Adlai E. Stevenson High School
Concussion Care Protocol

General Information:
Sport related concussion (SRC) is a traumatic brain injury induced by biomechanical forces. Several common features that may be utilized in clinically defining the nature of a concussive head injury include:
▸▸ SRC may be caused either by a direct blow to the head, face, neck or elsewhere on the body with an impulsive force transmitted to the head.
▸▸ SRC typically results in the rapid onset of short-lived impairment of neurological function that resolves spontaneously. However, in some cases, signs and symptoms evolve over a number of minutes to hours.
▸▸ SRC may result in neuro-pathological changes, but the acute clinical signs and symptoms largely reflect a functional disturbance rather than a structural injury and, as such, no abnormality is seen on standard structural neuroimaging studies.
▸▸ SRC results in a range of clinical signs and symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive features typically follows a sequential course. However, in some cases symptoms may be prolonged.

A student's best chance of full recovery from a concussion involves two critical components: cognitive and physical rest within the first 72 hours post injury. Continued research has shown cognitive rest to be essential in the quick resolution of concussion symptoms. Cognitive stimulation includes: driving, playing video games, computer use, text messaging, cell phone use, loud and/or bright environments, watching television, reading, and studying. These stimuli must be limited, and in most cases, completely avoided for a period of time during recovery. Physical activity such as physical education, athletics, and strength or cardiovascular conditioning must be completely avoided or regulated while recovering from a concussion.

It is recommended that this protocol be shared with the student's primary care physician (licensed to practice medicine in all its branches, e.g. pediatrician) as soon as possible.

Stages of Concussion Recovery and Academic/Athletic Participation:

1. Complete Rest (72 hours)
2. Return to School
3. Full Day of School Attendance
4. Full Academic and Athletic Participation

Points of Emphasis:

- It is important to note that the recovery from a concussion is a **very individualized process**. Caution must be taken not to compare students with concussions as they progress through the recovery process.
- For the concussion care protocol to be initiated the student must be initially evaluated by an athletic trainer, primary care physician, or concussion specialist (licensed to practice medicine in all of its branches) and documentation must be provided to the school nurse or athletic trainer.

An emergency room/acute care note is only temporary until seen by the student's primary care physician or concussion specialist within one week.

- Following the recommendation of the physician or athletics trainer, the student's teachers should review academic work and grant extra time as appropriate. The student's missed academic work will be reviewed and granted extra time to complete, in conjunction with the physician or athletic trainer (student-athlete) recommendations.

- As the student's recovery progresses through Stages 1-3, teachers should identify essential academic work in each subject and collaborate with department directors, as needed, to determine potential reduction in course workload. This will promote healing, and help reduce the student's anxiety level related to the perceived volume of work that will be required once the student is medically cleared to resume a full academic load. The teacher has the option of assigning the student a grade of incomplete for the progress report, six-week grade, final exam, and/or semester grade.

- <u>For the SHS student athlete</u>: Upon return to school, it is important the student report to the athletic trainer daily to monitor symptoms and determine progression to the next stage within the concussion care protocol.

- <u>For the student that is not an SHS athlete</u>: report to the school nurse daily.

Four Stage Progression to Full Return to Academic and Athletic Activity

Stage 1: Complete Rest *(Usually lasts 2-3 days, could last more than 1 week per individual case)*

- Characteristics
    - Severe symptoms at rest
    - Symptoms may include but are not limited to:
        - Headache or pressure in head, dizziness, nausea, photosensitivity, auditory sensitivity, inability to focus/concentrate, memory/lack of recall, feeling mentally foggy, unusual changes in mood, fatigue
        - Students may complain of intense and continuous/frequent headaches
        - Students may not be able to read for more than 10 minutes without an increase in symptoms
- Initial evaluation by a concussion specialist or primary care physician (not ER)
- No PE/Dance/Sports/Co-Curricular activities
- Available Interventions:
    - No school attendance for at least one full day - emphasize cognitive and physical rest
    - No tests, quizzes or homework
    - Parent and student receive copy of SHS Concussion Care Protocol
    - Counselor/SSTC will notify student's teachers.

***Progress to stage 2 when:**

- Decreased sensitivity to light or noise
- Decreased intensity and frequency of headaches and dizziness

- Ability to do light reading for 10 minutes without increased symptoms
- Decreased feeling of fogginess or confusion

*If the student remains in Stage 1 longer than 10 days, the SST will present the student's case to the Problem Solving Team (PST) for review and possible need for further assistance. The school nurse will consult with the primary care physician.

Stage 2: Return to School (*Options for altered daily class schedule)*

- Characteristics
    - Mild symptoms at rest, or increasing with physical and mental activity
- Modified class schedule
    - Limited attendance as needed when symptomatic in academic environments. Example: alternate afternoon classes and morning classes, repeat as symptoms warrant
- Light Physical Activity, symptom limited, light cardio as tolerated for PE/Dance/Sport
- <u>For the student athlete</u>: report daily to the athletic trainer.
- <u>For the student that is not an SHS athlete</u>: report daily to the school nurse.
- Available Interventions if symptomatic:
    - Avoid noisy environments if having significant symptoms. (Ex. Music courses, PE/Dance courses, cafeteria)
    - Rest in nurse's office to offer breaks between academic classes if needed
    - Reduce weight of backpack or provide second set of textbooks (teachers)
    - Obtain a "nurse's pass" to avoid noisy, crowded hallways between class periods
    - Limit computer work, videos/movies in class
    - Divide up work into smaller portions (15-20 min. at a time)
    - Adjust screens to reduce sensitivity when viewing Smart Boards, PowerPoint presentations as needed
    - Symptom limited cognitive activity
    - Math and science computations may be more difficult during recovery
    - Provide student with copies of class notes (teacher or student generated)
    - Audio books are helpful for students struggling with visual processing

***Progress to stage 3 when:**

- School activity does not increase symptoms
- Overall symptoms continue to decrease

Stage 3: Full Day of School Attendance

- Characteristics
    - Symptom free at rest
    - Mild to moderate symptoms with cognitive and school day activity
- Symptom limited cognitive and physical activity.
- <u>For the student athlete</u>: report daily to athletic trainer.

