



INTERASSOCIATION CONSENSUS:

YEAR-ROUND FOOTBALL PRACTICE CONTACT FOR COLLEGE STUDENT-ATHLETES RECOMMENDATIONS



PURPOSE

The Second Safety in College Football Summit resulted in interassociation consensus documents for four paramount safety issues in collegiate athletics:

1. Independent medical care for college student-athletes.
2. Diagnosis and management of sport-related concussion.
3. Year-round football practice contact for college student-athletes.
4. Preventing catastrophic injury in college student-athletes.

This document addresses year-round football practice contact for college student-athletes. The final recommendations in this document are the offspring of presentations and discussions during the summit on key items that address safety and head impact exposure in football. Following the presentations and discussions, endorsing organization representatives agreed on foundational statements and practice contact limitation statements that became the basis for a draft consensus paper that was reviewed further by relevant stakeholders and the endorsing organizations. The final, endorsed year-round football practice contact recommendations for college student-athletes follow.

This document is divided into the following sections:

BACKGROUND

This section provides an overview of the challenges of football practice as an aggressive, rugged, contact sport.

DATA-DRIVEN DECISION MAKING

This section provides an overview of emerging data relevant to guiding decision-making for football practice contact.

FOUNDATIONAL STATEMENTS

This section outlines the concepts in the statements that were voted on by representatives of medical and football organizations during the summit, and provides a rationale for the statements.

YEAR-ROUND FOOTBALL PRACTICE CONTACT FOR COLLEGE STUDENT-ATHLETES RECOMMENDATIONS

This section provides the final, endorsed recommendations of the medical and football organizations for revised year-round football practice for college student-athletes.

REFERENCES

This section provides the relevant references for this document.

APPENDICES

This section lists the agenda, summit attendees and medical/football organizations that have endorsed or affirmed the value of this document.



BACKGROUND

Football is an aggressive, rugged, contact sport, yet the rules clearly state that there is no place for maneuvers deliberately designed to inflict injury on another player.¹ Rules changes disallowing the head as the point of contact in tackling have yielded behavioral change resulting in marked reduction of catastrophic cervical spine injury and death.² Rules enforcement is critical for player safety.³ Because football practices remain a major source of injury, including concussion and repetitive head impact exposure in all three NCAA division football practices,⁴ enhancing a culture of safety in college football practice is foundational and the basis for bringing college athletics stakeholders to a summit in 2014 and reconvening in 2016.

The 2014 Safety in College Football Summit document, “Inter-Association Consensus: Year-Round Football Practice Contact Guidelines,”⁵ states that no more than two live contact inseason practices per

week are allowed in college football. In that document, live contact is defined as: “Any practice that involves live tackling to the ground and/or live or full-speed blocking. Live-contact practice may occur in full-pad or half-pad (also known as ‘shell,’ in which the player wears shoulder pads and shorts, with or without thigh pads). Live contact does not include ‘thud’ sessions or drills that involve ‘wrapping up,’ during which players are not taken to the ground and contact is not aggressive in nature. Live contact practices are to be conducted in a manner consistent with existing rules that prohibit targeting to the head or neck area with the helmet, forearm, elbow, or shoulder, or the initiation of contact with the helmet.” In 2015, the Big 12 Conference adopted a conference-wide limit on inseason live contact exposures in practice or competition to no more than two times per week, including game-day, and this was associated with a decreased incidence of practice concussions.⁶ In 2016, the Ivy League voted to

eliminate all inseason live tackling practices, although contact is still permitted and not specified further.⁷

Football practices allow for improved conditioning plus mastery of technique and skill, and are deemed under the control of the coach. Contemporary research in NCAA football reveals that the risk of concussion is greater in practices that allow tackling versus practices that allow contact without tackling.⁶ Such research also reveals that head-to-head contact carries a greater risk of concussion in football than head-to-ground contact.^{4,6} While the intensity and pace of a game is difficult to control, practice should be intentionally managed to limit player-to-player contact, particularly head-to-head, i.e. ‘taking the head out of the game.’ The fundamental cause of concussion is impact to the head. Intentional contact with or to a helmet is illegal in football and has no place in practice or competition. Avoidance of such helmet use warrants rigorous emphasis in practice and enforcement in competition.⁸

