THE CHALLENGES OF CHANGE

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Sport Science Institute

To promote and develop safety, excellence, and wellness in college student-athletes, and to foster life-long physical and mental development.
Sport Science Institute: Vision

To be the pre-eminent sport science voice for all student-athletes and NCAA member institutions, and to be the steward of best practices for youth and intercollegiate sports.
Strategic Priorities

Cardiac health
Concussion
Doping & substance abuse
Mental health
Nutrition, sleep & performance
Overuse injuries & periodization
Sexual assault & interpersonal violence

Athletic healthcare administration

Data-driven decisions
CONCUSSION

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Concussion

• We do not understand the natural history of concussion.
• We do not understand neurobiological recovery in concussion.
• Solution:
  – NCAA-DoD Grand Alliance.
    • CARE Consortium.
    • Mind Matters Educational Grand Challenge.
  – Inter-Association Guidelines and Legislation.
Data Summary

• Data extracted on January 15, 2016.
• N= 17,379 evaluations
  – 15,105 unique subjects
  – 2,274 in their 2nd year
  – 2014-2015: 3,818 baseline evaluations
  – 2015-2016: 13,569 baseline evaluations
• N= 679 concussions
<table>
<thead>
<tr>
<th>Division</th>
<th>Rate per 1000 AEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>0.30</td>
</tr>
<tr>
<td>II</td>
<td>0.32</td>
</tr>
<tr>
<td>III</td>
<td>0.29</td>
</tr>
<tr>
<td>TOTAL</td>
<td>0.30</td>
</tr>
</tbody>
</table>

AE=Athlete-exposure: 1 athlete's participation in 1 practice or 1 competition
Concussion rates per 10000AE, 2009/10-2013/14

Neurobiopsychosocial Model

Multi-Domain Predictor Variables

Neurobiological
- Pre-Injury Factors
  - Genetics
  - Neurologic Vulnerabilities
- Trauma Burden
  - Injury Severity
  - Repetitive Exposure
  - Polytrauma
- Biomarkers
  - Structural/Functional Imaging
  - Blood Biomarkers

Psychosocial
- Psychological Function
  - Premorbid
  - Post-injury Comorbidities
- Environmental Factors
  - Social Support
  - Life Stressors
  - Iatrogenesis
- Motivational Factors
  - Expectation
  - Secondary Gain

Multi-Dimensional Outcome

Neurologic Health
Neurocognitive Function
Neurobehavioral Function
Psychological Health and Wellness
Life Function & Quality

Advancing the Science of SRC and TBI

McCrea, McAllister & Morey, 2012
Mind Matters Challenge

Goal: To change important concussion safety behaviors and the culture of concussion reporting and management by funding research to better understand behavior change strategies and by identifying novel educational approaches.

- **Aim 1 (Immediate Impact Challenge)**
  - Develop a multi-media educational program based on the best evidence currently available about how to change culture in young and emerging adults.

- **Aim 2 (Long-term Impact Challenge)**
  - Identify key factors and ways to affect change in the culture and behavior of young and emerging adults and their influencers around concussion.
Inter-Association Guidelines

Independent medical care
Year-round practice contact
Concussion diagnosis & management

www.ncaa.org/concussionsafety
Endorsements

American Academy of Neurology
American College of Sports Medicine
American Association of Neurological Surgeons
American Medical Society for Sports Medicine
American Orthopaedic Society for Sports Medicine
American Osteopathic Academy for Sports Medicine
College Athletic Trainers’ Society
Congress of Neurological Surgeons
National Athletic Trainers’ Association
NCAA Concussion Task Force
Sports Neuropsychological Society

American Football Coaches Association
Football Championship Subdivision Executive Committee
National Association of Collegiate Directors of Athletics
National Football Foundation
• Clinicians, researchers, advocates, educators, athletics administrators, coaches and student-athletes.

• Address emotional health in our student-athletes.

