



Saving Lives and Protecting People:

Preventing Traumatic Brain Injury

Traumatic brain injury (TBI) is in the news a lot these days: A football player injured in a tackle. A soldier disabled by an explosion. A child hospitalized as a result of shaking. An older adult injured in a fall.

TBI is a serious public health problem in the United States. Every year, 1.7 million people sustain a TBI, leading to 275,000 hospitalizations and 52,000 deaths.¹

Putting Science into Action to Reduce Traumatic Brain Injuries

CDC's National Center for Injury Prevention and Control (Injury Center) is committed to saving lives and protecting our nation from injuries and violence.

One of the Center's focus areas is preventing and responding to TBI. The Injury Center works with partners to raise awareness of TBIs and ways to prevent them. The Center also helps health care providers, parents, coaches, and others respond quickly and appropriately when TBIs do occur to lessen the consequences of these injuries.

Identifying and Monitoring the Problem to Inform Prevention

The Injury Center gathers, analyzes, and publishes data about TBIs. The Center and its partners use this essential information about the incidence of TBI to develop TBI prevention activities, identify research and education priorities, and make the case for services for people living with a TBI.

- *Traumatic Brain Injury in the United States: Emergency Department Visits, Hospitalizations, and Deaths, 2002–2006* describes the leading causes of TBIs and the groups most affected.
- *Surveillance for Traumatic Brain Injury-Related Deaths—United States, 1997–2007* describes the epidemiology and annual rates of TBI-related deaths over a decade.



WHAT IS TBI?

A TBI is caused by a bump, blow, jolt, or penetration to the head that disrupts the normal function of the brain.² Falls are the leading cause of TBIs, especially among young children and older adults.¹ Motor vehicle crashes, sports injuries, firearms or explosives injuries, and being hit by an object are other major causes.^{1,3,4} A concussion is a type of mild TBI.⁵

IN THE UNITED STATES



At least **3 people** sustain a TBI every minute.¹



Every 36 minutes, an adult age 65 or older dies from a TBI.¹



5.3 million people live with disabilities caused by a TBI.⁶



In one year alone, TBIs cost Americans **\$76.3 billion** in medical care, rehabilitation, and loss of work.^{7,8}

Protecting Children and Teens from TBIs

- Through its *Heads Up* campaigns, the Injury Center provides free tools, trainings, web material, and social media for health care providers, school administrators, nurses, teachers, coaches, and parents to help them recognize and respond to a TBI:
 - *Heads Up to Clinicians*
 - *Heads Up to Schools: Know Your Concussion ABCs*
 - *Heads Up: Concussion in Youth Sports*
 - *Heads Up: Concussion in High School Sports*
- The Injury Center partners with medical, educational, youth, and sports organizations—such as the National Football League (NFL) and the American Academy of Pediatrics—to help coaches, parents, athletes, and school and health care professionals prevent, recognize, and respond to TBIs that occur both on and off the sports field.

Helping Medical Professionals Improve TBI Treatment

- The Injury Center and the American College of Emergency Physicians (ACEP) developed *Updated Mild Traumatic Brain Injury Management Guideline for Adults*. Accompanying resources for clinicians include a pocket card, fact sheet, patient instruction sheet, and patient wallet card.
- The Injury Center's *Heads Up to Clinicians: Addressing Concussion in Sports among Kids and Teens*, a free online course developed with support from the NFL and CDC Foundation, teaches health care professionals how to recognize and manage concussion in young athletes.
- The Injury Center is convening an expert panel to develop specific guidance for identifying and treating mild TBIs in children.

Supporting State TBI Prevention Efforts

- The Injury Center's Core Violence and Injury Prevention Program funds state health departments to estimate the impact of TBIs and define the groups most affected. The resulting data are a powerful tool to ensure that a state's TBI prevention activities are guided by the best available science and research.
- Many states have been recently passing "return to play" laws to protect young athletes from deadly or disabling consequences of returning to play too soon after a TBI. CDC's *Heads Up* materials help coaches and administrators comply with these laws. CDC is also working with states to evaluate these policies to ensure they achieve their intended impact.



HEADS UP COACHES TRAINING MAKES THE DIFFERENCE

After Cole, a Memphis high schooler, sustained a concussion during wrestling practice, his doctor told him to sit out until he had been medically cleared. But Cole went back to practice a week later.

Right away, Cole's coach noticed something was wrong. Cole seemed to be clumsy and stunned, and he was having trouble answering questions and remembering things. Having been through the Injury Center's *Heads Up: Concussions in Youth Sports* online training and posted *Heads Up* posters in locker rooms, the coach knew these were red flags. He sent Cole to the

athletic trainer, who removed him from practice and helped his mom make an appointment for Cole to see a neurologist the next day. The neurologist believes this quick recognition and response saved Cole's life.

"My coach learned to recognize the symptoms of a concussion from these CDC materials," says Cole. "I am grateful for these posters and trainings."

AWARENESS IMPROVES TREATMENT & PREVENTION



Between 2001 and 2009, increased awareness about TBI caused a rise in emergency department visits for sports- and recreation-related TBI among youth, especially young boys.⁷ **Greater awareness** can lead to **better prevention and treatment.**



As of 2011, more than **350,000** coaches, parents, and health care professionals have completed the Injury Center's *Heads Up concussion education* online training courses.

CDC's Commitment to Prevention

The Injury Center is the only U.S. federal agency that deals exclusively with injury and violence prevention in non-occupational settings. It leads a coordinated public health approach to tackling this critical health and safety issue.

The Injury Center is committed to continuing its work to help people prevent and respond appropriately to TBIs. Prevention, detection, and early response are the most effective, common-sense ways to improve health and lower societal costs for medical care and other negative effects related to TBIs. Our priority is to equip states, communities, youth-serving organizations, coaches, health care providers, and parents with the best available science, tools, and resources so that they can take effective action to prevent TBIs and improve outcomes.

Join us in making injury and violence prevention the premiere public health achievement of the next decade!

For more information about concussions and other traumatic brain injuries, and the tools listed in this fact sheet, visit www.cdc.gov/injury.