Because contact practices carry a greater risk of concussion than non-contact practices,⁶ defining “contact” is necessary, albeit daunting. The continuing rationale for defining and reducing live contact practice is to improve safety, including possibly decreasing athlete exposure for concussion—including repeat concussion—and overall head impact exposure.⁹⁻¹⁵ The biomechanical threshold (acceleration/deceleration) at which sport-related concussion occurs is unknown.¹⁶ Data supports football players are more frequently diagnosed with sport-related concussion on days with increased frequency and higher magnitude of head impact.^{11,17-19} However, there are no conclusive data for understanding the short- or long-term clinical sequelae of exposure to repetitive head impacts.

In addition to lowering concussion and repetitive head impact exposure risk, reduced frequency of live contact practice may also allow more time for teaching of proper tackling technique. Practice affords teaching technique. In particular, tackling and blocking should

be performed with technique emphasizing hands and shoulder contact and elimination of head contact.

“Performance” is the expression of sport, and performance is impaired following concussion.^{6,20-23} Less obvious is that impaired performance may persist for weeks or months following concussion. For example, diminished performance plagues concussed major league baseball players even as symptoms have subsided, post-concussion testing has returned to pre-injury levels and they have returned to full participation. In particular, batting average, on-base percentage, slugging percentage and on-base plus slugging are diminished two weeks after return to play following concussion.²⁴ Vestibular dysfunction, which is common after concussion, often persists in football players following concussion, which can impede performance and predispose to injury.²⁵⁻²⁷ Visual and sensory performance are factors key to any athlete and “... may influence an individual’s ability to interpret environmental cues, anticipate opponents’ actions and create appropriate motor responses”²⁸ Research demonstrates that these deficits may persist in football players despite no longer displaying any concussion related symptoms and being cleared by their team physician to return to participation.²⁸ Minimizing concussion risk and head contact exposure is part of “safe” football, which continues to mean “good” football.



DATA-DRIVEN DECISION MAKING

Emerging data from the historic NCAA-Department of Defense CARE Consortium study, which is part of the larger NCAA-DoD Grand Alliance, are helping to shape a science-driven approach to addressing concussion and head impact exposure in sport.²⁹⁻³⁰ In addition, many NCAA member schools have obtained important clinical and accelerometer data in football. Such emerging data, coupled with available science, were presented and discussed at the Second Safety in College Football Summit. Following presentations and discussions, all attendees were invited to weigh in on “foundational statements” and updated football practice contact guidelines. Foundational statements and recommendations were amended based on feedback, and when

more than 80 percent consensus was reached among the participants, the statements and recommendations were then voted on by representatives of both medical and football endorsing organizations (see Appendix C for endorsing organizations). Only those statements and recommendations that were agreed upon by 100 percent of both endorsing organization representatives were then placed into this document for further review and final endorsement. We revised the foundational statements for this document and updated football practice contact guidelines with recommendations that follow, including a brief synopsis of the rationale that was agreed upon by the endorsing organization representatives.

FOUNDATIONAL STATEMENTS

The following foundational statements **(in bold)** were approved at the summit, with discussion points that follow.

Head accelerometers are currently unable to function as concussion detectors.

One can envision a future in which head impact exposure data can be individualized for each football player, and thus general football contact guidelines that apply to an entire team would no longer be necessary. At this point in time, the science of accelerometers, and accelerometer data coupled with clinical outcomes, are inadequate to provide such guidance.³¹⁻³³ Although accelerometers are improving in providing head impact kinematics, all have limitations, ranging from inaccuracy in counting head impacts, measuring head acceleration, over-predicting rotational acceleration or inadequate field testing relative to dummy testing. Furthermore, there is no clear relationship between accelerometer measurements and clinical outcome.³⁴⁻³⁵ Thus, general guidelines for football practice are still necessary until the science of accelerometers can provide individualized guidance.

Head accelerometers can be utilized to assess group differences among types of football practices and competition.

