on preventing, recognizing, and responding to a concussion.

Download the "Heads Up" Toolkits:

- Heads Up: Brain Injury in Your Practice
- Heads Up: Concussion in High School Sports
- Heads Up: Concussion in Youth Sports
- Heads Up to Schools: Know Your Concussion ABCs

Resource: <http://www.cdc.gov/concussion/index.html>

## Training Resources – USA Football

**Concussion Awareness**  
Resources to help make a better, safer game.

**Signs & Symptoms**  
Find key signs and symptoms, and get the help by learning about the signs and symptoms of concussions.

**Concussion Articles**  
Read essential information about concussions. See Article #

Source: <http://usafootball.com/health-safety/concussion-awareness>

## Education Resources

- The CDC and National Federation of High Schools are the most commonly cited resource for concussion education materials.
  - Educational videos for coaches, parents and healthcare providers
  - Educational handouts for coaches, parents/athletes and healthcare providers

## USA Football

- USA Football is endorsed by both the NFL and the National Athletic Trainers' Association
- Multiple videos on concussion recognition
- Printable resources
- Multiple videos on tackling and hitting techniques to reduce the incidence of concussions

**Which ever resources you use, it is imperative that the resources meet the terms of the state law. Most athletic associations will have adopted forms.**



## Tenet 2: Removal From Play

### The second element is, "when in doubt, sit them out"

- Coaches must be trained on the recognition of the signs and symptoms of concussions
- Since many athletic events (practices, conditioning sessions, competitions) are not covered by a health care professional the decision to pull an athlete falls upon the coach(es) and in some cases the officials.
- If a concussion is suspected that athlete may not be returned to play that day.

A student removed from play should be monitored for signs of deterioration/decline.



## Removal from Play

- Once removed from play the student must be assessed by a healthcare professional
- It is critical that they person assessing the athlete be trained in concussion assessment and care
- A generalized "physical" approach is not going to be adequate to make a comprehensive plan for returning to play and school

## Heads Up

**ACUTE CONCUSSION EVALUATION (ACE)**  
 PHYSICIAN/CLINICIAN OFFICE VERSION  
 General Glava, PhD & Micky Collins, PhD  
 University of Pittsburgh Medical Center

Patient Name: \_\_\_\_\_  
 DOB: \_\_\_\_\_ Age: \_\_\_\_\_  
 Date: \_\_\_\_\_ ID/MR#: \_\_\_\_\_

Reporter: \_\_\_ Patient \_\_\_ Parent \_\_\_ Spouse \_\_\_ Other \_\_\_

**A. Injury Characteristics** Date/Time of Injury: \_\_\_\_\_

1. Injury Description: \_\_\_\_\_

1a. Is there evidence of a forcible blow to the head (direct or indirect)? \_\_\_ Yes \_\_\_ No \_\_\_ Unknown  
 1b. Is there evidence of atraumatic injury or skull fracture? \_\_\_ Yes \_\_\_ No \_\_\_ Unknown  
 1c. Location of Impact: \_\_\_ Frontal \_\_\_ LT Temporal \_\_\_ RT Temporal \_\_\_ LT Parietal \_\_\_ RT Parietal \_\_\_ Occipital \_\_\_ Neck \_\_\_ Indirect Force

2. Cause: \_\_\_ MVC \_\_\_ Pedestrian-MVC \_\_\_ Fall \_\_\_ Assault \_\_\_ Sports (specify) \_\_\_\_\_ Other: \_\_\_\_\_

3. Amnesia Before (Retrosgrade) Are there any events just BEFORE the injury that your person has no memory of (even brief)? \_\_\_ Yes \_\_\_ No Duration: \_\_\_\_\_

4. Amnesia After (Antegrade) Are there any events just AFTER the injury that your person has no memory of (even brief)? \_\_\_ Yes \_\_\_ No Duration: \_\_\_\_\_

5. Loss of Consciousness: Did your person lose consciousness? \_\_\_ Yes \_\_\_ No Duration: \_\_\_\_\_

6. EARLY SIGNS: \_\_\_ Appears dazed or stunned \_\_\_ Is confused about events \_\_\_ Answers questions slowly \_\_\_ Repeats Questions \_\_\_ Forgetful (recent info)

