

# ***2014 NATA Position Statement Management of Sport Concussion***

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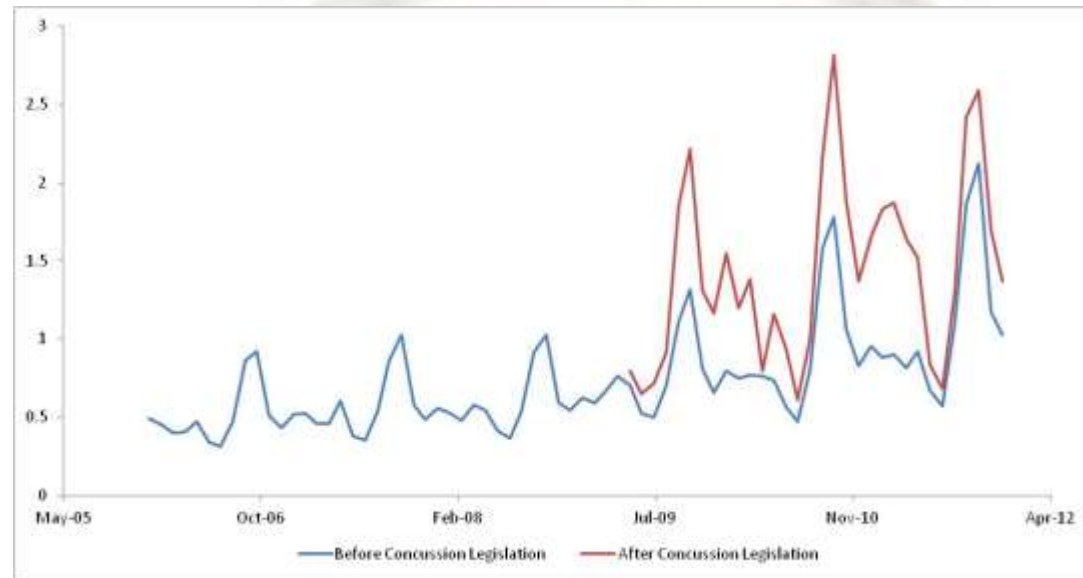
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# Concussion Risk

- 1.6 - 3.8 million sport and recreation concussions / year  
(Langlois 2006)
- Female
  - Higher incidence  
(Gessel, *J Athl Train*, 2007)
  - Longer recovery  
(Covassin, *Neurosurg*, 2007)
- History of concussion  
(Guskiewicz, *JAMA*, 2003)
  - 1 injury 1.5x risk
  - 2 injuries have 2.8x risk
  - 3+ injuries have 3.5x risk



Gibson, in preparation

# *Sections*

1. Education and Prevention
2. \*Documentation and Legal Aspects
3. Evaluation and Return to Play
4. Other Considerations
  - Equipment
  - Pediatric Concussion
  - Home Care
  - Medications and Diet
  - Rest
  - Multiple Concussions
    - Second Impact Syndrome
    - \*Long-Term Consequences

# *Education and Prevention*

- Proper terminology: concussion / mild traumatic brain injury
  - “ding” and “bell ringer” are colloquial terms
- Educate parents and coaches on: prevention, injury recognition and referral, proper return to participation, physical and cognitive restrictions for concussed athletes, and ramifications of improper concussion management.
- \*Document and educate athletes on potential modifying factors that could delay a return to play
  - e.g. learning disabilities, previous concussions, early physical activity

# *Education and Prevention*

- Athletes, coaches and parents should be advised to read all warning labels associated with protective equipment.
- Coaches, athletes, and parents should understand the limitations of protective equipment to prevent concussions.





# *\*Documentation and Legal Aspects*

- AT should follow the policies, procedures and laws from local, state, and athletic conference bodies
- Document the athlete's (and parent's) understanding of concussive signs and symptoms and their responsibility to report a concussion.
- Communicate the status of concussed athletes to the managing physician (eg. MD or DO) on a regular basis.

# *Evaluation and Return to Play*

- Baseline examination for all high risk athletes
  - all athletes when feasible
- \*Annual baseline examinations for adolescent athletes and those with a recent concussion
- Baseline exam should include:
  - clinical history (including symptoms)
  - neurological evaluation: motor control (e.g. balance), and neurocognitive function
- Similar environments for the baseline and post-injury exams to maximize performance
  - Review examinations for sub-optimal performance





# *Evaluation and Return to Play*

- Any athlete suspected of sustaining a concussion should be removed from play and evaluated by an AT or physician
- The clinical exam is the gold standard for concussion diagnosis
  - Symptom and motor control assessments support the exam
  - Brief concussion evaluation tools (e.g. SAC) when a rapid assessment is necessary (e.g. during competition)
- \*A concussed athlete should not be returned to athletic participation on the same day as injury.



# *Evaluation and Return to Play*

- \*Following the concussion diagnosis, a daily focused examination should be completed to monitor recovery
  - \*Daily testing of neurocognitive function and motor control is typically not needed until asymptomatic
- \*Concussed athletes should not return to physical activity without being evaluated and cleared by a physician or designate (e.g. AT) specifically trained and experienced in concussion evaluation and management.

# *Evaluation and Return to Play*

- Once cleared, a progressive physical exertion protocol should be completed before unrestricted return to play.
  - \*Each stage separated by 24 hours
  - \*Typically 1 week away from competition
- \*Grading scales should not be used for injury management
  - Evaluate and treat each athlete on a case-by-case basis
  - The concussion may be retrospectively graded for medical record documentation.
    - e.g. indicating duration and intensity of symptoms

# *Other Considerations: Equipment*

- Helmets are designed to prevent catastrophic head injuries, not to significantly reduce the risk of cerebral concussions
- Consistent evidence to support the use of mouthguards for concussion mitigation is not available.
  - A properly fitted mouthguard does reduce dental injuries.

# *Other Considerations: Pediatric Concussion*

- Children and adolescents may take longer to return to pre-injury levels and may require a prolonged return to play progression.
- \*Age-appropriate, validated assessment tools should be utilized with younger populations.
  - Symptom scales
  - Neurocognitive assessments
  - Input of a parent, teacher, or responsible adult.



# *Other Considerations: Home Care*

- A standard concussion home-instruction form should be used
  - A copy maintained in the medical record
- Athletes should be instructed to avoid medications other than acetaminophen
  - Current medications should be reviewed by the physician
- Concussed athletes should be instructed to avoid ingesting alcohol, illicit drugs, or other substances that might interfere with cognitive function and neurologic recovery.



# *Other Considerations: Home Care*

- Rest is currently the best practice for concussion recovery
  - Typically no need to wake the athlete during night unless instructed by a physician.
- \*During acute injury recovery, athletes should be instructed to avoid any physical or mental exertion that exacerbates symptoms.
  - Including physical education classes and recreation

# *Other Considerations: Home Care*

- \*School administrators, counselors, and instructors should be made aware of the athlete's injury with a recommendation for academic accommodation during the recovery period.
- Concussed athletes should be instructed to eat a well-balanced diet that is nutritious in both quality and quantity and stay well hydrated.

# *Other Considerations: Multiple Concussions*

- A more conservative return to play strategy should be adopted for athletes with a concussion history
- Referral to a physician with concussion specific training should be considered when multiple concussions:
  - Result from lessening force
  - Increase in severity with each injury
  - Result in a change in baseline brain function
- Athletic trainers should be aware of the potential for second impact syndrome in young athletes who sustain a second injury prior complete resolution of the first
- The athletic trainer should be aware of the potential for long-term consequences of multiple sub-concussive and concussive impacts

# Thank you

