SPORTS MEDICINE DISCUSSION FORUM

Michael Koester, M.D.
Chair, NFHS SMAC

2017 NFHS Annual Summer Meeting
Rhode Island Convention Center – Providence, RI
Saturday – July 1, 2017
8:15 a.m. – 9:15 a.m.
SPORTS MEDICINE
DISCUSSION FORUM TOPICS

- What is a catastrophic injury and how is it reported?
Director: Kristen Kucera, Ph.D., ATC, LAT  
Medical Director: Robert Cantu, MD  
The University of North Carolina at Chapel Hill  
The mission of the National Center for Catastrophic Sport Injury Research (NCCSIR) is to conduct surveillance of catastrophic injuries and illnesses related to participation in organized sports in the United States at the collegiate, high school, and youth levels of play. In working through a Consortium for Catastrophic Injury Monitoring, the NCCSIR aims to track cases through a systematic data reporting system that allows for longitudinal investigation of athletes suffering from catastrophic injuries and illnesses. The goal of the Center is to improve the prevention, evaluation, management, and rehabilitation of catastrophic sports-related injuries.
### NCCSIR Definition of Eligible Catastrophic Sport Injury Events

**General Definition:** Reportable injury or illness* associated with active participation in training/conditioning, practice, or competition for an enrolled sport

Eligible events have to meet ONE of the criteria listed in EACH box

<table>
<thead>
<tr>
<th><em>Injury/Illness</em> must be one of:</th>
<th>Outcome must be one of:</th>
<th>Must be an Athlete in a sponsored sport at one of:</th>
<th>Activity must be one of:</th>
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| 1. Traumatic Fatality or Systemic Fatality from any cause | 1. Death  
2. Permanent Disability  
3. Severe Semi-Permanent Disability  
4. Cardiac, heatstroke, or sickling event with full recovery | 1. Middle School (Public and Private)  
2. High School (Public and Private)  
3. College/University (Public and Private)  
4. Semi-professional  
5. Professional | 1. Traumatic events: During, or as a result of, a scheduled team athletic activity  
2. Non-cardiac Systemic: All events resulting from athletic activity directly related to sponsored sport  
3. Cardiac events: All events are included, even those not directly associated with physical activity |
| 2. Non-fatal:  
  a. Severe injury to the spinal cord or brain  
  b. Skull fracture or spine fracture  
  c. Commotio cordis (blunt chest impact causing cardiac arrest)  
  d. Exertional heat stroke  
  e. Exertional sickling  
  f. Sudden cardiac arrest | | | |

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*NCCSIR Definition of Eligible Catastrophic Sport Injury Events* (Version of June 11, 2013)
STATE HS ASSOCIATION REPORTING: IN 3 EASY STEPS

1) NOTIFY – NFHS & NCCSIR about event
2) CONTACT SCHOOL – to complete an initial surveillance report at sportinjuryreport.org
3) SCHOOL REPORTS EVENT ONLINE providing contact information for athlete & parent

And that’s it!
- NCCSIR will contact the athlete and parent for consent and authorization
- NCCSIR will contact school for additional information if needed
Why is HS RIO important and how can we make it even better?
THE NATIONAL HIGH SCHOOL SPORTS-RELATED INJURY SURVEILLANCE STUDY: HIGH SCHOOL RIO™

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HIGH SCHOOL RIO™

- Has provided injury data since 2005
- Showed us development and persistence of “concussion epidemic”
- Many injuries have shown little variation over time
- Is not the correct tool to collect catastrophic injuries
- Continued recruitment of athletic trainers is key
  - More sports to report
  - The more participation you have in your state allows you to have state-specific data
- How can we make it better?
  - Follow athletes over time
  - More data on who doesn’t get hurt
2016 NFHS ESSENTIALS INITIATIVES

- July 2016 NFHS Summit in Indianapolis.
- Focus on parents, athletes, coaches, athletic administrators and state associations.
- The charge for the two-day summit was to develop a practical and definitive plan and accompanying consensus document for all member state associations emphasizing evidence-informed best practices to:
  - Measurably expand opportunities for widespread sport participation (initiation and continuation) for all students;
  - Minimize injury risk.
  - Maximize performance – at all levels of athletic development and achievement.
UPDATE ON NFHS ESSENTIALS INITIATIVES

Vision

- Disrupt the mechanism of how youth and scholastic-based sports are currently delivered across the nation!!

- **Increase**
  - Enjoyment
  - Continued participation
  - Opportunity

- **Decrease**
  - Injury
  - Burnout
  - Dropout
UPDATE ON NFHS ESSENTIALS INITIATIVES

- Our goal is healthy, sustainable, and enjoyable sports participation
- Must engage and involve the following stakeholders:
  - Athletes
  - Coaches
  - Parents
  - Athletics Administrators
  - State Associations
- The Essentials is a guiding document, not a cookbook. States are strongly encouraged to adopt and adapt principles and themes!!!
Sports Specialization and Injury Risk

- Athletes who specialize increase their risk of injury 50% - 85% compared to athletes who do not specialize.

- The increased risk of injury was found even when controlling for the volume of their sport competitions.

- Females are more likely to specialize than males.