7. Seizures: Were seizures observed? No \_\_\_ Yes \_\_\_ Detail: \_\_\_\_\_

<http://www.cdc.gov/headsup/providers/tools.html>

**B. Symptom Check List\*** Since the injury, has the person experienced any of these symptoms any more than usual today or in the past day?  
 Indicate presence of each symptom (0=No, 1=Yes) *Level 4, Collins, 1999 #179*

PHYSICAL (10)	COGNITIVE (4)	SLEEP (4)
Headache 0 1	Feeling mentally foggy 0 1	Drowsiness 0 1
Nausea 0 1	Feeling slowed down 0 1	Sleeping less than usual 0 1 N/A
Vomiting 0 1	Difficulty concentrating 0 1	Sleeping more than usual 0 1 N/A
Balance problems 0 1	Difficulty remembering 0 1	Trouble falling asleep 0 1 N/A
Dizziness 0 1	<b>COGNITIVE Total (0-4)</b> _____	<b>SLEEP Total (0-4)</b> _____
Visual problems 0 1	<b>EMOTIONAL (4)</b> _____	
Fatigue 0 1	Irritability 0 1	
Sensitivity to light 0 1	Sadness 0 1	<b>Exclusion:</b> Do these symptoms occur with: Physical Activity ___ Yes ___ No ___ N/A Cognitive Activity ___ Yes ___ No ___ N/A
Sensitivity to noise 0 1	More emotional 0 1	<b>Overall Rating:</b> How different is the person acting compared to his/her usual self? (circle) Normal 0 1 2 3 4 5 6 Vary Different
Numbness/Tingling 0 1	Nervousness 0 1	
<b>PHYSICAL Total (0-10)</b> _____	<b>EMOTIONAL Total (0-4)</b> _____	
<b>(Add Physical, Cognitive, Emotion, Sleep totals)</b>		
<b>Total Symptom Score (0-22)</b> _____		

<http://www.cdc.gov/headsup/providers/tools.html>

# Tenet 3: Return to Play

The third element of the Lystedt Law is a return to play protocol.

- Each State is different regarding who can clear an athlete to return to play
  - MD or DO (trained in concussion management)
  - Neuroscientist (specific concussion training)
  - Physician Assistant or Nurse Practitioner (specific training)
  - Certified Athletic Trainer
- Know the rules in your State. The forms are not clear about who can return an athlete to play.

**C. Risk Factors for Protected Recovery** (check all that apply)

Concussion History? Y ___ N ___	Headache History? Y ___ N ___	Developmental History	Psychiatric History
Previous # 1 2 3 4 5 6+	Prior treatment for headache	Learning disabilities	Anxiety
Longest symptom duration Days... Weeks... Months... Years...	History of migraine headache Personal Family	Attention Deficit/ Hyperactivity Disorder	Depression
If multiple concussions, less force caused injury? Yes... No...		Other developmental disorder	Sleep disorder
List other comorbid medical disorders or medication usage (e.g., hypothyroid, seizure):			

**D. RED FLAGS for acute emergency management** (Refer to the emergency department with sudden onset of any of the following):

- Headaches that worsen
- Repeated vomiting
- Weakness or numbness in arms/legs
- Blurred speech
- Can't recognize people or places
- Increasing confusion or irritability
- Weakness or numbness in arms/legs
- Change in state of consciousness
- Seizure
- Neck pain
- Usual behavioral change

**E. Diagnosis (ICD):** Concussion w/ LOC 850.0 \_\_\_ Concussion w/ LOC 850.1 \_\_\_ Concussion (Unspecified) 850.9 \_\_\_ Other (854) \_\_\_  
No diagnosis

**F. Follow-Up Action Plan** Complete ACE Care Plan and provide copy to patient/family.  
No Follow-Up Needed  
Physician/Clinician Office Monitoring: Date of next follow-up: \_\_\_  
Referral: Neuropsychological Testing \_\_\_ Physician: Neurosurgery \_\_\_ Neurology \_\_\_ Sports Medicine \_\_\_ Physiatrist \_\_\_ Psychiatrist \_\_\_ Other \_\_\_  
Emergency Department

ACE Completed by: \_\_\_\_\_ © Copyright ©, 2014 by Giza & M. Collins, 2008  
This form is part of the "Head Up: Brain Injury in Your Practice" toolkit developed by the Centers for Disease Control and Prevention (CDC).

