



Concussion in the Classroom

**A guide for parents, teachers, nurses,
guidance counselors, school psychologists,
and other school staff**

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What is a Concussion?

Concussion is a mild traumatic brain injury that occurs when a blow or jolt to the head disrupts the normal functioning of the brain. Some people lose consciousness after a concussion, but most do not. After a concussion, the person is often dazed or confused, and may not remember what happened.

Myths About Concussion:

- If you were not knocked unconscious, then you did not have a concussion
- Everyone gets better in two weeks
- Once the headache goes away everything will be fine
- Most concussions occur in sports
- If there is no visible injury, everything's okay
- You should play through the pain - get back in the game!

Facts About Concussion:

- You do not have to lose consciousness to have a concussion
- Symptoms of a concussion can last hours, days, weeks, or months
- More than a million Americans sustain a concussion each year
- Motor vehicle crashes and falls are the most common causes of concussion
- Concussions can cause problems in school, work, & social activities
- Returning to activities where there is an increased chance of brain injury, such as contact or collision sports, before you have completely recovered from a concussion can increase the risk of re-injury & cause more severe or prolonged symptoms

What are the Symptoms of Concussion?

Concussion can cause physical, cognitive, and emotional symptoms that last for a varying amount of time. Some symptoms show up right away, but others may not appear or be noticed for days or weeks after injury. Likewise, some symptoms might resolve fairly quickly, but others—especially fatigue—can persist much longer. The number and severity of symptoms, the speed of recovery, and the impact of symptoms on academic functioning or other activities will be different for each student.

Symptoms

Physical Symptoms:

- Headache
- Nausea
- Change in sleep patterns
- Lack of energy and always feeling physically & mentally tired
- Dizziness, lightheadedness, or a loss of balance
- Blurred or double vision & sensitivity to light
- Increased sensitivity to sounds & ringing in the ears

Cognitive Symptoms:

- Difficulty concentrating & paying attention
- Trouble with learning & memory
- Problems with word-finding & putting thoughts into words
- Easily confused & losing track of time/place
- Slower in thinking, acting, reading, & speaking
- Easily distracted
- Trouble doing more than one thing at a time
- Lack of organization in everyday tasks

Social and Emotional Symptoms:

- Mood changes including irritability
- Decreased motivation
- Easily overwhelmed
- More impulsive
- Withdrawn & wanting to avoid social situations, especially with many people

Symptoms

How do Concussion Symptoms Show Up in School?

After concussion, a student may have one or more concussion symptoms that cause difficulties in the classroom. For example, the student might. . .

- Get tired easily in class and over the course of the day
- Be bothered by bright fluorescent light in the classroom or loud noise in the cafeteria
- Be easily distracted
- Have trouble doing more than one thing at a time, such as listening to the teacher while also taking notes
- Take longer and need more repetition to learn new material
- Remember something one moment but not recall the same thing another time
- Be easily overloaded, especially with a steady flow of information
- Read more slowly due to difficulty with comprehension
- Have a headache that develops or worsens with concentration
- Feel dizzy after sudden movement or lose their balance more easily
- Have trouble organizing and remembering homework
- Lose track of time
- Get lost or have trouble finding their way around
- Get frustrated or irritated more easily, especially if overloaded

Concussion is an **invisible injury**. Because of this, changes in a student's thinking, learning, and behavior may be blamed on other causes. For example, mental fatigue or difficulty concentrating may be misinterpreted as laziness or disinterest. Students themselves might wonder if they're "crazy" because they can't see or feel the brain injury, only its effects. Pressures to return to sports or other activities before complete recovery may cause the student, parent, coach, or teacher to minimize concussion symptoms. In general, concussion affects mental stamina more than intellectual ability. This is because the injured brain must work much harder to accomplish anything, and so the student gets tired more easily. Fatigue and overexertion will often be accompanied by a temporary worsening of post-concussion symptoms.

