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## Teens may need more time to heal from concussions

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DINA RUDICK/GLOBE STAFF

**Madeline Uretsky is still recovering from a concussion she suffered in October 2011. For months, she and her mother stayed in their darkened house and talked, played word games, and cooked. Over a year later, she's still not the A-student she used to be.**

When high school junior Madeline Uretsky sits down to do her homework, she knows it won't be as easy as it once was.

Uretsky, 17, of North Reading, used to be able to plow through her school work before rushing off to sports practice. Now, she has to re-read complicated passages so she can understand them, and she tires easily. These days, her athletic activity consists of trying to stay on the treadmill longer than the last time without feeling dizzy.

And then there's the headache that won't go away.

The headache has been constant since the afternoon of Oct. 13, 2011, when another player accidentally tripped Uretsky while they were running down the soccer field. Uretsky fell forehead-first into the dirt.

The concussion she got did so much damage that more than a year later, she's still not the A-student she used to be. And she'll never again be the athlete she once was.

Every concussion is different — a majority of teens get better much faster than Uretsky — and it's impossible to predict how long recovery will take. But researchers are certain that too many young people aren't resting adequately and getting the time they need. More research is required, specialists say.

A study published in late December found that 15 of 54 student athletes who seemed to have bounced back from a concussion saw a decline in memory skills after they exercised moderately — suggesting that their brains had not yet healed. Doing too much too early could delay recovery, concussion specialists say — draining needed energy away from healing.

Those who get one concussion are more likely to get a second, and receiving more than a few can put people at risk for permanent brain damage.

“It's the people who have many concussions or perhaps people who sustain multiple hits to the head that we worry about the long-term effects,” said William P. Meehan, director of the Sports Concussion Clinic at Boston Children's Hospital.

Research over the last seven years, much of it from Boston University, has shown a link between repeated head traumas and a degenerative, Alzheimer's-like brain disease called Chronic Traumatic Encephalopathy or CTE, which has also been linked to suicide. Junior Seau, a star NFL linebacker for 20 seasons, including his final four with the New England Patriots, apparently had CTE when he committed suicide last year.



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In a study published in December in the journal *Brain*, BU scientists found evidence of CTE in the brains of 68 of 80 deceased former athletes, including NFL stars Dave Duerson, Cookie Gilchrist, and John Mackey. (Duerson, of the Chicago Bears, killed himself last year. Both Gilchrist, of the Buffalo Bills, and Mackey of the Baltimore Colts, showed signs of dementia before their deaths in the last two years at age 75 and 69, respectively.)

Though the rate of CTE is thought to be much lower in the general population, these cases have raised the stakes for student athletes and everyone else who gets a concussion, putting more focus on the recovery process and particularly on avoiding subsequent hits to the head.

Uretsky's hit was her second in six months, which may have made it worse, and she was so seriously injured that she couldn't walk in a straight line — another sign that a concussion is likely to have a longer-lasting effect.

Her doctor, Robert C. Cantu, the Boston University researcher who helped conduct the CTE research, sent the teenager home after the accident with orders to rest. No TV. No computer. No cellphone. No bright lights. No reading. Because of the number and severity of her symptoms, it also meant no keeping up with her classes at Bishop Fenwick High School in Peabody.

For three months, she and her mother stayed in their darkened house, often lying in bed together, talking, playing simple word games, or cooking.

“Anything we could that didn't require too much from her,” her mother, Jami, said. Slowly, Uretsky began to regain her ability to follow a conversation, to express an opinion, to recite the days of the week.

Uretsky's injury was so severe that taking it slow hasn't been a choice. She simply can't do what she used to do.

But after a while, there are diminishing returns from extended rest, doctors said.

For a lot of kids, missing out on their daily lives and on homework until they're fully recovered could actually add to their stress and symptoms, said Alex McLean Taylor, director of neuropsychology at the Boston Children's Brain Injury Center.

And too little activity after a concussion might be as bad as too much, said Gerard A. Gioia, director of the Safe Concussion Outcome, Recovery & Education (SCORE) Program at Children's National Medical Center in Washington, D.C.

Deciding when someone has rested enough “is still an art form,” Gioia said. “We need to be studying this, and ultimately need to refine this with some good scientific evidence.”

Meehan said he usually lets students return to school about a week after a concussion, even if they can keep up with only two or three subjects and need extra time on tests for a while.

Sports are usually off the table for longer. Meehan said he starts students back with some easy jogging, to make sure they can handle the activity without showing symptoms such as dizziness or headaches.

“The last thing we want is for kids to stop doing sports,” Meehan said, citing the childhood obesity epidemic and the benefits of team play.

Ryan Quinn, a senior at North Andover High School, would never give up sports, but he has cut back after getting a concussion in basketball his sophomore year, and another in football his junior year — both of which cost him a month of school.

He agreed to quit basketball, lacrosse, and hockey for good, but when he wanted to rejoin the varsity football team this fall, Cantu, his doctor, struck a compromise: He suggested Quinn focus on being a field goal kicker. Now, Quinn, 18, works out with the team, but avoids tackling.

Although he still feels overwhelmed in loud, bright places, Quinn says he’s fully recovered. He volunteers to talk about concussions with students in North Andover and elsewhere, advising them to use safety equipment to help prevent concussions.

“I don’t want them to get knocked out and have to give up things they love to do,” he said.

Concussion specialists say that because concussions can happen in any sport, or even a moment of clumsiness, no specific sports should be off-limits.

But in a book that came out in September, “Concussion and Our Kids,” Cantu argues that youth should avoid tackle football, heading a soccer ball, or body checking in hockey at least until age 14, when the brain and neck are more mature.

Helmets help protect against more serious brain trauma — and are essential in sports such as field hockey, lacrosse, and baseball when batting, Cantu said. But studies suggest that helmets may encourage athletes to play more aggressively, causing more of the knocks that lead to concussions, Meehan said.

Meehan said he’s concerned that all the recent publicity over concussions will make parents unnecessarily anxious.

“I think some people fear that if they get a concussion or two that they’re going to have these lifelong consequences, and that’s just very unlikely,” he said.

Jami Uretsky has had to overcome that anxiety to allow her son Mitchell, 15, to play hockey after her daughter’s injury.

“What am I going to say, ‘You need to quit because your sister got hurt?’” she said. “So I just sort of close my eyes and hold my breath.”