<http://www.cdc.gov/headsup/providers/tools.html>



**ACUTE CONCUSSION EVALUATION (ACE)**

**Care Plan**  
General Discharge / Home Care / Other  
Name of Provider: \_\_\_\_\_

Patient Name: \_\_\_\_\_  
DOB: \_\_\_\_\_ Age: \_\_\_\_\_  
Date: \_\_\_\_\_ EXPIRES: \_\_\_\_\_  
Date of Injury: \_\_\_\_\_

You have been diagnosed with a concussion (also known as a mild traumatic brain injury). This personnel plan is based on your symptoms and is designed to help speed your recovery. Your careful attention to it can also prevent further injury.

You should not participate in any high-risk activities (e.g., sports, physical education (PE), riding a bike, etc.) if you still have any of the symptoms listed. It is important to have activities that require a lot of thinking or concentration (homework, job-related activities, etc.) as this can make your symptoms worse. If you no longer have any symptoms and believe that your concentration and thinking are back to normal, you can slowly and carefully return to your daily activities. Children and teenagers will need help from their parents, teachers, coaches, or athletic trainers to help monitor their recovery and return to activities.

Testing the following symptoms are present (circle or check):	None reported symptoms
<b>Physical</b>	
Headache	Feeling drowsy/tired
Nausea	Problems concentrating
Fatigue	Feeling more emotional
Visual problems	Feeling more stressed/tired
Balance problems	Double vision
Feeling dizzy	Feeling more sensitive to light
Feeling more sensitive to noise	Feeling more sensitive to smells
Feeling more sensitive to touch	Feeling more sensitive to heat
Feeling more sensitive to cold	Feeling more sensitive to humidity
Feeling more sensitive to wind	Feeling more sensitive to air pressure
Feeling more sensitive to air quality	Feeling more sensitive to air pollution
Feeling more sensitive to air temperature	Feeling more sensitive to air humidity
Feeling more sensitive to air pressure	Feeling more sensitive to air pollution
Feeling more sensitive to air humidity	Feeling more sensitive to air pollution
Feeling more sensitive to air pollution	Feeling more sensitive to air pollution

**RED FLAGS:** Call your doctor or go to your emergency department if you suddenly experience any of the following:

- Headaches that worsen
- Repeated vomiting
- Weakness or numbness in arms/legs
- Blurred speech
- Can't recognize people or places
- Increasing confusion or irritability
- Weakness or numbness in arms/legs
- Change in state of consciousness
- Seizure
- Neck pain
- Usual behavioral change

**Returning to Daily Activities**

- Get lots of rest. Be sure to get enough sleep at night. No late nights. Keep the same bedtime weekdays and weekends.
- Use daytime naps or rest breaks when you feel tired or fatigued.
- Limit physical activity as well as activities that require a lot of thinking or concentration. These activities can make symptoms worse.
  - Physical activity includes PE, sports practices, weight training, running, exercising, heavy lifting, etc.
  - Thinking and concentration activities (e.g., homework, classroom work, job-related activities).
- Drink lots of fluids and eat carbohydrates or protein to help maintain blood sugar levels.
- As symptoms decrease, you may begin to gradually return to your daily activities. If symptoms worsen or return, lessen your activities, then try again to increase your activities gradually.
- Using recovery if it is normal to feel frustrated and sad when you do not feel right and you can't be as active as usual.
- Repeated evaluation of your symptoms is recommended to help guide recovery.

**Returning to School**

- If you or your child are still having symptoms or discomfort you may need extra help to perform school-related activities. As you or your child's symptoms decrease during recovery, the extra help or supports can be removed gradually.
- When the following conditions are met, school personnel or teachers and administrators should be instructed to watch for:
  - Increased problems during attention or concentration.
  - Increased problems remembering or retaining new information.
  - Longer time needed to complete tasks or assignments.
  - Greater irritability, less able to cope with stress.
  - Disruption in sleep (e.g., trouble falling asleep, frequent awakenings when sleeping).