Although head accelerometers cannot provide individualized data that allows a personalized approach to head contact exposure, the science has advanced sufficiently to allow group differences among various positions (e.g., lineman, safety, quarterback) with regard to head impact exposure risk.³⁶ Such data can guide coaches and the medical team in devising a head contact exposure reduction plan for various football positions.

Offensive and defensive linemen have a greater likelihood of sustaining repetitive head impact during practice.

Analysis of group accelerometer data provide evidence that offensive and defensive linemen are exposed to more frequent repetitive head impacts during practice than football players in other positions.³⁶⁻³⁷ As emerging evidence points to both the importance of understanding the management of concussion, there is also emerging evidence that cumulative head impact exposure needs to be better understood with regard to long-term neurologic sequelae.³⁸ Coaches and clinicians should be mindful of reducing unnecessary head impact exposure among offensive and defensive linemen. For example, there may be significant helmet-to-helmet contact between linemen even in individual line board drills, “pass pro” or one-on-one blocking, often as a result of poor technique such as offensive linemen dropping their heads and defensive linemen not using their hands.

Across practice, the preseason period has the highest rate of concussion.

Just as the acclimatization rule was put in place to address the documented increased risk of heat illness during preseason, emerging data inform us that preseason is also a time of considerable increased injury risk in general and concussion risk in particular.^{6,39} Indeed, conference-wide data inform us that preseason practices have the highest injury rate of any practices, and 58 percent of all-season practice concussions occur during preseason.⁶

Contact tackling practice carries a greater risk of concussion than contact non-tackling practice.

As concussion risk is in part mediated by contact/collision forces, it makes intuitive sense that concussion risk is increased when comparing contact tackling practice to contact non-tackling practice.⁶ Such data help inform decision making for football practice guidelines, differentiating the higher concussion risk practice of contact with tackling versus the lower concussion risk practice of contact without tackling.

Proper tackling is an essential aspect of the sport of football, and thus the concussive risk of learning proper tackling technique must be balanced with the unforeseen risks of tackling with improper technique.

Tackling and blocking should be performed with technique emphasizing hands and shoulder contact and elimination of head contact.

Proper tackling means that the helmet is not utilized as a weapon, which increases the chance of catastrophic injury. Minimizing head contact in both tackling and blocking is an important learned technique that not only lessens head impact exposure, but also decreases overall injury risk.^{4,40}

Head-to-head contact accounts for the greatest risk of concussion, followed by head-to-ground contact.

Helmets cannot eliminate all concussion risk, but rather minimize the risk of skull fracture and intracranial hemorrhage.⁴¹ The helmet should not be used as part of football technique in tackling or blocking and should simply serve as protective gear. Thus, blocking and tackling technique must minimize all head-to-head contact, which would decrease concussion risk.^{4,40} Furthermore, live tackling to the ground must be practiced safely and with less regularity in order to decrease concussion risk in football practice.

Full pad practice, shell practice and helmet only practice all carry a risk of concussion. No helmet and no shoulder pad practice is the only evidence-based non-contact practice with negligible concussion risk.

Even with the best of intent, emerging data inform us that football practice with equipment leads to behavior that increases concussion risk.^{6,17} That being said, wearing full pads in practice can be utilized for conditioning purposes, and helmets may protect the skull from fracture due to inadvertent falls to the ground or other types of collisions. Thus, coaches and clinicians need to balance equipment as a conditioning/protection factor versus equipment that may lead to increased head impact exposure. Importantly, data can

drive the intent of practice, and the nature of non-contact practice was discussed considerably during the summit. Although we have data that practices without helmet and shoulder pad are the only evidence-based non-contact practice with negligible concussion risk, we do not have data on potential downside risks of practicing without equipment.

Given this foundational data, a post-meeting consensus was developed regarding the following definitions, with the intent of providing a framework on varying intensity levels from non-contact/minimal contact practices to live contact/tackling to the ground practices. This framework is consistent with USA Football as follows (italicized content is from USA Football):

Non-contact/minimal contact practices do not involve tackling, thud, “wrapping up” or full-speed blocking. Non-contact/minimal contact practices are those practices in which drills are not run at a competitive speed, as follows:

- *Air. Players run a drill unopposed without contact.*
- *Bags. Drill is run against a bag or other soft-contact surface.*
- *Control. Drill is run at an assigned speed until the moment of contact. One player is designated by the coach ahead of time as the pre-determined winner. Contact remains above the waist and players stay on their feet.*

Live contact/thud is any practice in which players are not taken to the ground, including “thud” sessions or drills that involve “wrapping up,” irrespective of uniform worn.

