Concussion Program in the Community Setting

Michael D. Milligan, M.D.

Case

14 year old male Lacrosse athlete
• Hit in back of head by larger athlete
• Concussive symptoms

Mother Fearful
• Chronic brain injury

3 days later
• Why won’t you clear him to Return to Play?

Objectives

• Epidemiology of a community program
• Unique attributes of a community program compared with an college or professional athletics program
• Acknowledge some of the challenges and unique needs

Population

High school age athletes
• School sponsored sports
• Club sports
• Play

4th International Conference on Concussions
— “…recommendations contained herein can be applied to children and adolescents down to the age of 13 years.”

Epidemiology

Marar et al. 2012
• 2.5 per 10,000 athlete-exposures (1936/7.78 million athlete-exposures)

Experience of Others

Holtz et al. Miami Concussion Model - 2013
• 40 high schools over 2 years
• 18,357 baseline assessments
• Two year period:
  – Treated 216 high school athletes

2014
• 500 concussion cases per year
Case

17 year old high school Football athlete
• Snow boarding
• Fall with occipital impact
• Concussive symptoms shortly after
  − Symptoms recognized by athlete & father
  − Symptoms worsened overnight
• Participated in a 3-day football camp
  − Despite present and worsening symptoms

Short term vs Long term

Retooling the thought process
Risk-taking behavior
• Athletes
• PARENTS

Collaboration

School Leaders
• Partnerships
• Educational programming
  − Administrators
  − Coaches
  − Athletes/Parents

Case

High School Junior Soccer Athlete
• Symptoms for 4 weeks
  − Exacerbated by classroom, reading, TV
  − Headaches
  − Nausea
  − Dizziness
• 504 Educational Program plan implemented
  − Collaboration with school guidance counselor
  − Told by some teachers that he will either complete the coursework or fail the class

Collaboration

School Leaders
• Partnerships
• Educational programming
  − Administrators
  − Coaches
  − Athletes/Parents
  − TEACHERS
  − Guidance Counselors
  − Learning Specialists

Academic Concussion Management Plan

Consensus Guidelines
• Remain out of class until able to tolerate 30 minutes of light cognitive activity
  ÷ Then may return to classroom. Maximum of 30-45 minutes of cognitive activity followed by 15 minutes of rest
• Adjustments made by healthcare professionals collaborating with academic faculty/staff

Terminology
Academic adjustment – some academic schedule modification in first two weeks
Academic accommodation – symptoms beyond two weeks. Special arrangements for classes & assignments may be required
Academic modification – individualized education plan
Building a Team

Athletic Trainers
Coaches
Administrators
Teachers
Guidance Counselors
School Nurse
Physical Therapist Specialists
Learning Specialists
Psychologist
Physicians

Case

16 year old Male Soccer Athlete
• 8 weeks post-injury
• Vestibulo ocular and Cervical Subtype
  — Physical Therapy Referral
• Third visit
  — Reports missing a month of school
• Fourth visit
  — Not attending PT sessions

Monitoring

Symptom checklists
Return to Learn Modifications
Physical Activity Modifications
Phone
• After school
• Evening
Athletic Trainer engagement
Communication of the Healthcare Team

Rehabilitation Services

Physical Therapist
• Cervical
• Vestibulo ocular
• Exertion testing?
Experience
Geographic & Transportation
Cost

Psychological Services

Sports Psychologist Services
• Depression
• Anxiety
• Fear
• Somatization
Neuropsychological Services
• Prolonged cases
• Comorbid confounders
• Pediatrics [esp <13]

Summary

Community youth sports concussion programs
Public Service Endeavor
Team approach to care and coordination
Unique care coordination challenges