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**Returning to School (Continued)**

Until you (or your child) have fully recovered, the following supports are recommended (check all that apply):

- No return to school. Return on (date) \_\_\_\_\_
- Return to school with following supports. Review on (date) \_\_\_\_\_
- Shortened day (recovery) \_\_\_\_\_ hours per day until (date) \_\_\_\_\_
- Shortened classes (e.g., rest breaks during classes). Maximum class length: \_\_\_\_\_ minutes.
- Allow extra time to complete assignments/homework and tests.
- Lessen homework load by \_\_\_\_\_%. Maximum length of nightly homework: \_\_\_\_\_ minutes.
- No significant classroom or standardized testing at this time.
- Check for the return of symptoms using symptoms table on front page of this form) when doing activities that require a lot of attention or concentration.
- See next teacher during the day as needed.
- Request meeting of DO or School Management Team to discuss this plan and needed supports.

**Returning to Sports**

- You should NEVER return to play if you still have ANY symptoms. (Be sure that you do not have any symptoms at rest and while doing any physical activity and/or activities that require a lot of thinking or concentration.)
- Be sure that the PE teacher, coach, or athletic trainer on scene of your injury and symptoms.
- It is normal to feel frustrated, sad and even angry because you cannot return to sports right away. With any injury, a full recovery will reduce the chances of getting hurt again. It is better to miss one or two games than the whole season.

**The following are recommended at the present time:**

- Do not return to PE class at this time.
- Return to PE class.
- Do not return to sports participation at this time.
- Gradual return to sports practice under the supervision of an appropriate health care provider.
- Return to play should occur in gradual steps, beginning with moderate exercise only to increase your heart rate (e.g., stationary cycling, rowing) to gradually your heart rate with movement in a hallway, then adding controlled contact of appropriate and finally, full contact competition.
- Pay careful attention to your symptoms and your thinking and concentration skills at each stage of activity. Allow the next level of activity only if you do not experience any symptoms at the next level. If you experience return, less these activities and let your health care professional know. Once you have not experienced symptoms for a minimum of 24 hours after you received permission from your health care professional, you should start again at the previous step of the return to play plan.

**Gradual Return to Play Plan**

- No physical activity.
- Low levels of physical activity (e.g., walking, light jogging, light stationary biking, light weightlifting (lower weight, higher reps, no bench to lift)).
- Moderate levels of physical activity with touch/padded equipment. This includes moderate jogging, trail running, moderate (lightly stationary) biking, moderate intensity weightlifting (moderate free and/or resistance weights from your local gym).
- Heavy non-contact physical activity. This includes appropriate running, high-intensity stationary biking, regular weightlifting, light, non-contact sport-specific drills (in 3 phases of movement).
- Full contact in controlled practice.
- Full contact in game play.

**The return plan is based on injury evaluation:**

- Return to this plan (Date/Time) \_\_\_\_\_
- Refer to Neurosurgery \_\_\_ Neurology \_\_\_ Sports Medicine \_\_\_ Physiatrist \_\_\_ Psychiatrist \_\_\_ Other \_\_\_
- Refer to Neuropsychological Testing \_\_\_
- Other: \_\_\_\_\_

ACE Care Plan Completed by: \_\_\_\_\_ MD, RN, NP, PhD, etc. © Copyright ©, 2014 by Giza & M. Collins, 2008



## Return to Play

- It is important to understand that the forms that have been identified by your State for use meeting concussion laws can be *added to*.
- If a school district takes a more proactive approach to concussion care, then the basic information can be enhanced to require more than what the State law requires, but not less.

## Concussion Mgmt Plans

### Graded RTP Protocol

1. No activity
2. Light aerobic exercise
3. Sport-specific exercise
4. Non-contact training drills
5. Full contact practice
6. Return to play

- CDC

[http://www.cdc.gov/concussion/headsup/return\\_to\\_play.html](http://www.cdc.gov/concussion/headsup/return_to_play.html)

- NFHS

[http://www.ndhsaa.com/uploads/files/NFHS\\_Concussion\\_Management\\_Brochure.pdf](http://www.ndhsaa.com/uploads/files/NFHS_Concussion_Management_Brochure.pdf)



## Modified RTP progression

### Gradual Return to Play Plan

Return to play should occur in gradual steps beginning with light aerobic exercise only to increase your heart rate (e.g. stationary cycle); moving to increasing your heart rate with movement (e.g. running); then adding controlled contact if appropriate, and finally return to sports competition.

