

HeadSmart™

A healthy transition after concussion

UNDERSTANDING CONCUSSIONS



South Shore
Hospital

YouthHealth
CONNECTION



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HeadSmart™ is a recovery protocol developed by physicians and school nurses to facilitate a student's healthy return to school and sports following a concussion. The protocol is designed to engage students — as well as their families, friends, health care providers, teachers and coaches — in the recovery process.

HeadSmart outlines four color-coded stages of recovery that students experience after a concussion. The four stages help to create a common language and understanding among students, family members, friends, school and health professionals throughout the recuperation process.

The HeadSmart handbook is an easy-to-use guide for middle, high school and college age students who have experienced a concussion. It is recommended that students review the handbook with family members, teachers, coaches and school health professionals. Handbook users will find:

- Information about concussions
- Descriptions of the four color-coded stages of recovery
- Resources, programs and additional readings for students, families and teachers

The handbook also includes a helpful tool called the Recovery Action Plan that can serve as a valuable checkpoint through each stage of recovery.

HeadSmart is the outcome of a unique collaboration among Scituate Pediatrics, Scituate High School and three South Shore Hospital programs: Sports Concussion Clinic, Youth Health Connection, and Reading Partnership.

Protocol contributors include three members of South Shore Hospital's medical staff — David Morin, MD of Scituate Pediatrics; Janet Kent, MD, medical director/Sports Concussion Clinic; and Michael McManus, MD, executive director of pediatric medicine — and school nurse leaders from Braintree, Canton, Framingham, Quincy, Scituate Walpole and Weymouth.

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High school teacher: "As a teacher, I greatly appreciated learning the parameters and intricacies of students with concussions. With this new knowledge of color coding student conditions, teachers will be able to develop learning accommodations to successfully transition students back into the classroom."



A **traumatic brain injury (TBI)** is a blow or jolt to the head that can temporarily or permanently impair a student's physical abilities and change how the student thinks, acts and learns in school. A concussion is a type of TBI that also is referred to as a "closed head injury."

How can a concussion affect you?

A **concussion may impact a student's academic performance.** You may learn more slowly, have trouble remembering, and have a hard time concentrating or staying organized. The effects of a concussion may interfere with listening in class, learning new skills, taking notes, studying for and completing tests, and organizing long-term projects.

A **concussion may impact a student's physical and emotional well-being.** You may experience headaches or nausea, be sensitive to bright lights and loud noises. You could be more tired, feel dizzy or out of balance. You may feel depressed or sad, experience nervousness or anxiety or feel impulsive, angry or aggressive.

Post-concussion life can be frustrating.

When you return to school after a concussion, your needs may be different than before your injury. Your injury happened suddenly and, often, traumatically. Adjusting to school again may be difficult and will take time. It can be frustrating to remember how things were before you got hurt. You'll need to adjust your expectations — and so will your family, friends and teachers.

What seemed simple before now may be challenging.

Often what is most affected by a concussion is a student's speed of processing information.

The faster and easier you can do some tasks, the more resources are freed up to perform more complex tasks. Reading is an example of a complex task that requires you to simultaneously recognize, understand and remember the meaning of words and ideas. Taking notes is another complex task that requires you to listen, understand and write words both quickly and accurately.



Student — football: "Having a concussion is totally frustrating. I hated missing games and thought I should be back on the field with my team. Looking back, I realize that I wasn't thinking right and probably wouldn't have made the right choice."

Recovery from concussion

- Young people recover more slowly than adults.
- You will recover more quickly with rest from both physical activity and school work.
- Because you do not want to fall behind in your classes or sports, you may not give your brain and body the necessary time to heal.
- Returning to school too early may make your symptoms worse and slow the healing process.

Physical symptoms that may continue during recovery:

- Headache
- Nausea
- Light and noise sensitivity
- Fatigue, sluggishness
- Dizziness
- Changes in sleep patterns
- Blurred vision
- Reduced/impaired concentration

Changes in emotional well-being during recovery:

- Higher irritability
- Withdrawn
- More defiant
- Inappropriate behavior
- Argumentative
- Inappropriate emotional reactions
- Emotional ups and downs
- Lack of energy
- Easily annoyed/"short fuse"



Parent of a field hockey player: *My daughter is a very conscientious student. Without the school plan I would have had to tie her to the bedpost to make her turn off her computer and rest.*

Concussions may cause changes in school performance

- Slower processing speed
- Lapses in short-term memory
- Reduced/impaired concentration
- Slower to learn new concepts
- Shorter attention span
- More difficulty organizing
- More difficulty completing assignments and studying for tests

It is important to allow time for recovery to prevent:

Post Concussion Syndrome: A disorder that may occur after head injury. Symptoms include dizziness, fatigue and headache well after the initial injury. It may be prevented by strict adherence to your recovery plan.

Second Impact Syndrome: A rare but catastrophic occurrence that may lead to severe debilitation or even death. It involves a second injury to the brain before the first injury is fully healed. It can be prevented by immediate removal from play following a blow to the head and strict adherence to your recovery plan.



School nurse: "Over the years I have seen so many students attempting to be in the classroom and back on the field before they were fully recovered from a concussion. Having ImPACT testing has given us a tool to assess the healing progress and individualize a recovery plan. I would never want to go back!"



Michael's experience

Michael is 15, a high school sophomore. His concussion happened while on a routine practice run with his high school ski team, during the first skiing warm-up run of the day. Michael says, "I remember going up the lift and getting off at the top of the mountain."

