THE MANAGEMENT OF CONCUSSIONS

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Things to Remember:

- High school and younger athletes are more vulnerable to concussion and longer to recover from concussion than older athletes.
  - They should NOT return to play the same day of injury.
- Girls are more vulnerable than boys.
- Return to play should be individualized.
- Concussions are cumulative.

Total number of sports related head impacts – 354,000,000/yr

- 40,000 concussions/yr in H.S. football
- 5-20% of players get concussions
- 90% mild – no loss of consciousness
- 30% return to play same day
- 60% athletes claim they made the decision to return to play independent of trainer or team physician

ANY SPORT HAS AN INHERENT RISK OF INJURY.

Unique to athletic injuries is that the player is intentionally subjected to repetitive cranial trauma

- Tackling
- Heading the ball

Concussion

- Latin *concussus* meaning “to shake violently”
- Immediate & transient alteration of mental status & level of consciousness resulting from mechanical force or trauma
- Confusion is the hallmark of concussion

Concussion

- A complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces
- Hyperglycolisis occurs
- Decrease local cerebral blood flow
- Hypersensitivity to excitatory peptides

Nature of concussive head injury

- Concussion may be caused by a direct blow to the head, face, neck, or elsewhere on the body with an “impulsive” force transmitted to the head.

Nature of concussive head injury

- Concussion typically results in the rapid onset of short lived impairment of neurological function that resolves spontaneously

Nature of concussive head injury

- Concussion results in a graded set of clinical syndromes that may or may not involve loss of consciousness
- Resolution of the clinical and cognitive symptoms typically follows a sequential course

Only 9.3% of NFL players who sustain a concussion had a loss of consciousness

Nature of concussive head injury

- Concussion is typically associated with grossly normal structural neuroimaging studies
- Functional MRI may be abnormal