Drill is run at competitive speed through the moment of contact with no predetermined winner. Contact remains above the waist, players stay on their feet and a quick whistle ends the drill. This definition provides a foundation for differentiating the increased concussion risk in live contact/tackling versus live contact practice that does not include tackling to the ground.

Live contact/tackling is any practice that involves tackling to the ground.

Drill is run in game like conditions and is the only time that players are taken to the ground. This definition provides a foundation for allowances of live contact/tackling practice during the season, and differentiates live contact/tackling (which carries a higher concussion risk) from other types of contact practice.

Preseason practice: In any given seven days following the five-day acclimation period:

- **Up to three days of practice may be live contact (tackling or thud).**
- **There must be three non-contact/minimal contact practices in a given week.**
- **A non-contact/minimal contact practice must also follow a scrimmage.**
- **One day must be no football practice.**

Preseason is an intense practice time that focuses on proper conditioning and mastery of football technique, including tackling and blocking. Emerging data help us to make informed decisions that balance conditioning and mastery of technique with safety. Based on the increased risk of concussion in preseason and emerging data regarding the importance of recovery, non-contact/minimal contact days must be factored into the week's schedule, and live contact needs to be decreased relative to prior preseason guidelines. As noted above, non-contact/minimal contact practice is conducted with the intent of a practice without shoulder pads or helmet. Coaches and medical staff should be cognizant of the behavioral risk of increased head impact exposure when equipment is worn.

Preseason practice: Two-a-day practices should not occur. A second session of activity can include walk-throughs or meetings.

Recovery is multi-dimensional, and proper recovery not only decreases the risk of exertional heat illness and overuse injuries, but also plays an important role in decreasing the risk of exertion after repetitive head impact exposure or possible concussion. In this regard, football is different from other sports where an initial practice does not involve potential repetitive head

impact or concussion. Thus, the benefit of improved conditioning and technique mastery from two-a-day practices must be mitigated by the increased risk of catastrophic injury and concussion. Importantly, walk-throughs or meetings do not include any conditioning activities.

Inseason practice (all divisions):

- **Three days of practice should be non-contact/minimal contact.**
- **One day of live contact/tackling is allowed.**
- **One day of live contact/thud is allowed.**

Inseason practices provide an ongoing opportunity to maintain/improve conditioning and to further master proper technique. This opportunity must always be balanced with recovery from potential head impact exposure and minimizing head impact exposure while learning the essential aspects of blocking and tackling.

Postseason and bowl practices must be separated from inseason practice because there can be up to six weeks of non-competition time between the end of the season and the next bowl or postseason game.

This time period provides an opportunity for refinement in skill and technique on the one hand, while providing an opportunity for more intense training for those team players who have had little to no game experience. Although there was no foundational statement regarding postseason practice, a consensus developed following much discussion with key stakeholders as follows:

- If there is a two-week or less period of time between the final regular-season game or conference championship game (for participating institutions) and the next bowl or postseason game, then inseason practice recommendations should remain in place.
- If there is greater than two weeks between the final regular-season game or conference championship game (for participating institutions) and the next bowl or postseason game, then:
 - ◊ Up to three days may be live-contact (two of which should be live contact/thud).
 - ◊ There must be three non-contact/minimal contact practices in a given week.



- ◊ The day preceding and following live contact/tackling should be non-contact/minimal contact or no football practice.
- ◊ One day must be no football practice.

Spring practice (Division I/Division II): The day following live scrimmage should be non-contact/minimal contact.

This follows the theme of the importance of recovery following increased risk of head impact exposure from live scrimmage.

Year-round training (Division I): Coaches may work with players for two hours a week on football skills (with use of footballs, sleds, dummies, etc.) without helmets or pads during the following times:

- Before and after spring football during the school year.
- For four weeks over the summer.