Return to Learn Strategy

• After an initial period of relative rest (24-48 hours following an injury), athletes can begin a gradual and incremental increase in their cognitive load. The steps below explain the progression of activities students should undertake to get back to the classroom. Progression through the strategy for students should be slowed when there is more than a mild and brief symptom exacerbation.*

Step	Mental Activity	Activity at Each Step	Goal
1.	Daily activities that do not result in more than a mild exacerbation* of symptoms related to the current concussion.	Typical activities during the day (eg, reading) while minimizing screen time. Start with 5–15 min at a time and increase gradually.	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 schoolwork. May need to start with a partial school day or with greater access to rest breaks during the day.	Increase academic activities
4.	Return to school full time	Gradually progress in school activities until a full day can be tolerated without more than mild* symptom exacerbation.	Return to full academic activities and catch up on missed work

• *Mild and brief exacerbation of symptoms is defined as an increase of no more than 2 points on a 0–10 point scale (with 0 representing no symptoms and 10 the worst symptoms imaginable) for less than an hour when compared with the baseline value reported prior to cognitive activity.

How Can I Help?

Academic difficulties may continue for quite a while after concussion, and can contribute to poor adjustment and behavioral problems. Because of this, teachers and other school staff play an important role in a student's recovery from concussion.

A team approach to the student recovering from concussion is most helpful. It may be useful to designate a single person in the school to take the lead in communicating with parents, teachers, staff, and medical professionals. Sometimes a meeting is needed to discuss the student's symptoms and to arrange for accommodations.

Changes in thinking, learning, and behavior after concussion can be subtle and hard to detect. If current teachers and staff have had little preconcussion contact with the student, then talking to others who worked with the student before injury can help to clarify how post-concussion symptoms might be affecting current learning and behavior.

Teachers' sensitivity and understanding toward the student is critical. Teachers might want to think of ways to monitor progress and focus on improvements rather than on the symptoms themselves.

The physical safety of the student is especially important. If a student sustains another concussion while still recovering from a previous one, then postconcussion symptoms can be worse and last longer. Therefore, any activity that unnecessarily increases the risk of another concussion should be avoided until the student is recovered. This would include contact and collision sports, some recreational sports such as biking or skiing, and certain low-risk physical education activities. As symptoms improve, students can often return to physical activities where there is low risk of re-injury before they are fully recovered. In fact, exercise may actually be beneficial, as long as it does not aggravate concussion symptoms such as headache or dizziness.

How Can I Adapt in the Classroom?

Listed below are some general recommendations that might be helpful for the student with concussion symptoms. Reports from the hospital or medical team should also be reviewed for specific issues and suggestions for each individual student.

What Are Some Concussion Management Strategies?

After concussion, the most significant problem for the student tends to be a decrease in mental energy, like a battery that drains much quicker than before. The student's energy level will also be more variable due to injury, so what's manageable one day is not necessarily manageable the next. Importantly, it is usually not one specific subject or activity that causes fatigue, but the combined demands over the course of the day or week.

When concussion symptoms start to get worse, it usually means the student has reached the point of overexertion and needs a break. Some students may need only a short break in the middle of the day, whereas others might need to rest or nap for a couple of hours in the afternoon.

The most important accommodations that can be made for the student are:

- Reduce schoolwork demands to a level that is manageable for the student, including reduced homework and, if necessary, reduced course load
- Schedule rest periods and provide the student with a calm and quiet place to take a break or a nap
- Remove the student from recess and physical education activities where there is an increased risk of head injury—especially any contact or collision sports—until they have recovered; substituting mental activity for physical activity is not recommended, and light exercise (after medical clearance) that does not aggravate symptoms may actually be beneficial
- Allow the student to eat lunch in a quiet room with one or two friends rather than in a crowded and noisy cafeteria





Other General Strategies:

- Extending time on tests and assignments to allow for slower processing speed, especially if there is a significant reading demand
- Providing a quiet room in which to take tests to minimize distraction
- Offering preferential seating to minimize distraction and allow better monitoring of attention and energy level
- Reducing light sensitivity by allowing the student to wear sunglasses or a hat with a visor in class
- Breaking information and assignments down into manageable chunks
- Helping the students stay organized with strategies such as keeping track of homework assignments
- Reducing confusion and the chance of falling in crowded hallways by having the student change classes with a buddy (leaving class a few minutes early when the hallways and stairwells are less crowded is another option, but less preferable because the student tends to feel singled out or different from other students)
- Minimizing screen time by printing notes and slides, allowing student to take handwritten notes, and permitting hard-copy tests rather than online exams

What Can the School Nurse Do To Help?