• Advance recommendations and recommend research that support member institutions in meeting their membership obligations to provide a healthy and safe environment for student-athletes.
BEST PRACTICE GUIDELINES TO PROMOTE AND DEVELOP STUDENT-ATHLETE MENTAL HEALTH

Purpose
The Best Practice Guidelines to Promote and Develop Student-Athlete Mental Health are a practical extension of the NCAA book: Mind, Body and Sport: Understanding and Supporting Student-Athlete Mental Wellness (http://www.ncaa.org/health-and-safety/sport-science-institute/introduction-mind-body-and-sport). They are designed to provide athletic departments and sports medicine departments, regardless of their size and resources, with recommendations for creating environments that promote and develop student-athlete mental health.

Background
Mental health occurs on a continuum, with resilience and thriving on one end of the spectrum and mental health disorders at the other. Approximately one in five adults experience a mental illness in a given year, and this rate tends to be highest among young adults, many of whom are college students.1 Prevalence estimates of mental illness among college athletes are relatively similar to their non-athlete peers.2,3 Even in the absence of a clinically diagnosable mental health disorder, student-athletes may have impaired overall well-being as a result of sub-clinical symptoms of mental health disorders such as anxiety, depression and insomnia, or the misuse of substances such as alcohol or prescription drugs.

Young adulthood is an important and sometimes difficult developmental period, and college athletes are faced with similar developmental challenges as their non-athlete peers. The sport environment has both risk and protective factors for mental health disorders. Additionally, genetic predispositions and environmental influences outside of the sport environment may impact mental health.
APPENDIX C

Best Practices Endorsing Organizations

The following organizations have provided endorsements for this document:

- American Academy of Child & Adolescent Psychiatry
- American Academy of Sleep Medicine
- American College Counseling Association
- American College Health Association
- American College Personnel Association
- American College of Sports Medicine
- American Medical Society for Sports Medicine
- American Orthopaedic Society for Sports Medicine
- American Osteopathic Academy of Sports Medicine
- American Psychiatric Association
- American Psychological Association
- Association for Applied Sport Psychology
- Association of Black Psychologists
- Association for University and College Counseling Directors
- College Athletic Trainers’ Society
- Collegiate Clinical/Counseling Sport Psychology Association
- Faculty Athletics Representatives Association
- Higher Education Mental Health Alliance
- International Society for Sport Psychiatry
- The Jed Foundation
- NASPA – Student Affairs Administrators in Higher Education
- National Alliance on Mental Illness
- National Athletic Trainers’ Association
- Society for Sport, Exercise & Performance Psychology
Guideline Summary

1. Ensure that mental health care is provided by licensed practitioners qualified to provide mental health services.
2. Clarify and disseminate referral protocol.
3. Consider mental health screening in PPEs.
4. Create and maintain a health-promoting environment that supports mental well-being and resilience.
CARDIAC HEALTH

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NCAA
CARDIAC TASK FORCE
Inter-Association Consensus Recommendations for the Cardiac Care of College Student-Athletes

• Introduction.
• Cardiovascular Risk in Student-Athletes.
• The Pre-Participation Evaluation.
• Evidence Supporting the Use of the Pre-Participation Evaluation for Detection of Cardiovascular Disease.
• The Feasibility and Scientific Validity of Utilizing the Electrocardiogram as a Screening Tool for the Prevention of Sudden Cardiac Death.
• Treatment of Cardiac Arrest.
• Cardiac Research Initiatives.
• Inter-Association Recommendations.
• Checklist.
"Inter-Association Consensus Statement on Cardiovascular Care of College Student-Athletes: A State-of-the-Art Clinical Perspective"

Dear Dr. Hainline:

On behalf of the Journal of the American College of Cardiology, we are pleased to accept the above referenced manuscript for publication and we have scheduled it for the next available issue.

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As stated in our Author Instructions, we ask that figures and graphs be submitted electronically in EPS or TIFF format. Color must be at least 300 DPI. We strongly recommend gray scale images to be at least 300 DPI. Line art (black and white or color) and combinations of gray scale images and line art should be at least 1200 DPI.

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Injury surveillance

DATA ANALYTICS & INFORMATICS

SPORT SCIENCE INSTITUTE
Data Analytics

Evidence-based decisions.
No centralized data collection or analysis.

Solution: Datalys.
Solution: Trust.
Target: PPE.
Thank you.