

SANTA CLARA UNIVERSITY



**INSTITUTE OF
SPORTS LAW
AND ETHICS**

**SPORTS LAW SYMPOSIUM
SELECTED PROCEEDINGS 2013**



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FOURTH ANNUAL SPORTS LAW SYMPOSIUM AGENDA: SPORTS CONCUSSIONS: PROBLEMS & SOLUTIONS

9:00-9:05 a.m.

Welcome: Chairman of the Institute of Sports Law and Ethics, Dean of Santa Clara Law

9:05-10:00 a.m.

Keynote Addresses:

Alan Schwarz, *NY Times* reporter and author of numerous concussion-related articles

Ronnie Lott, *NFL Hall-of-Famer* and Co-Chair of the NFL's Player Safety Advisory Board

10:00-11:00 a.m.

I. The Science of Concussions

Panelists: Dr. Robert Cantu, Dr. Corey Goodman, Dr. Cindy Chang, Dr. Chris Giza, Dr. Alisa Gean

11:00-11:15 a.m.

Break

11:15 a.m.-12:30 p.m.

II. Concussions in Football

Moderator: Ramogi Huma

Panelists: Ronnie Lott, Brent Jones, Isaiah Kacyvenski, Patrick Larimore, Bryan Larimore, Tim Fleischer

12:30-1:45 p.m.

Special Lunchtime Presentation:

"What We Can Learn from What Happened at Rutgers"

Jack Clark (Introduced by Dan Coonan)

Jim Thompson (Introduced by Kirk Hanson)

1:45-2:45 p.m.

III. Concussions in Soccer

Moderator: Brandi Chastain

Panelists: Dr. Michael Lipton, Jeff Skeen, Jack Sahl

2:45-4:00 p.m.

IV. Could Concussion Liability Reshape Youth Sports?

A. As the dangers of head trauma to children become more apparent, will lawyers and insurance companies be the next to take action?

B. How vulnerable are youth sports organizations and coaches to the kind of lawsuits that have been directed at the NFL and NCAA?

C. Will high schools continue to underwrite collision sports such as football if insurance premiums rise? Is tort law a threat to youth sports – or an opportunity for reform?

Moderator: Tom Farrey

Panelists: Shawn Stuckey, Doug Abrams, Michael Pilawski

4:00-4:15 p.m.

Break

4:15-5:30 p.m.

V. Legal Perspectives on the 4000+ Concussion Cases

Moderator: Ted Leland

Panelists: Rob Carey, Robert Rabin, Bill Gould

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A Note from the Editor

Welcome to the Fourth Annual Santa Clara Sports Law Symposium brought to you by the Institute of Sports Law and Ethics. This year we will be focusing on the growing impact and effect of concussions on players' health and athletics in general.

Collectively, we are proud to present to you this third edition of the Selected Proceedings of the Santa Clara Sports Law Symposium. We would like to thank the authors for their generosity in sharing these articles with our attendees. Their contribution and commitment to this symposium is greatly appreciated. We would also like to recognize our team of editors who have performed admirable work in complying this publication.

This publication would not exist but for the support of the Institute of Sports Law and Ethics Board Chair, Professor Ron Katz. We have appreciated his thoughtful advice throughout the compilation and editing of the Selected Proceedings. We could not have asked for a better mentor with whom to work.

Finally, we thank you for attending this year's Symposium at Santa Clara. Please enjoy today's informative sessions, which are supplemented by the content in these Selected Proceedings.

Respectfully Submitted,
Amanpreet Muhar

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SPORTS LAW SYMPOSIUM SPEAKER BIOGRAPHIES



DOUG ABRAMS

Doug Abrams, a University of Missouri law professor, coached youth hockey for 42 years. Now he speaks and writes law journal articles, book chapters, newspaper editorials, and regular blog columns about player safety and the role of youth sports in America. He is the 2013 recipient of the Excellence in Safety Award presented by USA Hockey, the sport's national governing body.

With royalties from his four books about family law and juvenile law, he created Happiness for Health, a permanent endowment that provides toys, stuffed animals, games, and parties for the sick and injured patients at the University of Missouri Children's Hospital.