"I remember riding to the emergency room, not sure what happened to my equipment. I thought I face-planted on the mountain — that's what some teammates saw me do." Two days after the event, Michael checked out his helmet for the first time and noted it was fractured in back. It is assumed that he fell, hitting the back of his head, then got up to continue skiing, but fell forward instead. This was the only part of the event that he remembered.

"It bothered me at first that I couldn't remember what happened. I remember going on the ski lift and then after the fall being at the base of the mountain — I have never remembered how I fell."

Michael's symptoms included:

- Nausea — only immediately after the injury
- Light sensitivity — for the first four days
- Headache — constant all day long, for about a week
- Dizziness — when going downstairs, bending over, lowering his head or changing his position too quickly (such as from sitting to standing).

Michael's school participation after his concussion was challenging. He was out of school for two days (Thursday and Friday, then rested over the weekend). "It helped to rest and be quiet," he says. When he went back to school, he had a headache that was constant all day for the early part of the following week. He found it hard to concentrate or think — and this was very frustrating. Processing math problems was slower, and he had to pace himself when completing homework. He rested during off periods and checked in with the school nurse during the day. "She was my best support," Michael says. "I had midterms two weeks after the fall. I talked with my teachers and just did the best I could."

Michael wants to share some suggestions that he learned from his post-concussion experience. "Ask your teachers to lighten your load," he stresses, "and allow more time to complete your work. Advocate for neurocognitive testing, such as ImPACT (see page 11), to assess how your brain is functioning. And make sure that you, your friends, your school team and your parents agree about your treatment plan."

Michael (student): *"I had headaches and sensitivity to light for about a week. I had to remember not to bend over to pick anything up, it made me dizzy and brought back my headache."*



Treatment for a concussion: Rest, rest and more rest.

- The “rest, rest, rest” process can be a real challenge for you! You will be tempted to be more active than you should be. Remember that you will *only* heal with rest.
- You and your parents need to learn about the critical importance of rest for your healing, as well as the changeable nature of the symptoms and the various stages of recovery.
- Your recovery team includes you, your family, your teachers, school nurse and doctor — *and* your friends. Make sure to include them in the recovery process so they can be a strong support system for you.
- Make sure everyone understands that your injury may be invisible — but it is **very serious**. A concussion needs to be treated as carefully as any other injury. Follow the doctor’s plan exactly.
- Remember the importance of your long-term goal: to protect your brain.
- Note that even in professional sports these days, coaches are more aware of the danger of concussions and no longer say “just play through it.”
- Be patient when explanations and warnings are repeated to you over and over. Your recovery depends on you!

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Parent of a football player: “Having a school concussion protocol already in place for my son was terrific. Everything worked the way it was supposed to. It took pressure off us as parents to have so much support from the school.”

The four stages of recovery

RECOVERY: RED STAGE Usually 2-4 days, but could last weeks

School attendance: Students typically do not attend school.

For student at home

- Keep strict limits on TV, reading, gaming, cell phone use, texting, face-to-face socializing and computer use.
- No sports.
- Rest, rest, rest and more rest! This means lying in bed with minimum noise and low or no lights.
- *An option that can really help:* Review and sign your Recovery Action Plan (see page 14).

For parents/guardians

- Enforce strict limits on your child's use of electronics and screen time.
- Use home-school email or phone to inform the school of concussion injury..
- Request the school to assign a contact person ("Team Captain") with whom you may communicate about your child's progress.
- *An option that can really help:* Develop a Recovery Action Plan with your child, to cope with the lessened activity necessary to facilitate recovery (see page 14).
- Enlist the support of family and friends in completing and following through on the Recovery Action Plan.

For school personnel

- Once the school is informed of the student's concussion, assign a contact person ("Team Captain").

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High school teacher: "It allows me to be more sensitive to the needs of students who have an injury that is not obvious. To have a concussion plan is critical considering the rapid pace of today's education environment."



RECOVERY: ORANGE STAGE

School attendance: Half days to full days.

For student at home

- Rest, rest, rest and more rest!
- Limit TV, video games, use of computers, cell phones and texting.
- Go to bed early.
- Avoid the school bus; don't carry books or heavy back packs.
- During weekends, allow yourself one hour at a time for videos, TV or computer (two hours total per day).
- Limit your physical activity! No working out aerobically or weight training — this will slow down your recovery.
- Review and adjust your Recovery Action Plan with your parents, siblings and friends.

For student at school

- You may audit classes — listening, no note taking.
- Keep teachers updated as often as possible.
- Keep current copies of assignments and handouts.
- Be patient with your “slow” recovery.
- Have your lunch or rest in the nurse's office, if you need to.
- Find audio books and textbooks on tape or CD.
- No band, no chorus, no physical education (due to high noise levels). No sports.
- Review and adjust your Recovery Action Plan when needed.

For parents/guardians

- Maintain communications and advocacy with the school staff, the school nurse and your child.
- Share and reinforce the Recovery Action Plan with your child, the school staff and the nurse.
- Keep your child's schedule very light.

For school personnel

- Work with assigned Team Captain (e.g., the guidance counselor, school psychologist, teacher).
- With the student, sort work assignments into three categories:
 - a. Excused — not to be made up
 - b. Accountable — student is responsible for the assignment but may work with another student
 - c. Responsible — must be completed by the student
- No tests at this stage.
- No homework at this stage.