- This can include 7-on-7 and team work of full offensive and defensive plays; all must be non-contact.
- This will be included in the eight-hour Countable Athletically Related Activities (CARA) time.

***Note:** Although this foundational statement was embraced at the time of the summit because of the possibility of further improving technique during the off-season, it is not part of the final recommendations. CARA is an evolving concept within the NCAA and there are practical and legislative concerns about incorporating this concept into a formal recommendation at present. Furthermore, there is broad consensus by members of the American Football Coaches Association that the additional offseason time with coaches could have negative, unforeseen consequences.*

YEAR-ROUND FOOTBALL PRACTICE CONTACT FOR COLLEGE STUDENT-ATHLETES RECOMMENDATIONS

The above foundational statements became the basis for the year-round football practice contact recommendations below, which must be differentiated from legislation. As these recommendations are based on consensus and emerging science, they are best viewed as a “living, breathing” document that will be updated, as we have with other health and safety interassociation guidelines, best practices and recommendations, based on emerging science or sound observations that result from application of such documents. The intent is to reduce injury risk, but we must also be attentive to unintended consequences of shifting a practice paradigm based on consensus.

Preseason practice recommendations

Two-a-day practices are not recommended. A second session of no helmet/pad activity may include walk-throughs or meetings; conditioning in the second session of activity is not allowed.

The preseason may be extended by one week in the calendar year to accommodate the lost practice time from elimination of two-a-days, and to help ensure that players obtain the necessary skill set for competitive play.

In any given seven days following the five-day acclimation period:

- Up to three days of practice can be live contact (tackling or thud).
- There should be a minimum of three non-contact/minimal contact practices in a given week.
- A non-contact/minimal contact practice should follow a scrimmage.
- One day should be no football practice.

Difference from the 2014 guidelines:

1. Recommendation to discontinue two-a-day practices.
2. Recommendation to allow an extension of the preseason by one week. This requires a legislative change if the preseason begins one week earlier.
3. Recommendation to reduce weekly live contact practices from four to three.
4. Non-contact/minimal contact practice recommendations have been added.
5. Non-contact/minimal contact practice recommendation the day following a scrimmage has been added.
6. One day of no football practice recommendation has been added.
7. Legislation 17.10.2.1 would need to be updated if the preseason practice time *begins* one week earlier.

Inseason practice recommendations

Inseason is defined as the period between six days prior to the first regular-season game and the final regular-season game or conference championship game (for participating institutions).

In any given week:

- Three days of practice should be non-contact/minimal contact.
- One day of live contact/tackling should be allowed.
- One day of live contact/thud should be allowed.

Difference from the 2014 guidelines:

1. Recommendation to no longer allow two live contact/tackling days per week.
2. Non-contact day/minimal contact recommendations have been added.



Postseason practice recommendations

NCAA Championships (Football Championship Subdivision/Division II/Division III), bowl (Football Bowl Subdivision)

- If there is a two-week or less period of time between the final regular-season game or conference championship game (for participating institutions) and the next bowl or postseason game, then inseason practice recommendations should remain in place.
- If there is greater than two weeks between the final regular-season game or conference championship game (for participating institutions) and the next bowl or postseason game, then:
 - ◊ Up to three days may be live-contact (two of which should be live contact/thud).
 - ◊ There must be three non-contact/minimal contact practices in a given week.
 - ◊ The day preceding and following live contact/tackling should be non-contact/minimal contact or no football practice.
 - ◊ One day must be no football practice.

Difference from the 2014 guidelines:

1. Current guidelines do not differentiate postseason/ bowl practice from inseason practice.

Spring practice recommendations

(Divisions I and II)

- Of the 15 allowable sessions that may occur during the spring practice season, eight practices may involve live contact (tackling or thud); three of these live contact practices may include greater than 50 percent live contact (scrimmages). Live contact practices should be limited to two in a given week and should not occur on consecutive days. The day following live scrimmage should be non-contact/minimal contact.