Prof. Abrams served on the Missouri Bar's Children and the Law Commission, and he wrote several pediatric health and safety statutes. He serves on the Advisory Board of the Missouri Division of Youth Services, one of the nation's foremost juvenile justice treatment agencies. He also serves on the Missouri Juvenile Justice Association's board of directors. He is a Fellow of the Missouri Bar Foundation, which improves the law through education, public service, and charitable initiatives.



DR. ROBERT CANTU

Currently Dr. Cantu's professional responsibilities include those of Clinical Professor Department of Neurosurgery and Co-Director Center for the Study of Traumatic Encephalopathy, Boston University School of Medicine, Boston, MA; Senior Advisor to the NFL Head, Neck and Spine Committee; Founding member and Chairman Medical Advisory Board Sports Legacy Institute, Waltham, MA; Adjunct Professor Exercise and Sport Science and Medical Director National Center for Catastrophic Sports Injury Research, University of North Carolina, Chapel Hill, NC; Adjunct Staff Department of Neurosurgery and Senior Advisor Brain Injury Center, Children's Hospital Boston, Boston, MA; Co-Director, Neurologic Sports Injury Center, Brigham and Women's Hospital, Boston, Chief of Neurosurgery Service, Chairman Department of Surgery, and Director of Sports Medicine at Emerson Hospital in Concord, Massachusetts, Neurosurgical Consultant Boston Eagles football team, and prior Neurosurgical Consultant Boston Cannons professional lacrosse team. Dr. Cantu also consults with numerous NFL, NHL and NBA teams. Dr. Cantu also serves on the Mackey White TBI

advisory committee to the NFLPA.

As an author of numerous books as well as articles on sports medicine topics, he is frequently invited to participate in symposiums addressing a wide range of sports medicine topics including anabolic steroid use; eating disorders in female athletes; acute and chronic brain injury in boxing; and on-the-field evaluation and medical management and return to play guidelines following head and spine sports injuries. *Dr. Cantu's most recent book "Concussion and Our Kids" was released September 2012 from Houghton Mifflin Harcourt.*



ROB CAREY

Rob Carey, a partner in Hagens Berman, specializes in class-action lawsuits, with recent cases such as the student-athlete likeness litigation, the Final Four Entry Fee litigation, and assisting LeGarrette Blount in his quest to get reinstated on the football field. He has tried numerous cases to verdict, with as much as \$75 million at stake. From 1990 to 1996, Mr. Carey was Arizona's Chief Deputy Attorney General, supervising 300+ lawyers. He currently serves as the Chair of the Arizona State Bar

Class Action and Derivative Suits Committee and recently co-authored the Arizona section of the American Bar Association's 2010 survey of class action law.



CINDY CHANG

Cindy J. Chang, MD, served as head team physician for Cal's 27 athletic teams from 1995 to 2008. She continues to work at UC-Berkeley as a sports medicine specialist, and serves as a consultant and team physician for the Cal intercollegiate athletes. She is Co-Chair of the California Concussion Coalition, and actively serves on the California Interscholastic Federation's Sports Medicine Committee.

She was an elected four-year member of the Board of Directors for the American Medical Society for Sports Medicine (AMSSM), and has also served on the Medical Education Committee for the American College of Sports Medicine. She is a Past President for AMSSM, which is one the largest organizations of primary care sports medicine physicians in the world.

Chang worked at the U.S. Olympic Training Center in Colorado Springs and was part of the USA medical team for the Winter Paralympic Games in Nagano, Japan, in 1998 and in Salt Lake City in 2002. She served as Chief Medical Officer for the USA delegation at the 2007 Parapan Am Games in Rio de Janeiro, the 2008 Summer Paralympic Games in

Beijing, and most recently the 2012 Olympic Games in London. She was the 2003 recipient of the AMSSM Founders Award, given to a sports medicine physician who demonstrates outstanding professional achievement and service to the community. Chang was also recently selected to receive the 2013 Dr. Ernst Jokl Sports Medicine Award, given annually to an individual for his/her contributions to the growth and development of sport medicine through practice and/or scholarly activity. Past award recipients have included Sir Roger Bannister, Dr. Jimmy Andrews, and Dr. Eric Heiden.



