

MANAGEMENT OF CONCUSSION

Each patient requires individualized attention to their symptoms. Treatment of the physical, emotional, and cognitive effects of concussion guide the treatment plan.

RETURNING TO REGULAR ACTIVITY

During the recovery phase for concussion, there is increased risk for further injury.

The recovery phase must include being symptom free at rest, symptom free with regular activities (such as school and work), and symptom free with high-risk activities (such as sports, working, and driving).



Courtesy of Youth Sports Photo, Inc.

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Milton S. Hershey Medical Center
College of Medicine

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CONCUSSION PROGRAM

Returning patients to school, work, and play
as quickly and safely as possible.

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THE TEAM

Harry Bramley, D.O., F.A.A.P. medical director of Penn State Concussion Program, is a board-certified pediatrician. He serves as a pediatric hospitalist and rehabilitation specialist with Penn State Children's Hospital, Penn State Milton S. Hershey Medical Center. Prior to joining the Medical Center, Bramley served six years as a pediatric trauma consultant.

The Penn State Concussion Program is supported by experts in assessment and treatment of brain injury. Members of the Departments of Neurology, Neurosurgery, Neural and Behavioral Sciences, Orthopaedics and Rehabilitation (including sports medicine), Pediatrics, and Surgery (including trauma services) are also readily available for consultative services, if required.

Specialists with the concussion team work closely with the injured patients and their families, schools, employers, coaches, school nurses, and referring physicians to ensure a complete recovery and return to full activity as quickly and safely as possible.

ABOUT CONCUSSIONS

- Mild brain injury or concussion is one of the most common injuries after trauma.
- Leading causes of concussion include motor vehicle crashes, sports and recreational injuries, falls, and being struck on the head.
- Failure to properly diagnose and treat a concussion can lead to life-long physical, cognitive, and psychological effects.
- CT and MRI are not sensitive to the effects of concussion.
- Concussions are difficult to diagnose and treat.
- Proper management is key to safe return to sports, school, work, and other activities.

CONCUSSION SIGNS AND SYMPTOMS

- **Cognitive symptoms:** attention difficulties; concentration problems; memory problems; and/or orientation problems
- **Physical symptoms:** headaches; dizziness; insomnia; fatigue; uneven gait; nausea; blurred vision; and/or seizures
- **Behavioral changes:** irritability; depression; anxiety; sleep disturbances; problems with emotional control; loss of initiative; and/or problems related to employment, marriage, relationships, home management, or school management

DIAGNOSIS AND EVALUATION

Diagnosis: Any trauma induced alteration in mental status that may or may not include a loss of consciousness.

Testing: CT and MRI are not sensitive to the effects of concussion, but it can be important to rule out more serious injuries.

History assessment: Self report of symptoms may not be accurate. Careful documentation of the history of the event and symptoms are crucial.

ImPACT testing: The computer-based neurocognitive test provides information about the severity of the injury and the impact on functions such as memory, attention, reaction time, and problem solving.

