Concussion Signs and Symptoms

### Signs Observed by Medical Staff
- Appears dazed or stunned
- Is confused about assignment
- Forgets sports plays
- Is unsure of game, score, opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Can’t recall events prior to hit or fall (retrograde amnesia)
- Can’t recall events after hit or fall (anterograde amnesia)

### Symptoms Reported by Athlete
- Headache or “pressure” in head
- Nausea
- Balance problems or dizziness
- Double or fuzzy vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish or slowed down
- Feeling foggy or groggy
- Does not “feel right”

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Concussion in Sports

This palm card provides information and tools to help medical staff with the on-field recognition and management of concussion.

### Signs of Deteriorating Neurological Function
- Headaches that worsen
- Seizures
- Focal neurologic signs
- Looks very drowsy or can’t be awakened
- Repeated vomiting
- Slurred speech
- Can’t recognize people or places
- Increasing confusion or irritability
- Weakness or numbness in arms or legs
- Unusual behavior changes
- Significant mood or behavior change
- Neck pain
- Weakness of limbs
- Sensory changes
- Decreased sense of smell
- Decreased sense of taste
- Decreased sense of balance
- Decreased sense of hearing
- Decreased sense of touch
- Decreased sense of taste
- Decreased sense of smell

### On-Field Mental Status Evaluation
- Orientation
  - What period/quarter/half are we in?
  - What stadium/field is this?
  - What city is this?
  - Who is the opposing team?
  - Who scored last?
  - What team did we play last?
- Anterograde Amnesia
  - Ask the athlete to repeat the following words: Girl, Dog, Green
- Retrograde Amnesia
  - Do you remember the hit?
  - What happened in the play prior to the hit?
  - What was the score of the game prior to the hit?
  - Do you remember the hit?
  - Ask the athlete to repeat the following words: Girl, Dog, Green

### Return to Play

Any athlete who exhibits signs and symptoms of concussion should be removed from play and should not participate in games or practices until they have been evaluated and given permission by an appropriate health care provider. Research indicates that high school athletes with less than 15 minutes of on-field symptoms exhibited deficits on formal neuropsychological testing and re-emergence of active symptoms, lasting up to one week post-injury.

Exertion

Symptoms will typically worsen or re-emerge with exertion, indicating incomplete recovery. If the athlete is symptom-free, provoking with exertion is recommended (e.g., 5 push-ups, 5 sit-ups, 5 knee bends, 40 yard sprint).

Return to play should occur gradually. Individuals should be monitored by an appropriate health care provider for symptoms and cognitive function carefully during each stage of increased exertion.

Recurrent Evaluation

On-field, follow-up evaluation (e.g., every 5 minutes) is important, as signs and symptoms of concussion may evolve over time.

Off-Field Management

The physician should provide information to parents/caregivers regarding the athlete’s condition. For example, the athlete:
- Should not operate a motor vehicle or participate in activities such as sports, PE class, riding a bicycle, riding carnival rides, etc.
- May experience cognitive/behavioral difficulties at home, making it necessary to reduce physical and cognitive exertion (e.g., running, lifting weights, intensive studying) until fully recovered.
- Should receive follow-up medical and neuropsychological evaluation, both for managing injury and determining return to sports.

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This palm card is part of the “Heads Up: Brain Injury in Your Practice” tool kit developed by the Centers for Disease Control and Prevention (CDC). For more information, visit: www.cdc.gov/injury.