BRANDI CHASTAIN

A two-time All-American, Brandi Chastain gained international fame by helping the U.S. National Team win the inaugural Women's World Cup, by bringing home the first-ever Olympic women's soccer gold medal and making that famous penalty kick to secure a second World Cup. Brandi, a former Bronco All-American and assistant coach, returned to the Broncos full-time for the 2010 season as a volunteer assistant coach and is set to

begin her third season on the sidelines. Brandi also serves as an expert commentator on Olympic and World Cup Soccer broadcasts.



JACK CLARK

Jack Clark has served as California's varsity rugby head coach since 1984 (assistant coach 1982-83), compiling the most successful record in the team's 131-year history, currently 559-71-5 (.880) in the traditional 15-a-side version of the game and 45-11 (.803) in the Olympic 7s code of rugby, which returns as a medal sport to the 2016 Summer Games. The Golden Bears' era of success under Clark has included the 2013 Collegiate Rugby Championship in 7s and 22 national collegiate championship

titles in 15s.

In a singular honor, Clark delivered the keynote address at the International Rugby Board's Conference on the Game 1998. In 2000, he was chosen one of Cal's Ten Most Influential Sports Figures of the 20th Century by The Daily California, joining legendary Cal Hall of Fame coaches Carrol "Ky" Ebright, Brutus Hamilton, Pete Newell and Lynn "Pappy" Waldorf on the honor roll. Clark was the recipient in 2001 of the Craig Sweeney Award, which is bestowed to former U.S. internationals for their "significant contribution to the game". A past chairman of the Cal Head Coaches Advisory Board, Clark has also received National Coach of the Year awards and numerous Cal Coach of the Year awards.



DAN COONAN

Since taking over as Santa Clara University's Director of Athletics and Recreation on August 27, 2004, Dan Coonan has helped take the Broncos to new heights on the fields, in the classroom and in the community. For his efforts, he was recently named as one of the Bay Area's Top 25 Sports Power Players by the San Jose Mercury News. In the past six years, the Broncos have won two WCC Commissioner's Cups, finishing as the runner-up twice. They have won nine WCC Championships, and teams or athletes from nine different sports have advanced to post-season play at least once. Twenty Bronco teams have advanced to NCAA Tournaments, with two reaching the Final Four. The Broncos have had one National Player of the Year, 20 All-Americans, a Rhodes Scholar, and seven Conference Players of the Year. Mr. Coonan is one of the founders of the Institute of Sports Law and Ethics at Santa Clara University.



TOM FARREY

Tom Farrey is an ESPN reporter and director of the Aspen Institute's Sports & Society Program, which has addressed such topics as Title IX, youth football safety, and amateurism. He is the author of *Game On: The All-American Race to Make Champions of Our Children*, a leading investigative work on contemporary youth sports.



TIM FLEISZER

Tim Fleiszer is the first player in Canadian Football League history to win four Grey Cup championships with four different teams. Selected 1st overall in the 1998 CFL Draft, Fleiszer won more championships than any player, coach or executive in the CFL during his decade-long career.

A leader on and off the field, Tim was a team captain on three teams (Montreal, Ottawa and Edmonton) and a CFL Players Association representative for four years. He was twice nominated for the Tom Pate award, given to the CFL player who demonstrates outstanding community service.

A cum laude graduate of Harvard University (B.A. '98), Fleiszer joined Gil Scott Sports Management as a partner in January 2008. In addition to his efforts with GSSM, Tim is the Founder and Executive Director of the Sports Legacy Institute Canada, which serves to "advance the study, treatment and prevention of the effects of brain trauma in athletes and other at-risk groups". He also serves as a consultant with Xenith, SportsLab NYC and Clutch Private Financial Management.