Difference from the 2014 guidelines:

1. Non-contact/minimal contact practice recommendation the day following live scrimmage.

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AGENDA

National Collegiate Athletic Association
Safety in College Football Summit

Orlando, Florida

February 10-11, 2016

DAY 1

1. Welcome and summit overview. (Scott Anderson and Brian Hainline)

2. Topic 1: Sensor and clinical data regarding football practice and head exposure.

- a. Campus research. (Stefan Duma, Thomas Druzgal, Jacob Marucci, Jason Mihalik)
- b. Big 12 research. (Scott Anderson, Allen Hardin)
- c. Roundtable discussion and report out.
- d. Referendum: Year-round football practice contact.

3. Topic 2: Catastrophic injury in football.

- a. Traumatic. (Kevin Guskiewicz)
- b. Non-traumatic. (Scott Anderson, Doug Casa)
- c. Roundtable discussion and report out.
- d. Referendum: Action plan for mitigating catastrophic injury in football.

4. Topic 3: Diagnosis and management of sport-related concussion guidelines.

- a. Guidelines overview. (Brian Hainline, Scott Anderson).
- b. Concussion diagnosis and management update: New data from CARE Consortium.
(Steven Broglio, Thomas McAllister, Michael McCrea)
- c. Re-examining concussion treatment: Agreements from the TEAM meeting? (Anthony Kontos)
- d. Roundtable discussion and report out.
- e. Referendum: Diagnosis and management of sport-related concussion.

DAY 2

1. Opening remarks. (Scott Anderson and Brian Hainline)

2. Topic 4: Independent medical care. (Scott Anderson and Brian Hainline)

- a. Roundtable discussion and report out.
- b. Referendum: Independent medical care.

3. Topic 5: Inter-association consensus statements.

- a. Year-round football practice contact.
- b. Catastrophic injury in football.
- c. Diagnosis and management of sport-related concussion.
- d. Independent medical care.

4. Closing remarks.

SAFETY IN COLLEGE FOOTBALL SUMMIT PARTICIPANTS

Jeff Allen, Head Athletic Trainer, University of Alabama (attending on behalf of Nick Saban)

Scott Anderson, College Athletics Trainers Society, University of Oklahoma

Doug Aukerman, Pacific 12 Conference

Julian Bailes, MD, Congress of Neurological Surgeons, American Association of Neurological Surgeons

Stevie Baker-Watson, Director of Athletics, DePauw University

Brad Bankston, Commissioner, Old Dominion Athletic Conference

Karl Benson, Commissioner, Sun Belt Conference

Bob Boerigter, Commissioner, Mid-America Intercollegiate Athletics Association

Bob Bowlsby, Commissioner, Big 12, Chair, Football Oversight Committee

Matthew Breiding, Centers for Disease Control and Prevention

Steve Broglio, MD, Principal Investigator CARE Consortium, University of Michigan

William Bynum, President, Mississippi Valley State University

Jeff Bytomski, DO, American Osteopathic Academy of Sports Medicine

Carolyn Campbell-McGovern, Ivy League

Doug Casa, Ph.D., Consortium Director, Division on Exertional Injury, National Center for Catastrophic Sport Injury; Chief Executive Officer, Korey Stringer Institute; Director, Athletic Training Education, University of Connecticut

Bob Casmus, CSMAS, Catawba College

Scott Caulfield, National Strength & Conditioning Association

Randy Cohen, National Athletic Trainers' Association

Bob Colgate, National Federation of State High School Associations

Dawn Comstock, Associate Professor, University of Colorado, Denver

Julie Cromer Peoples, Senior Woman Administrator, University of Arkansas Fayetteville

Kevin Crutchfield, MD, American Academy of Neurology

Ty Dennis, Division II Student-Athlete Advisory Committee, Minnesota State University, Mankato

Jon Divine, MD, President, American Medical Society for Sports Medicine

Tom Dompier, Ph.D., President, Datalys

Jason Druzgal, MD, Neuroradiologist, University of Virginia

Stefan Duma, Ph.D., Director, School of Biomedical Engineering and Sciences, Virginia Polytechnic University