- Specialization is highest in the sports of Soccer, Basketball, and Volleyball.
  - University of Wisconsin/NFHS Grant.
BEST PRACTICES FOR WRESTLING HYGIENE

- Educate coaches, athletes, referees and parents about communicable skin conditions and how they are spread.
  - http://www.nwcaskinprevention.com/webinar/
- Maintain proper ventilation in the wrestling room to prevent the build-up of heat and humidity.
- Emphasize to the athletes the importance of showering immediately after each practice and competition. Soap must be used. If shower facilities are unavailable, athletes should clean all exposed skin with “baby wipes” immediately after practices and competitions.
- Coaches or athletic trainers should perform daily skin checks to ensure early recognition of potential communicable skin conditions. Athletes must not be allowed to practice or compete if an active infection is suspected, even if the infection is covered. Any suspicious lesions must be evaluated by an appropriate health care provider prior to an athlete practicing or competing.
BEST PRACTICES FOR WRESTLING HYGIENE

- Athletes must not share practice gear, towels or personal hygiene products (razors) with others.
- Athletes should refrain from any cosmetic shaving (chest, arms, abdomen) other than face.
- Athletes should clean hands with an alcohol-based gel prior to every wrestling match to decrease bacterial load on the hands.
- Make certain that athletes and coaching staff are current on all required vaccinations (MMR, Hepatitis B, Chickenpox, etc) and strongly encourage yearly influenza vaccination.
  - Young et al. J Athletic Training 2017;52:82-8
BEST PRACTICES FOR WRESTLING HYGIENE

- Are we missing Herpes infections?
  - HS RIO data suggests 10% of Herpes infections are missed

- Concern for “Super Tournaments”
  - Many Herpes infections do not show up for at least 8 days (90-93%)
  - Exponentially increases exposure risk

- Oregon skin wipe study
  - Mat side clean off before and after each match with “baby wipe” Will follow infection rates over 2 years.
  - The more the better..... Anyone interested??
USA FOOTBALL COLLABORATION

- Heads-Up Football Certification
- Oregon Youth Football Summit
- Football continuum
  - Coaching
  - Safety
- Shared population, shared end goals
  - Can’t expect 100% alignment
  - Work together when beneficial
HOW TO INFLUENCE A STATE LEGISLATURE TO MANDATE ATHLETIC TRAINERS AT EVERY HIGH SCHOOL?

- Two paths:
  1. Public Health and Safety
     - Risk minimization
     - Expert management of injuries and sports-related medical conditions
     - Concussion management from field to classroom
     - School wellness coordinator
  2. Cost savings
     - Savings for schools for secondary insurance rates
     - Savings for state Medicaid, private insurers, and HMOs
       - Look at private/public partnerships
       - Outreach model to cover multiple small schools
BEST PRACTICES FOR AEDs

- The more, the better
- MUST BE ACCESSIBLE!!!
- A goal of less than 3–5 minutes from the time of collapse to delivery of the first shock is strongly recommended.
- Regular maintenance, which involves tracking expiration dates on supplies, including electrode pads and batteries.
- Post-event service, which includes cardiac event data download and replenishment of consumables such as gloves and electrode pads.
CONCUSSION UPDATE: BERLIN CONFERENCE AND RETURN TO LEARN

- 5th International Conference on Concussion in Sport, October 2016
- Use of sensor systems to detect concussion cannot be supported at this time
- Baseline testing not required
- Brief period of “complete rest”
  - Goal of back to school in 2-3 days
- Multi-disciplinary treatment plan which includes “sub-symptom-threshold, submaximal exercise” before symptom resolution
  - No complete rest!!
CONCUSSION UPDATE:
BERLIN CONFERENCE AND
RETURN TO LEARN

- Severity of initial symptoms most consistent predictor of slow recovery (>4 weeks)
  - Migraine history
  - Mental health history - anxiety/depression
- “Schools are encouraged to have a SRC policy”
- A cause-and-effect relationship has not yet been demonstrated between CTE and SRCs or exposure to contact sports
- Limited data on prevention strategies
  - Best data is disallowing body checking in youth hockey
GUIDELINES FOR ATHLETIC TRAINERS AT EVENTS - ALL EVENTS, VARSITY, ETC.

- All sports if possible
- Prioritization should be discussed amongst AT, AD, coaches, and team physician
- AT can’t be everywhere
  - Coaches must be trained in EAP/CPR/AED/Concussion/Heat illness
- Sports with increased “serious” injury risk
  - Football, Boys’ LaX, Ice Hockey, Soccer, Wrestling
- Consideration should be given to “high profile” events
  - Post season
  - Televised/strong media presence
FACIAL INJURIES IN SOFTBALL

- Injuries are rare
  - Difficult to make a data driven decision
  - Costly and painful, but not “catastrophic”
- Currently facial protection for infielders can be worn, but is not mandated
- No NOCSAE standard for facial protection alone
  - Only standard is helmet/face mask combo
  - How “protective” are current models?
- Unintended consequences
  - Face mask alone- turn head
  - More aggressive fielders- increase risk for balls to body
IMPORTANCE OF STATE SMAC/SPORTS MEDICINE UPDATES FOR NFHS SMAC

- Please let us know what is going on in your state
  - Risk minimization
  - Legislation
  - Special projects

- We want reports before SMAC meetings in April & October

- Changing role of SMAC?
  - Facilitate and share info between states
  - What works and what doesn’t??
HORSES AND ZEBRAS: ARE WE FOCUSING TOO MUCH ON RARE OCCURRENCES?

- Difficult question- What is your best bang for the buck?
- Sports-related deaths are devastating, but rare
  - Motor vehicle crashes
  - Suicide
- Preparation is essential and can be simple if integrated into the school as a whole
- Plans must be easily taught and implemented
- Compliance tracking is costly
- Lots of low-hanging fruit
  - ACL prevention
  - Ankle braces
SPORTS MEDICINE OPEN DISCUSSION-
HOW CAN WE HELP YOU??

NHS