ALISA GEAN

Alisa D. Gean, MD is a Professor of Radiology, Neurology, and Neurosurgery at the University of California, San Francisco. Dr. Gean's editorial activities include *JAMA*, *American Journal of Neuroradiology*, *Radiology*, *Journal of Trauma*, *Journal of Neurotrauma*, *Annals of Neurology*, *Journal of Neuro-AIDS*, and the *Journal of Computed Assisted Tomography*. She has delivered over 200 national and international invited lectures, written 4 books, 24 book chapters, and over 100 peer-reviewed manuscripts, and scientific abstracts.

Dr. Gean lectures nationally and internationally on the topic of traumatic brain injury, and is a founding member of the Brain and Spine Injury Center ("BASIC") at UCSF. She has written extensively on the topic of TBI, and is the sole author of the internationally recognized textbook, ***"Imaging of Head Trauma"***. She has consulted with the *National Institutes of Health* (NIH), the *National Institute of Neurological Disorders and Stroke* (NINDS), the *Centers for Disease Control* (CDC), the *Department of Defense*, and the *National Football League* on the topic of head injury.

In 2008, she volunteered for a month at Landstuhl Regional Medical Center in Germany to study combat TBI. To this end, she has been working to better understand the difference between civilian and battlefield brain injury, and has recently finished another single-authored textbook titled ***"Brain Injury: Applications to Civilian Trauma from War and Terrorism"***.



CHRISTOPHER GIZA

Christopher Giza graduated from Dartmouth College, received his M.D. from West Virginia University and completed his internship at the University of Pennsylvania. Dr. Giza then trained in Adult and Pediatric Neurology at UCLA, after which he worked on the Yosemite Search and Rescue team. In 1998, he returned to UCLA and joined the Brain Injury Research Center. His research interests include neuroplasticity, recovery from injury, sport-related concussions, post-traumatic epilepsy and brain development. Dr. Giza leads the Pediatric TBI/Sports Concussion program at UCLA.

He traveled to Afghanistan in 2011 as a civilian advisor to the Department of Defense and Co-Chaired the American Academy of Neurology's committee which developed an evidence-based Practice Guideline for Management of Sports Concussions in 2013. He serves on the Center for Disease Control's Pediatric mild TBI committee, the NCAA Concussion Task Force, the Major League Soccer Concussion Program Committee and as Vice-Chair for the California State Athletic Commission. He is currently an Associate Professor of Pediatric Neurology and Neurosurgery at the David Geffen School of Medicine and Mattel Children's Hospital at UCLA.



COREY GOODMAN

Corey Goodman is a scientist, educator, and biotechnology entrepreneur. With a B.S. from Stanford University and Ph.D. from U.C. Berkeley, he spent 25 years as Professor of neurobiology at Stanford and Evan Rauch Chair of Neurobiology at Berkeley, where he was Howard Hughes Medical Institute Investigator, Head of the Division of Neurobiology, and co-founder and Director of the Wills Neuroscience Institute. He is an Adjunct Professor at U.C. San Francisco.

Dr. Goodman is an elected member of the National Academy of Sciences, American Academy of Arts and Sciences, and American Philosophical Society, and the recipient of many honors including the Alan T. Waterman Award, Canada Gairdner Biomedical Award, March-of-Dimes Prize in Developmental Biology, Reeve-Irvine Research Medal, and Dawson Prize in Genetics from Trinity College Dublin.

Today Dr. Goodman is a Managing Partner of venBio, a strategic capital firm investing in innovative therapeutics for major unmet medical needs, based on a novel model of strategic investment in partnership with Amgen, Baxter, and PPD.

Dr. Goodman is on the Board of the California Council on Science and Technology, Pacific Institute, Bay Area Science and Innovation Consortium, and is former Chair of the National Research Council's (NAS) Board on Life Sciences and past President of the McKnight Endowment Fund for Neuroscience. He is an advisor to numerous biomedical foundations, and a member of the editorial board of Science Translational Medicine and Neuron.