Pay careful attention to your symptoms and your thinking and concentration skills at each stage or activity. After completion of each step without recurrence of symptoms, you can move to the next level of activity the next day. Move to the next level of activity only if you do not experience any symptoms at the present level. If your symptoms return, let your health care provider know, return to the first level and restart the program gradually.

Day 1: Low levels of physical activity (i.e. symptoms do not come back during or after the activity). This includes walking, light jogging, light stationary biking, and light weightlifting (low weight – moderate reps, no bench, no squats).

Day 2: Moderate levels of physical activity with body/head movement. This includes moderate jogging, brief running, moderate intensity on the stationary cycle, moderate intensity weightlifting (reduce time and/or reduced weight from your typical routine).

Day 3: Heavy non-contact physical activity. This includes sprinting/running, high intensity stationary cycling, completing the regular lifting routine, non-contact sport specific drills (agility – with 3 planes of movement).

Day 4: Sports Specific practice

Day 5: Full contact in a controlled drill or practice.

Day 6: Return to competition

This procedure is published by the National Athletic Trainers' Association. It is a sample and not intended to replace specific needs of any particular organization or the specific facts any organization may face. This form should not be used or distributed without the written or stated legal consent. The National Athletic Trainers' Association disclaims any and all responsibility in making this may be used or altered in any form without the written consent of the firm by any person.

## Concussion Programs/Products

- Sport Concussion Assessment Tool-3<sup>rd</sup> Ed.

• <http://bjsm.bmj.com/content/47/5/259.full.pdf>

- Symptom Scale
- Immediate memory
- Concentration
- Delayed recall
- Balance
- Coordination

- ImPACT (pre/post)

• <http://www.impacttest.com>

- Shockbox Sensor

• <https://www.theshockbox.com/>

- Riddell helmets: Pro Edition, Revolution, and Gladiator

<http://www.bloomberg.com/news/2013-03-18/helmets-preventing-concussion-seen-quashed-by-riddell.html>





## Accountability

- State to State the requirements for maintaining the documentation proving compliance to policies varies.
- Know who in your School District is responsible for keeping track of all required concussion forms and coaches training.
- Always keep a back-up copy of your documentation.
- ...BUT THERE IS SOMETHING MISSING IN ALL THIS LEGISLATION...



## What is missing...

Today the following symptoms are present (circle or check).				No reported symptoms	
Physical	Thinking	Emotional	Sleep		
Headaches	Sensitivity to light	Feeling mentally foggy	Irritability	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 down	Nervousness	Trouble falling asleep	
Balance Problems	Dizziness				

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

## Return to School (class)

### Returning to School

1. If you (or your child) are still having symptoms of concussion you may need extra help to perform school-related activities. As your (or your child's) symptoms decrease during recovery, the extra help or supports can be removed gradually.
2. Inform the teacher(s), school nurse, school psychologist or counselor, and administrator(s) about your (or your child's) injury and symptoms. School personnel should be instructed to watch for:
  - Increased problems paying attention or concentrating
  - Longer time needed to complete tasks or assignments
  - Greater irritability, less able to cope with stress
  - Symptoms worsen (e.g., headache, tiredness) when doing schoolwork

Until you (or your child) have fully recovered, the following supports are recommended: (check all that apply)

- \_\_\_ No return to school. Return on (date) \_\_\_\_\_
- \_\_\_ Return to school with following supports. Review on (date) \_\_\_\_\_
- \_\_\_ Shortened day. Recommend \_\_\_ hours per day until (date) \_\_\_\_\_
- \_\_\_ Shortened classes (i.e., rest breaks during classes). Maximum class length: \_\_\_ minutes.
- \_\_\_ Allow extra time to complete coursework/assignments and tests.
- \_\_\_ Lessen homework load by \_\_\_%. Maximum length of nightly homework: \_\_\_ minutes.
- \_\_\_ No significant classroom or standardized testing at this time.
- \_\_\_ Check for the return of symptoms (use symptom table on front page of this form) when doing activities that require a lot of attention or concentration.
- \_\_\_ Take rest breaks during the day as needed.
- \_\_\_ Request meeting of 504 or School Management Team to discuss this plan and needed supports.

