Concussion in Sports

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

Concussion Signs and Symptoms^1

<table>
<thead>
<tr>
<th>Signs Observed by Medical Staff</th>
<th>Symptoms Reported by Athlete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appears dazed or stunned</td>
<td>Headache or “pressure” in head</td>
</tr>
<tr>
<td>Is confused about assignment</td>
<td>Nausea</td>
</tr>
<tr>
<td>Forgets sports plays</td>
<td>Balance problems or dizziness</td>
</tr>
<tr>
<td>Is unsure of game, score, opponent</td>
<td>Double or fuzzy vision</td>
</tr>
<tr>
<td>Moves clumsily</td>
<td>Sensitivity to light</td>
</tr>
<tr>
<td>Answers questions slowly</td>
<td>Sensitivity to noise</td>
</tr>
<tr>
<td>Loses consciousness (even briefly)</td>
<td>Feeling sluggish or slowed down</td>
</tr>
<tr>
<td>Shows behavior or personality changes</td>
<td>Feeling foggy or groggy</td>
</tr>
<tr>
<td>Can’t recall events prior to hit or fall (retrograde amnesia)</td>
<td>Does not “feel right”</td>
</tr>
</tbody>
</table>


On-Field Mental Status Evaluation

Signs of Deteriorating Neurological Function

An athlete should be taken to the emergency department if any of the following signs and/or symptoms are present:

- Headaches that worsen
- Seizures
- Focal neurologic signs
- Loss of consciousness greater than 30 seconds
- Unusual behavior change
- Neck pain
- Weakness of numbness in arms or legs
- Increased confusion or impaired memory
- Cannot recognize people or places
- Can’t recognize people or places
- Increasing confusion or irritability
- Weakness or numbness in arms or legs
- Unusual behavior change
- Headaches that worsen
- Sleepiness
- Sensations
- Headaches that worsen
- Sleepiness
- Sensations

No 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.^2

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.

Repeate d 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.