WILLIAM B. GOULD IV

A prolific scholar of labor and discrimination law, Bill has been an influential voice on worker-management relations for more than forty years. He has served as chairman of the National Labor Relations Board. Professor Gould has been a member of the National Academy of Arbitrators since 1970 and has arbitrated and mediated more than 200 labor disputes, including the 1992 and 1993 salary disputes between the Major League Baseball Players Association and the Major League Baseball Player Relations Committee. He currently serves as Independent Monitor for FirstGroup

America, addressing freedom of association complaints, and is the Charles A. Beardsley Professor of Law, Emeritus at Stanford Law School.



KIRK O. HANSON

Kirk O. Hanson is Executive Director of the Markkula Center for Applied Ethics at Santa Clara University and John Courtney Murray, S.J. University Professor of Social Ethics. He has held these positions since 2001 when he took early retirement from Stanford University where he taught in the Graduate School of Business for 23 years and holds the rank of faculty emeritus. The Markkula Center for Applied Ethics is one of the most active ethics centers in the

U.S., working in business, government, health care and K-12 character education. Mr. Hanson is a graduate of Stanford University and the Stanford Graduate School of Business. He has held graduate fellowships and research appointments at the Yale Divinity School and Harvard Business School.



RAMOGI HUMA

Ramogi Huma is the founder and President of the National College Players Association (NCPA) and a former UCLA football player. Huma founded the NCPA in 1997 after the NCAA suspended his teammate Donnie Edwards for accepting a bag of groceries when he had no food during the season and after being informed that the NCAA prevented UCLA from paying medical expenses from injuries that occurred during summer workouts. Since its creation, 17,000 Division I college athletes from over 150 campuses have

joined the NCPA, which serves as college athletes' only independent voice. Huma earned a bachelor degree in sociology and a master of public health degree from UCLA.



BRENT JONES

Brent has served as a Managing Director of Northgate since co-founding the firm in 2000. Brent played 12 years in the National Football League, including 11 with the San Francisco Forty-Niners where he was a four-time All-Pro performer and three-time Super Bowl champion. He was honored as the NFL's Bart Starr Award recipient in 1998 for outstanding character in the home, on the field, and in the community.



ISIAH KACYVENSKI

Isaiah Kacyvenski played in the National Football League for 8 years for the Seattle Seahawks, St. Louis Rams and the Oakland Raiders, and serves on the Board of Directors of the not-for-profit, Sports Legacy Institute. He was also the VP of Investor Relations for Sail Venture Partners—which he still serves as a Special Advisor—before leaving for Harvard Business School in 2009. After graduating from Harvard Business School in 2011, Isaiah joined MC10, a cutting-edge conformal electronics company based in Cambridge, MA, as the Head of Sports Segment.

After being the Harvard University Male Athlete of the Year and becoming the highest draft pick in Harvard history, Isaiah played in the NFL for eight years, was elected Special Team Captain three years in a row and served in this role during Super Bowl XL.

Isaiah is the recipient of several prestigious awards, including 1st Team AP All-American and the Nils V. “Swede” Nelson Award given to “best, most academically talented” football player in New England. He holds a Cum Laude Bachelor degree in Environmental Science and Public Policy from Harvard University and graduated from Harvard Business School’s MBA program in May of 2011.



RONALD KATZ

Mr. Katz, who heads the litigation group in the Palo Alto office of Manatt, Phelps & Phillips and is a sports law lecturer at Santa Clara Law, specializes in complex commercial dispute resolution with an emphasis on intellectual property, antitrust and technology matters. He represented a class of 2062 retired National Football League players against their union resulting in a \$28,100,000 jury verdict. Mr. Katz also teaches a course in trial advocacy at Stanford University Law

School.



BRYAN LARIMORE

Bryan Larimore is the father of Patrick Larimore. He knows first-hand the difficult issues a family faces when a family member who is a star football player suffers from serious concussions.



PATRICK LARIMORE

Patrick Larimore was formerly UCLA football team captain and starting middle linebacker. After suffering repeated concussions, including one that sidelined him for over a month, Patrick retired from college football in August of 2012. He skipped his final season of eligibility as a senior, and potentially a promising career in the NFL, citing personal health as paramount to sports. Patrick had been heralded as one of the nation's top middle linebackers. His standout play in 2011 earned him Defensive MVP honors, leading UCLA's squad with 81 tackles and reestablishing the

program's defensive prowess.