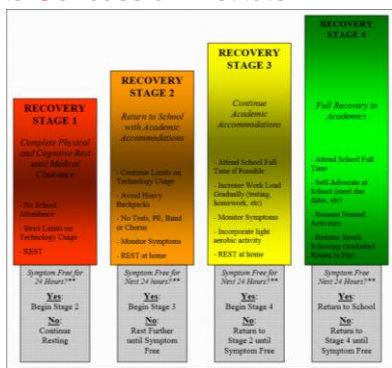
## North Carolina HS Athletic Assn.

### Geller-Waller Concussion Clearance - NCHSAA Return to Play Form

All medical providers are encouraged to review the CDC Site # They have questions regarding the latest information on the evaluation and care of the school's athlete following a concussion injury. Providers should refer to NC Section 142, House Bill 972 (Geller-Waller Concussion Awareness Act for requirements for clearance, and please initial any recommendations you select. (Adapted from the Acute Concussion Evaluation (ACE) care plan (<http://www.cdc.gov/concussion/index.html>) and the NCHSAA Concussion Return to the Field Form.)

Athlete's Name _____	Date of Birth _____		
School _____	Team/Sport _____		
INJURY HISTORY Person Completing Injury History Section (circle one): Licensed Athletic Trainer   First Responder   Coach   Parent			
Date of Injury _____	Name of person completing form: _____ <input type="checkbox"/> Please see attached information		
Following the injury, did the athlete experience:	Circle one	Duration (enter the number/circle appropriate)	Comments
Lack of consciousness or unresponsiveness?	YES/NO	minutes / hours	
Seizure or convulsive activity?	YES/NO	minutes / hours	
Balance problems/ataxia/dizziness?	YES/NO	hrs / days / weeks / continues	
Dizziness?	YES/NO	hrs / days / weeks / continues	
Headache?	YES/NO	hrs / days / weeks / continues	
Nausea?	YES/NO	hrs / days / weeks / continues	
Emotional instability (abnormal laughing, crying, anger)?	YES/NO	hrs / days / weeks / continues	
Confusion?	YES/NO	hrs / days / weeks / continues	
Difficulty concentrating?	YES/NO	hrs / days / weeks / continues	
Vision problems?	YES/NO	hrs / days / weeks / continues	
Other	YES/NO		

## Sports Concussion Institute



## Journal of School Nursing

### K-12 Students With Concussions: A Legal Perspective

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#### Abstract

This article provides a multipart analysis of the public schools' responsibility for students with concussions. The first part provides the prevailing diagnostic definitions of concussions and postconcussive syndrome. The second and central part provides (a) the legal framework of the two overlapping federal laws—the Individuals with Disabilities Education Act and Section 504 of the Rehabilitation Act and the varying state laws or local policies for individual health plans and (b) a summary of the developing body of hearing officer decisions, court decisions, and Office for Civil Rights rulings that have applied this framework to K-12 students with concussions. The final part offers recommendations for proactive return to school policies, with the school nurse playing a central supporting role.

<http://jns.sagepub.com/content/early/2014/02/05/1059840514521465.abstract>

## National Assn of School Psychologists

### Return to Learning: Going Back to School Following a Concussion

Almost everyone understands the rationale for physical rest following a concussion. The cases of second impact syndrome, the phenomenon in which a student can suffer permanent brain damage or death from a second blow to the head during recovery from an initial blow (Cantu, 1998), highlight the importance of not returning to play (RTP) before the concussion is 100% healed. In just the past few years, experts in the field of concussion have come to the realization that cognitive demands, much like physical demands, can worsen symptoms and can delay recovery (Majerske et al., 2008). While the end result of continuing to push through cognitive exertion has yet to cause catastrophic brain damage or death, it would be wrong to believe that there are no risks at all. To date, there are no agreed upon formulas for return to learning (RTL). This is due largely to the fact that the return to school following concussion is an extremely individualized process. In concussion management, both RTP and RTL are common and important terms, but they are not parallel processes. The school psychologist and/or the school nurse are uniquely poised to facilitate the transition of a student with a concussion from the medical setting back to the educational setting.