- For the student that is not an SHS athlete: report daily to the school nurse in conjunction with doctor's orders
- Available Interventions:
    - Continue with interventions listed in Stage 2 as needed
    - Consider limited homework, tests, quizzes (examples: may split tests into halves, limit to 1 test per day)
- If unable to progress to Stage 4 after 3 weeks, and it is unlikely the student will be able to make up required work, the Problem Solving Team (PST), and parents will consider possible course level changes, or class withdrawal.
- Consider a 504 Plan after 8-10 weeks of residual symptoms with educational impact

***Progress to stage 4 when:**

- Symptom free with cognitive and physical activity
    - Student should report any return of symptoms with cognitive or school day activity
- Written clearance by primary care physician (primary physician or neurologist) for return to physical and full academic activities. As of 2018, medical notes can be accepted from Nurse Practitioners (NP) and Physician Assistants (PA).

Stage 4: Full Academic and Athletic Participation

- Characteristics:
    - Asymptomatic with academic/cognitive and physical activities
- For the student-athlete**:** report daily to the athletic trainer. Student will begin the Return to Play Protocol with the athletic trainer.
- For the student that is not an SHS athlete**:** report daily to the school nurse.
- Available Interventions:
    - Resumption of full academic responsibilities once symptoms have resolved completely as determined by primary care physician. Counselor/School Psychologist will notify teachers.
    - Create plan for possible modification and gradual completion of required make-up work (school psychologist, counselor, teacher, director). Consider CARE program.
    - Consider homebound tutoring if student has more than 3 weeks of required academic work to make up.
    - Teachers have the discretion to identify essential academic work for their course.
    - For the student that is not an SHS athlete: written clearance to full participation from primary care physician will be required for return to PE/Dance participation. Upon receipt of clearance, school nurse will notify the PE teacher regarding appropriate return to full PE/Dance participation.
    - For the student athlete: required to follow the Return to Play Protocol under the direction of the athletic trainer.
- Return to Play Protocol (required)

- Written clearance from a physician may be required by the athletic trainer to begin physical activity.
- The Return to Play Protocol includes 6 phases of activity with increasing intensity. Each phase will take place **24 hours** following the previous step. If symptoms return during any phase, a period of rest is required before repeating that phase.
- <u>For the student athlete:</u> This protocol will be performed under the supervision of the athletic trainer.

Adlai E. Stevenson High School: Return to Play Protocol			
Rehabilitation Stage		**Functional Exercise at each Stage of Rehabilitation**	**Objective of each Stage**
Stage 1	Symptom-limited Activity	Daily activities that do not provoke symptoms	Gradual reintroduction of work/school activities
Stage 2	Light aerobic exercise	Walking or stationary cycling at slow to medium pace. No resistance training.	Increase heart rate/Check for issues
Stage 3	Sport specific exercise	Solo activity specific work, conditioning. No head impact activities.	Add movement/ Check for issues
Stage 4	Controlled Contact Practice only	Progression to more complex activity specific challenges. May start progressive resistance training	Exercise, coordination, and cognitive load
Stage 5	Full Practice with Contact/ No Competitions	Following medical clearance, may participate in normal training activities	Restore confidence and assess functional skills
Stage 6	Return to Activity	Normal game play	

McCrory et al Br J Sports Med 2016

*Return to Play Protocol can be altered at anytime based on updated research

**Return to Play Protocol can be adjusted based upon a specific athlete's needs

**Medical notes accepted by Nurse Practitioners (NP) and Physician Assistants (PA)

NOTE: An initial period of up to 72 hours of both relative physical rest and cognitive rest is recommended before beginning the RTP progression. There should be **<u>at least 24 hours (or longer) for each stage</u>** of the progression. If any symptoms worsen during exercise, the student should go back to the previous step. Resistance training should be added only in the later stages (stage 3 or 4 at the

earliest). If symptoms are persistent (eg, more than 10-14 days in adults or more than one month in children), the student should be referred to a healthcare professional who is an expert in the management of concussion.

After a brief period of rest during the acute phase (up to 72 hours) after injury, patients can be encouraged to become gradually and progressively more active while staying below their cognitive and physical symptom-exacerbation thresholds (ie, activity level should not bring on or worsen their symptoms). It is reasonable for athletes to avoid vigorous exertion while they are recovering. The exact amount and duration of rest is not yet well defined, therefore student athletes should follow the individualized care plans established by the primary medical professional overseeing their care.

Follow Up

- The athletic trainer and/or school nurse will conduct a follow-up assessment with the student one week after he/she returns to full academic and athletic activity.
- The student is encouraged to meet with their counselor regularly to discuss progress, grades, and status of make-up work.
- The student is encouraged to meet with the athletic trainer or school nurse to assess any recurring symptoms.
- If seen by their primary care physician or concussion specialist, a clearance note or verbal communication with athletic trainers and nurses, will be required for removal of academic accommodations and to RTP

For additional questions please contact the student's counselor, the school nurse, or the athletic trainer.

Resources:

• Consensus statement on concussion in sport—the 5th international conference on concussion in sport held in Berlin, October 2016

•Illinois High School Association
Head Smart: A Healthy Tran

•Glenbrook South High School Concussion Care Guidelines – 2012, Glenview, IL

•Libertyville High School Concussion Protocol – 2015, Libertyville, IL

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