Patrick experienced several concussions during UCLA's 2012 spring training camp. Following a full medical examination, confirming the medical risks of continued competition, Patrick opted to protect his long-term health and forego his football career.

Since his retirement from football, Patrick has actively advised student-athletes in high school and college to take head injuries more seriously and cautiously. Patrick earned a bachelor's degree in political science from UCLA in 2012. His story was the subject of an ESPN E:60 feature presentation.



TED LELAND

Dr. Ted Leland, the Vice President for External Relations and Athletics, took over as the athletic director of Pacific Athletics on July 1, 2011. Beginning his second stint as the director, Leland will lead Pacific Athletics for a two-year period while overseeing the implementation of Pacific's new strategic plan for Intercollegiate Athletics. Leland was named The Jaquish & Kenninger Director of Athletics at Stanford University on June 7, 1991, and was the guiding force in leading an athletics program that was voted "the most admired collegiate athletic program in the nation." From

1991-2005, Stanford won 53 national team championships in 14 different sports, including an NCAA record six national titles in 1996-97. Cardinal teams consistently competed for the national championship in virtually each sport every year. In 2004-05 alone, Stanford had 26 programs finish in the Top 25 nationally, including 10 in the Top 5 and 16 in the Top 10. He is a member of the board of the Institute of Sports Law and Ethics at Santa Clara University.



MICHAEL LIPTON

Michael Lipton, a neuroradiologist and neuroscientist, is Associate Director of the Gruss Magnetic Resonance Research Center and Director of Radiology Research at Albert Einstein College of Medicine as well as Medical Director of MRI Services at its University Hospital, Montefiore Medical Center, both in New York. He divides his professional time between the clinical practice of neuroradiology, teaching and research. Dr. Lipton's research broadly addresses the use of advanced noninvasive

imaging technology to reveal heretofore inaccessible substrates of brain dysfunction, particularly in the realms of behavior and cognition. More specifically, his research program has focused for nearly a decade on detecting and characterizing the effects of mild brain injury (AKA concussion). Specific areas of emphasis at present include the understanding of inter-individual differences in the manifestations of brain injury and the cumulative effects of repetitive subconcussive injury in sports. Dr. Lipton's work on the impact of subconcussive "heading" on brain structure and function in amateur soccer players, funded by the Dana Foundation and the National Institutes of Health, has been reported extensively in the press worldwide.



RONNIE LOTT

Ronnie is a four time Super Bowl Champion with the San Francisco 49ers. He played cornerback, free safety and strong safety in the NFL from 1981 to 1995. He played college football at the University of Southern California and was honored as a consensus All-American. Lott was elected into the Pro Football Hall of Fame in 2000. He is widely considered one of the best defensive backs in NFL history. USA Today praised him as "one of the most successful athletes at making the transition to business" and he advises professional athletes

who are making the transition to the business world. Mr. Lott has maintained a long and successful career in the alternative asset investment industry in the Bay Area. He is also well known for his philanthropic work in the community.



JEFF MILLER

Jeff Miller is the National Football League's Senior Vice President for Health and Safety Policy. In addition to overseeing many of the NFL's health and safety initiatives, Jeff also manages the League's community relations programs and philanthropic work. Jeff previously served as head of the NFL's Washington D.C. office where he was responsible for all state and federal legislative and regulatory initiatives.

Before joining the NFL in 2008, Jeff worked as the Staff Director and Chief Counsel for the Antitrust and Business Competition Subcommittee of the Senate Judiciary Committee and Senator Herb Kohl from 2003-2008. As staff director, Jeff was responsible for legislation on all issues before the Committee as well as investigations and hearings concerning a range of antitrust issues including mergers and anti-competitive business practices. He led investigations into mergers in the telecommunications, media, airline, and pharmaceutical industries, among others.

Jeff is a graduate of The Law School at the University of Chicago and received a B.A. magna cum laude from the University of Pennsylvania.