The school nurse often plays an important role in the student's recovery from concussion. To begin with, the nurse's office is often used as a place for students to go for a rest break when they are tired or when other symptoms such as headache, nausea, or irritability flare up. These symptoms will usually improve if the student is able to rest in a quiet and darkened place— which may or may not be in the nurse's office itself.

The school nurse can help to monitor the student's symptoms and recovery. If medication is prescribed by the student's doctor, the nurse may help to manage medications in the school setting. Headaches may respond to over-the-counter analgesics such as acetaminophen or ibuprofen. In some cases prescription medications are used. Poor mental stamina and poor attention are often treated with a neurostimulant. A variety of medications may also be prescribed to improve sleep and emotional control, or to alleviate other post-concussion symptoms.

Students who are recovering from a concussion are at increased risk for sustaining another concussion, which can worsen symptoms and hamper recovery. They will often be given a physician's note restricting them from participating in risky sports or physical education activities for a period of time. If there is any question of possible re-injury, the student should be immediately referred for medical re-evaluation.

Beyond providing the support that students recovering from concussion need during school hours, the school nurse is well positioned to advocate for their educational needs. They can coordinate in-service trainings for staff and facilitate communication among teachers, parents, and the student during recovery.

The school nurse may be the one professional on staff with the understanding to make the connection between recent changes in a student's behavior, like frequent visits to the nurse's office because of headaches, with a recent event in the gym. A student with an unrecognized concussion may have lost friends, fallen behind in schoolwork, and/or been "in trouble" at home or in school. The school nurse can begin to gather pertinent information that could lead to identification and appropriate intervention.



How Can I Help With:

Attention & Concentration Problems?

- Use short and specific instructions and assignments, and be sure they get written in the student's planner or assignment book
- Be alert to when the student's attention drifts and use visual or verbal cues to redirect their attention without appearing to single them out
- Allow rest breaks if the student is having particular difficulty sustaining attention
- Use color coding and underlining to focus attention on important points
- Remove unnecessary distractions in the classroom (limit items on desk, etc.)
- Facilitate transitions from one topic or task to the next

Comprehension & Memory Problems?

- Provide an overview or outline of material to be learned
- Use a tape recorder to record lessons (ideally placed on the teacher's desk), or provide teacher-generated notes
- Reinforce lessons with visual images
- Allow the use of fact sheets in order to help reduce the demand on memory
- Encourage the student to restate information in their own words
- Teach the student to use mnemonic devices, rehearsal, repetition, association, chunking, and mental visual images to help memorize material
- Teach the student to identify the "wh" questions (who, what, where, when, and why) before reading the material
- Help the student relate new information to what they already know
- Use multiple-choice and open-book tests to minimize retrieval demands

How Can I Help With:

Executive Functioning Problems?

- Assist in planning and sequencing events using diagrams, time lines, and charts to organize information and activities
- Encourage use of organizational strategies such as lists, journals, schedules, assignment sheets, or planner, and keep these in a single place
- Encourage goal-setting and self-monitoring of progress towards goals
- Encourage the student to pay attention to time
- Provide feedback more frequently

Visual & Auditory Processing Problems?

- Provide copies of notes prior to class to reduce demands on visual tracking (moving back and forth between the blackboard and note paper) and auditory processing
- Check the student's comprehension of directions or test questions
- Encourage strategies to improve visual tracking such as using a ruler

Behavioral, Emotional, & Social Problems?

- Don't put the student on the spot such as asking them to present in front of the class or asking to answer a question when they have not raised their hand
- When the student is frustrated or over-stimulated allow the student to leave the classroom and go to a prearranged location where they can rest quietly
- Encourage the student to seek help when needed
- Monitor the student's peer relations
- Prepare the student for changes and transitions, such as by helping to set expectations or rehearsing new routes and procedures

How Does the Grade Level of the Student Make a Difference?

Elementary School:

Compared to older students, elementary school children are more likely to complain of physical problems or misbehave in response to cognitive overload, fatigue, and other concussion symptoms. Because of this, communication and collaboration among school staff, parents, and medical professionals is especially important in identifying and managing post-concussion symptoms and academic difficulties. Also, the student's teacher, parent, or guardian may want to talk to classmates about the student's injury so they understand that it is not contagious or life-threatening.