Ruben Echemendia, Ph.D., President, Sports Neuropsychology Society

Brent Feland, MD, Collegiate Strength & Conditioning Coaches' Association

Scott Gines, Director of Athletics, Texas A&M University, Kingsville

Kevin Guskiewicz, Ph.D., University of North Carolina, Chapel Hill

Allen Hardin, Senior Associate Athletics Director, University of Texas

Steven Hatchell, President, National Football Foundation

Bill Heinz, Chair, Sports Medicine Advisory Committee, NFHS

Jamie Hixson, Associate Commissioner, Mountain West Conference

Peter Indelicato, American Orthopaedic Society for Sports Medicine

Nick Inzerello, Senior Director, Football Development, USA Football

Jay Jacobs, SVPC, Auburn University

Chris Jones, Division I Football Oversight Committee (proxy), University of Richmond

Kerry Kenny, Assistant Commissioner, Big Ten Conference

Zachary Kerr, Director, Datalys

Anthony Kontos, Ph.D., Assistant Research Director, Sports Medicine Concussion Program, University of Pittsburgh Medical Center

William Lawler, Southeastern Conference

Josephine Lee, Board Member, College Athletics Trainers Society

Donald Lowe, Board Member, College Athletics Trainers Society

Jack Marucci, Louisiana State University

Thomas McAllister, MD, Principal Investigator, CARE Consortium

Michael McCrea, Ph.D., Principal Investigator, CARE Consortium

William Meehan, MD, American Academy of Pediatrics

Jason Mihalik, Ph.D., University of North Carolina, Chapel Hill

Bob Murphy, Board Member, College Athletics Trainers Society

Bob Nielson, Chair, NCAA Rules Committee

Scott Oliaro, Board Member, College Athletics Trainers Society

Kene Orjioke, Division I Student-Athlete Advisory Committee (SAAC), University of California, Los Angeles

Steve Pachman, JD, Montgomery McCracken

Sourav Poddar, MD, American College of Sports Medicine

Kayla Porter, Division III Student-Athlete Advisory Committee, Frostburg State University

Rogers Redding, Secretary Rules Editor, NCAA Football Rules Committee

Yvette Rooks, Board Member, College Athletics Trainers Society

Eric Rozen, Board Member, College Athletics Trainers Society

Scott Sailor, President, National Athletic Trainers' Association

Jon Steinbrecher, Commissioner, Mid-American Conference

Ken Stephens, National Operating Committee on Standards for Athletic Equipment

Edward Stewart, Senior Associate Commissioner, Big 12 Conference

Michael Strickland, Senior Associate Commissioner, Atlantic Coast Conference

Grant Teaff, Executive Director, American Football Coaches Association

Buddy Teevens, Coach, Dartmouth University

James Tucker, MD, Board Member, College Athletics Trainers Society

Steve Walz, Associate Director of Athletics, University of South Florida

Alfred White, Senior Associate Commissioner, Conference USA

STAFF PARTICIPANTS

Brian Burnsed, Associate Director, Communications

Dawn Buth, Associate Director, Sport Science Institute

Cassie Folck, Coordinator, Sport Science Institute

Brian Hainline, Chief Medical Officer, NCAA

Kathleen McNeely, Chief Financial Officer, NCAA

Terrie Meyer, Executive Assistant, Sport Science Institute

John Parsons, Director, Sport Science Institute

Chris Radford, Associate Director, Public & Media Relations

Stephanie Quigg, Director, Academic & Membership Affairs

APPENDIX C

ENDORISING MEDICAL ORGANIZATIONS

American Academy of Neurology (*Affirmation of Value*)
American Association of Neurological Surgeons
American Academy of Pediatrics
American College of Sports Medicine
American Medical Society for Sports Medicine
American Orthopaedic Society for Sports Medicine
American Osteopathic Academy of Sports Medicine
College Athletic Trainers' Society
Collegiate Strength and Conditioning Coaches Association
Competitive Safeguards and Medical Aspects of Sports
Congress of Neurological Surgeons
Korey Stringer Institute
National Athletic Trainers' Association
National Operating Committee on Standards for Athletic Equipment
National Strength and Conditioning Association
Sports Neuropsychology Society

ENDORISING FOOTBALL ORGANIZATIONS

American Football Coaches Association
National Football Foundation
NCAA Football Oversight Committee
NCAA Football Rules Committee
USA Football