<http://www.hellgate.k12.mt.us/cms/lib/MT15000294/Centricity/Domain/1/Going%20Back%20to%20School%20Following%20a%20Concussion.pdf>

## National Athletic Trainers' Assn

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[www.nata.org/jat](http://www.nata.org/jat)

consensus statement

### Consensus Statement on Concussion in Sport: The 3rd International Conference on Concussion in Sport Held in Zurich, November 2008

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## Athletic Trainer not on staff?

- Split Position
- Athletic Trainers can be initially hired as:
  - AT and equipment manager
  - AT and Athletic Director or Assistant AD
  - AT and strength coach
  - AT and security
  - AT and teacher or substitute teacher
  - AT and health educator
- Part-time employee
- Outreach from a clinic setting

## NATA Safe Sports School

- NATA Consensus Statement on Best Practices for Sports Medicine Management for Secondary Schools and Colleges
  - <http://www.nata.org/sites/default/files/SportsMedicineManagement.pdf>
- [Safe Sports School](#) – “Recognizes secondary schools around the country that provide safe environments for student athletes, the initiative reinforces the importance of providing the best level of care, injury prevention and treatment.” (<http://www.nata.org/NR03292013>)
  - <http://athletictrainers.org/wp-content/uploads/2013/06/Safe-Sport-School-Award-Packet.pdf>



## What does this mean

- Concussion prevention, diagnosis and care are still hard problems to solve.
- Review your Emergency Action Plan annually
- We must be *proactive* in our industries to gain a seat at the table regarding policy and laws that impact what we do.
- Remain educated and engage in conversations with medical professionals who are working first-hand with this issue.
- When in doubt... SIT THEM OUT



## Thank you

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## Resources

- Lystedt Law
  - <http://apps.leg.wa.gov/documents/billdocs/2009-10/Pdf/Bill%20Reports/House/1824.E%20HBR%20APH%2009.pdf>
- Concussion Legislation by State
  - <http://www.lawatlas.org/query?dataset=sc-reboot>
- Sports Medicine Advisory Committees
  - Source: <http://www.nfhs.org/sports-resource-content/member-state-associations-with-sports-medicine-sites-and-advisory-committees/>
- NATA Consensus Statement
  - <http://www.nata.org/sites/default/files/SportsMedicineManagement.pdf>
  - <http://athletictrainers.org/wp-content/uploads/2013/06/Safe-Sport-School-Award-Packet.pdf>

## Training Resources

- What is a concussion
  - [http://www.youtube.com/watch?v=Sno\\_0Jd8GuA](http://www.youtube.com/watch?v=Sno_0Jd8GuA)
- NFHS
  - <http://www.nfhslearn.com/electiveDetail.aspx?courseID=38000>
- CDC
  - <http://www.cdc.gov/concussion/index.html>
- USA Football
  - <http://usafootball.com/health-safety/concussion-awareness>
- Heads Up
  - <http://www.cdc.gov/headsup/>



## Concussion Assessment Tools

- NFL Sideline assessment tool
  - <http://www.nflevolution.com/article/sideline-assessment-tool?ref=0ap1000000224868>
- ImPACT
  - <http://www.impacttest.com/audience/?teams-1>
- The Shockbox Sensor
  - <https://www.theshockbox.com/>
- Sport Concussion Assessment Tool-3<sup>rd</sup> Ed.
  - <http://bjsm.bmj.com/content/47/5/259.full.pdf>
- Sports Concussion Institute
  - [http://www.concussiontreatment.com/images/SCL\\_RTP\\_Illustration.pdf](http://www.concussiontreatment.com/images/SCL_RTP_Illustration.pdf)
  - [http://www.concussiontreatment.com/images/SCL\\_RTS\\_Illustration.pdf](http://www.concussiontreatment.com/images/SCL_RTS_Illustration.pdf)