Middle School:

Peer relations are very important to middle school students. They can be extremely sensitive to being different and may try to minimize symptoms so as not to stand out. It is therefore particularly important that parents, teachers, and medical professionals communicate with each other and monitor the student's academic and social functioning. The demands on executive functioning—such as setting goals and planning ahead—are also much greater than in elementary school, so organizational problems may have a greater impact on academic performance.



How Does the Grade Level of the Student Make a Difference?

High School:

High school students are often very busy. They attend school for most of the day, sometimes taking advanced classes, have homework at night, and often have more than one extracurricular activity they are involved with after school or on weekends. Therefore, prioritizing activities and reducing overall demands becomes especially important in order to reduce fatigue, headache, and other symptoms. Executive functions such as planning, organizing, and problem solving are increasingly important as the student moves through high school, and are also particularly vulnerable to concussion. After concussion, the high school student may be more likely to lose track of homework assignments, have more difficulty planning how to approach a project or paper, or tend to arrive in class without the proper text or materials. These difficulties may also go undetected for a while because, typically, each teacher only spends a limited time with the student. Good communication and teamwork can help to identify and address problems with executive functioning as early as possible.

College:

Like high school, college life often involves a lot of activity, both academic and extracurricular. Unlike high school, students in college are expected to be independent and to take care of themselves. The student is often distant from parental oversight. A college student with postconcussion symptoms may minimize or be unaware of the effects of the injury, especially if he or she is not in close contact with family members who might recognize subtle changes. College students may feel pressured to keep up their academic, athletic, work and social activity levels and therefore be reluctant to seek medical and other services on their own. Alcohol consumption among college students is also a significant concern. Drinking alcohol while experiencing post-concussion symptoms puts the student at increased risk for another brain injury, which in turn can worsen or prolong symptoms. Considering all of these factors, the college student with lingering post-concussion symptoms should seek out the college office that is responsible for assisting students with disabilities. Close contact with the disability services office will facilitate opportunities to monitor the student. The disability services office will act as an advocate for the student, and will collaborate with other college offices and services to make appropriate accommodations and adjustments for the student.

Additional Information

How Long Does it Take to Get Better?

Most people recover completely from a concussion in a matter of days or weeks, but symptoms can last much longer. Overexertion, re-injury, and academic or emotional stress can aggravate symptoms and prolong recovery.

How Can Treatment Help?

Early intervention after concussion can help to minimize the risks of re-injury and over-exertion, both of which can complicate recovery. In many cases, education about the injury and advice about how to best manage the symptoms may be all that is needed. When symptoms are more severe or last longer, medication and rehabilitation therapies may be necessary to help patients feel and function better as they recover. Because concussion can affect multiple aspects of a person's day-to-day functioning, concussion treatment is best provided by a multidisciplinary team that works in collaboration with the patient's family, school, and other medical providers.

When is it Safe to Return to Sports After Concussion?

If an athlete sustains another concussion while still recovering from a previous one, the risk of severe problems is greatly increased. Because of this, and because it is sometimes hard to recognize the symptoms of a concussion, the decision to return an athlete to play should only be made by a qualified professional. In general, athletes should not return to play after concussion until they are no longer experiencing concussion-related symptoms both at rest and with mental or physical exertion.

Resources

Brain Injury Alliance of New Jersey (BIANJ)

A statewide nonprofit organization dedicated to improving the quality of life for anyone impacted by brain injury by providing support, advocacy, and information, while promoting brain injury prevention. www.bianj.org

New Jersey Concussion Law

An act concerning the safety of certain student-athletes and amending and supplementing P.L.2010, c.94. https://pub.njleg.state.nj.us/Bills/2020/PL21/222_.PDF

New Jersey DOE Model Concussion Policy

This document is designed to provide guidance to local district boards of education in the development, establishment, and implementation of policies, procedures and programs for the prevention, treatment, and education of Sports-Related Concussions and Head Injuries. <https://www.nj.gov/education/safety/health/profs/docs/NJDOEModelConcussionPolicy.pdf>

New Jersey State Interscholastic Athletic Association (NJSIAA)

The NJSIAA was the first organization in New Jersey to develop a concussion policy in light of the consensus that developed from the International Concussion Summits. The site offers information about concussions and resource materials for coaches and athletic trainers. <https://www.njsiaa.org/health-safety/concussion-information>

The U.S. Centers for Disease Control & Prevention

The Centers for Disease Control offers more information about concussion at <https://www.cdc.gov/heads-up/>



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