

Mild TBI POCKET GUIDE

Guideline for Adult Patients

A part of CDC's "Heads Up" Series

Inclusion Criteria

- Non-penetrating trauma to the head.
- Presenting to ED within 24 hours of injury.
- GCS score 14–15 on initial ED evaluation.
- Age \geq 16.

Exclusion Criteria

- Penetrating or multisystem trauma.
- GCS score $<$ 14 on initial ED evaluation.
- Age $<$ 16.

GCS = Glasgow Coma Scale

Four Critical Questions

1. Which patients with mild TBI should have a noncontrast head CT scan in the ED?

Level A: Loss of consciousness or posttraumatic amnesia and one or more of the following:

- + Headache
- + Vomiting
- + Age $>$ 60 years old
- + Drug or alcohol intoxication
- + Deficits in short-term memory
- + Physical evidence of trauma above the clavicle
- + Posttraumatic seizure
- + GCS score $<$ 15
- + Focal neurologic deficit
- + Coagulopathy

Level B: Head trauma patients with no loss of consciousness or posttraumatic amnesia and one or more of the following:

- + Focal neurologic deficit
- + Vomiting
- + Severe headache
- + Age \geq 65 years old
- + Physical signs of a basilar skull fracture
- + GCS score $<$ 15
- + Coagulopathy
- + Dangerous mechanism of injury.*

**Dangerous mechanism of injury includes ejection from a motor vehicle, a pedestrian struck, and a fall from a height of $>$ 3 feet or 5 steps.*

Level C: None specified

2. Is there a role for head MRI over noncontrast CT in the ED evaluation of a patient with acute mild TBI?

Levels A, B, and C: None specified



3. In patients with mild TBI, are brain-specific serum biomarkers predictive of an acute traumatic intracranial injury?

Levels A and B: None specified

*Level C: In mild TBI patients without significant extracranial injuries and a serum S-100B level < 0.1 µg/L measured within 4 hours of injury, consideration can be given to not performing a CT.***

***This test has not yet received FDA approval for clinical use in the United States.*

4. Can a patient with an isolated mild TBI and a normal neurologic evaluation be safely discharged from the ED if a noncontrast head CT scan shows no evidence of intracranial injury?

Level A: None specified

*Level B: Such patients are at minimal risk for developing an intracranial lesion and therefore may be safely discharged from the ED.****

****There are inadequate data to include patients with a bleeding disorder, who are receiving anticoagulation therapy or antiplatelet therapy, or who have had a previous neurosurgical procedure.*

Level C: Patients with mild TBI discharged from the ED should be informed about postconcussive symptoms.

Talking Points for Use With Patients

- A concussion is a brain injury caused by a bump, blow, or jolt to the head or body that causes the head and brain to move quickly back and forth. Although usually not life-threatening, a concussion may change the way the brain works, and can sometimes be serious.
- You may experience a range of symptoms over the next few days, such as difficulty concentrating, dizziness, or trouble falling asleep. These symptoms can be part of the normal healing process, and most go away over time without any treatment.
- Return immediately to the emergency department if you have worsening or severe headache, lose consciousness, increased vomiting, increasing confusion, seizures, numbness, or any symptom that concerns you, your family, or friends.
- Tell a family member or friend about your head injury and ask them to help monitor you for more serious symptoms. Get plenty of rest and sleep, and return gradually and slowly to your usual routines. Don't drink alcohol. Avoid activities that are physically demanding or require a lot of concentration.
- If you don't feel better after a week, see a doctor who has experience treating brain injuries.
- Don't return to sports before talking to your doctor. A repeat blow to your head—before your brain has time to heal—can be very dangerous and may slow recovery or increase the chance for long-term problems.

To view the full clinical policy or for more information about brain injury and concussion, visit: www.cdc.gov/TraumaticBrainInjury ■ www.acep.org