

## **Concussions and School**

### **Definition**

A concussion is a type of head injury that changes the way the brain normally works. Concussions are caused by either a direct blow to the head, neck or body, or a whiplash injury when the head is snapped back and then forward. Concussions involve rapid onset of a short lived complex disturbance in brain function that resolves spontaneously, and may result in long term neuropathological impairment. Injury occurs when the brain slams into the skull and then “bounces” off the opposite side of the skull. The brain may also rotate inside the skull, causing further damage. A concussion usually does not show structural injury when the brain is imaged. It instead involves damage at the cellular level, and causes changes in both cellular chemicals and activity.

Second impact syndrome indicates a potentially lethal condition that can occur when a repeat concussion occurs prior to complete healing of a previous brain injury- usually within a short period of time (hours, days, or weeks). Recovery can be slowed and the likelihood of long-term problems is increased.

In Massachusetts, the diagnosis of concussion may be determined by a physician, nurse practitioner, certified athletic trainer or neuropsychologist following observation, examination, and the evaluation of tests of a patient.

### **Prevention and Education**

Medfield High School and Blake Middle School student athletes and their parents are required to educate themselves about traumatic brain injuries, including prevention, recognition, and care. This is intended to increase awareness about the dangers of brain injuries and about the biology behind concussions, common signs and symptoms, and treatment. Specific information is provided by the Athletic Department. Annual education on concussions is mandated for coaches as well as faculty and other staff members.

### **Recognition and Intervention**

In the event of head trauma/possible concussion the student should be observed for signs and symptoms for a minimum of 30 minutes.

If one or more signs or symptoms are present, the parent shall be notified and referral to a health care professional experienced in evaluating for concussion will be discussed. If signs/symptoms are not present, the student may return to class and continue to be observed. The student will be instructed not to participate in sports, wellness, recreational activities or other exercise on the day of the injury.

Parents shall be advised to seek medical attention for any signs and symptoms that do not resolve

promptly in order to determine the seriousness of the injury, and to inquire about recommendations for treatment including physical and cognitive rest.

Prior to, or upon return to school, parents should contact the school nurse. Students who are diagnosed with a concussion shall have a written graduated re-entry plan for return to academic and extracurricular activities. The plan shall be developed by the school nurse, teachers, parents, certified athletic trainer (when applicable), and members of the counseling department and other student support personnel as appropriate, and in consultation with the student's healthcare provider.

The written plan shall include but not be limited to:

1. Physical and cognitive rest as appropriate
2. Graduated return to classroom studies as appropriate
3. Estimated time intervals for resumption of activities
4. Frequent assessment by the school nurse, and by the certified athletic trainer as appropriate
5. Periodic medical assessments until full return to classroom activities and extracurricular activities are authorized.

Cognitive rest may include avoiding or limiting excessive noise (including listening to music with headphones), bright lights, use of computers, texting, television, video games, and reading, since these can provide too much stimulation to the brain and may exacerbate symptoms and delay healing. The signs and symptoms of concussion typically resolve in 7 to 10 days in the majority of cases.

A student's speed of processing information is often what is most affected by a concussion. The student may learn more slowly, have trouble remembering, and have a hard time concentrating and staying organized. The effects of a concussion may interfere with listening in class, learning new skills, taking notes, and studying for and completing tests. Reading, even for pleasure, can sometimes worsen symptoms.

Although not all students will require them, school accommodations may include:

- Time off from school
- Shortened school day
- Rest breaks in school
- Reduction in workload
- Extended time to complete coursework, assignments and tests, especially in math, science, and foreign language classes as well as delaying the taking of standardized tests until symptoms have cleared.
- For safety reasons, alternate transportation may need to be arranged by the parent if the student typically drives to school.

The student should be reassessed frequently, with input from teachers and other involved staff members. Accommodations should then be adjusted according to the student's progress.

## **Signs and Symptoms of a Concussion**

### **Signs Observed by Others**

- Appears dazed or stunned
- Is confused about events
- Answers questions slowly
- Repeats questions
- Can't recall events prior to the injury
- Can't recall events after the injury
- Loss of consciousness, even briefly (most concussions do NOT involve this )
- Shows behavior or personality changes
- Difficulty concentrating or remembering

### **Symptoms reported by the Child or Teen**

#### **Thinking or Remembering**

- Difficulty thinking clearly
- Difficulty concentrating or remembering
- Feeling sluggish, hazy, foggy or groggy

#### **Physical**

- Headache or pressure in head
- Nausea or vomiting
- Balance problems or dizziness
- Fatigue or feeling tired
- Blurry or double vision
- Sensitivity to light or noise
- Numbness or tingling
- Does not "feel right"

#### **Emotional**

- Irritable
- Sad
- More emotional than usual
- Nervous

#### **Sleep**

- Drowsy
- Sleeps less than usual\*
- Sleeps more than usual\*
- Has trouble falling asleep\*

(\*Ask about sleep symptoms only if the injury occurred on a previous day)

## **References**

*Massachusetts DPH Regulation 105 CMR 201.000 Head Injuries and Concussions in Extracurricular Athletic Activities*

*Heads Up to Schools: Know Your Concussion ABCs*

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