

# Returning to the Classroom after a Traumatic Brain Injury

Carly McGrath, B.S.

Faculty Sponsor: Dr. Carmen Russell, Ph.D., CCC-SLP

Fontbonne University- Department of Communication Disorders and Deaf Education

## Abstract

This session will provide an overview of the issues college athletes may face when returning to the classroom after a concussion. The definition and symptoms of concussion will be reviewed in official medical terms and in college athlete terms. Residual cognitive effects of concussions in college athletes will be discussed. The role of speech-language pathologists in college athletes returning to the classroom after a concussion will also be reviewed.

Learner Outcomes: Participants will be able to:

1. Distinguish the signs and symptoms of a concussion
2. Explain cognitive effects of concussions in college athletes
3. Determine if a college athlete is prepared to return to the classroom following a concussion
4. Identify the role of speech-language pathologists with post-concussed college athletes

## What is a Traumatic Brain Injury (TBI)?

- According to the American Speech-Language-Hearing Association (ASHA), a **TBI** is defined as “a form of nondegenerative acquired brain injury, resulting from an external physical force to the head (e.g., fall) or other mechanisms of displacement of the brain within the skull (e.g., blast injuries)”
- A **concussion** is defined as a Mild TBI with the following characteristics:
  - Loss of consciousness for up to 30 minutes
  - Confused/disoriented state and memory loss for less than 24 hours
- 4 subtypes of **symptoms** include:
  - Physical: headache, dizziness, nausea, balance, sensory
  - Cognitive: thinking, memory, confusion, amnesia
  - Emotional/Mood: excess excitability or irritability, depression, anxiety
  - Sleep: insomnia, drowsiness (Acord-Vira, Curtis, Davis, & Wheeler, 2019)

## Reporting Concussions

- **Incidences of concussion** in college athletes have been reported to be on the rise, as 5-18% of all collegiate athletic injuries are concussions (Covassin & Elbin, 2010), however, many are not reported
- Reasons sports-related concussions go unreported in youth athletes:
  - Fear of losing current or future playing time
  - Misconception that concussions are not serious
  - Fear of letting the team down
  - Lack of knowledge of symptoms and signs of concussion (Clark & Stanfill, 2019)
- However, “accurate and prompt reporting behavior is imperative, as a diagnosis is largely dependent on self-reported symptoms” (Clark & Stanfill, 2019)
- Concussions, especially ones not reported, can have lasting effects on the individuals, hindering their ability to return to the classroom following the injury

## Residual Cognitive and Lingual Effects of Concussion

- **Concussions show changes in concentration, attention, and memory** (Covassin & Elbin, 2010)
- Research shows that cognitive deficits in those with a history of concussion negatively impact linguistic skills (Stockbridge & Newman, 2019)
- **Language** is one area in which concussions will cause deficits, especially in school, due to the following difficulties:
  - Naming
  - Fluency
  - Phonemes
  - Repeating sentences
  - Writing sentences
  - Story grammar
  - Cohesion (Stockbridge & Newman, 2019)
- Additional **executive functions** also adversely affected after concussions include:
  - Challenges in planning
  - Organization
  - Disinhibition
  - Reduced initiation (Martinez & Davalos, 2016)

## Role of Speech Language Pathologists

- SLPs are trained and educated in the areas of **prevention, assessment, diagnosis, and treatment of cognitive-linguistic disorders**, and can play a huge role in sports-related concussion management (Knollman Porter, Constantinidou, & Marron, 2014)
- SLPs can prevent these injuries by educating the athletes, their families, and the coaches (Knollman-Porter, Brown, & Flynn, 2018)
- If a concussion does occur, the SLP on the interdisciplinary team can:
  - formally test then diagnose neurocognitive function in the student
  - Recommend accommodations for the student when returning to the classroom following a concussion (Knollman-Porter, Brown, & Flynn, 2018)
- **Treatment methods used by the SLP for sports-related concussions:**
  - Direct attention training
  - Metacognitive strategy instruction
  - Training assistive technology for cognition
  - Psychoeducational support (Sohlberg & Ledbetter, 2016)

Figure 4. Sample of academic adjustments that may be provided after concussion, based on each student's specific symptom profile.

Adjustments for Physical Symptoms	Adjustments for Maintenance Symptoms	Adjustments for Emotional Symptoms	Adjustments for Cognitive Symptoms
<ul style="list-style-type: none"><li>• Take scheduled breaks</li><li>• Wear sunglasses</li><li>• Excuse from assemblies</li><li>• Avoid passing periods</li><li>• Remove from PE and/or noisy classes</li></ul>	<ul style="list-style-type: none"><li>• Set later start time</li><li>• Leave school early</li><li>• Take rest breaks as needed</li></ul>	<ul style="list-style-type: none"><li>• Allow leaving class to de-stress</li><li>• Reinforce positive behaviors</li><li>• Reduce workload</li><li>• Acknowledge the student's feelings</li></ul>	<ul style="list-style-type: none"><li>• Note-takers</li><li>• Extra time</li><li>• Assistive technology</li><li>• Exemption from large projects</li><li>• Providing prompts</li><li>• Shortened readings</li><li>• Alternative testing</li></ul>

(Dachtyl & Morales, 2017)

## Conclusion

With the incidence of sports-related concussion in athletes being so high, it is important to know the lasting cognitive-linguistic effects of the injury. Reporting the concussion early is imperative in the success of the athlete returning to the classroom. Speech-language pathologists play a huge role in the students' return to the classroom following a concussion, through prevention, assessment, diagnosis, and treatment.

## Acknowledgements