MICHAEL PILAWSKI

Michael Pilawski has been the Athletic Director at Saint Francis High School for nine years. Before that he had been teaching and coaching high school sports for seven years. He has a B.A. from the University of Notre Dame, an M.A. in Catholic school administration from the University of San Francisco, and has received a CAA (certified athletic administrator) credential.



DONALD J. POLDEN

Former Santa Clara Law Dean Donald Polden is a well-known scholar in the areas of employment law and legal education. He has practiced law, principally in the areas of federal antitrust law and employment law, in the federal and state courts. Since his appointment as Dean in 2003, Polden was instrumental in developing the curriculum for leadership education, a movement that is growing in significance in American legal education. He serves as chair of the American Bar Association's Standards

Review Committee that is charged with revising the accreditation policies for American legal education. Dean Polden is a graduate of George Washington University and the Indiana University School of Law.



ROBERT RABIN

Robert L. Rabin is the A. Calder Mackay Professor of Law at Stanford University. He received his B.S., J.D., and Ph.D. (Political Science) from Northwestern University. He has served as Senior Environmental Fellow at the Environmental Protection Agency, 1979-1980; Visiting Fellow at the Centre for Sociolegal Studies, Oxford University, in 1982; Fellow at the Center for Advanced Study in the Behavioral Sciences, 1982-83; Visiting Professor at Harvard Law School, 1987-88; Jack N. Pritzker Distinguished Visiting Professor of Law at Northwestern University School of Law, fall semester 1994; and Visiting Professor at New York University School of Law, 1999-2000, 2007-08, 2009-10, 2011-12.

Professor Rabin teaches courses in Torts, Toxic Harms and Protection of Personality. Among his published books are *Cases and Materials on Tort Law and Alternatives* (with M. Franklin & M. Green), Foundation Press (9th edition, 2011); *Torts Stories* (with S. Sugarman), Foundation Press (2003); *Regulating Tobacco* (with S. Sugarman), Oxford University Press (2001); *Perspectives on Tort Law*, Aspen Publishers (4th edition, 1995); and *Smoking Policy: Law, Politics, and Culture* (with S. Sugarman), Oxford University Press (1993). He has extensive experience relating to the tobacco litigation, which has been compared by some to the current concussion litigations.



JACK SAHL

John P. (Jack) Sahl is a Professor of Law and the Faculty Director of the Miller-Becker Center for Professional Responsibility at the University of Akron School of Law. He teaches sports and entertainment law; is the Alternate National Collegiate Athletic Association Faculty Athletics Representative; and has been on the NCAA Athletics Certification Self-Study Committee, the Agent Advisory Committee, and the University Athletics Committee. He also teaches a film and legal ethics seminar and a U.S. Legal System course to international lawyers and students each summer at Yale University.

He has a J.D. from the University of Vermont Law School and an L.L.M. from Yale University Law School.



ALAN SCHWARZ

Alan Schwarz, prize-winning author and journalist for the New York Times, helped bring the connection between concussions and early-onset dementia to national attention with a series of articles starting in 2007. These articles have become an important part of the national discussion on this issue and have led to Congressional hearings and to policy changes by the National Football League. Mr. Schwarz has won numerous journalism awards, including two Associated Press awards for feature writing in sports, and a George Polk award for sports writing.



JEFF SKEEN

Jeff Skeen is the founder and chief executive officer of Full90 Sports, Inc., which he started after witnessing his daughter suffer her third concussion while playing soccer. Today, Full90 is recognized in the soccer community as the company that brought attention to the issue of concussions and is the leader in developing and marketing protective headgear for soccer players worldwide.

As a motorcycle racer, he experienced more than 20 diagnosed concussions and has undergone brain surgery for a subdural hematoma. When his racing career ended, becoming professionally involved in the design, production and distribution of protective equipment came naturally.

He is Chairman of Affinity Sports, the largest provider of state youth soccer end-to-end management systems in the US.

Skeen is a member of ASTM International, earned a degree in Business Marketing from San Diego State University and frequently speaks on the subject of injury prevention and concussions at medical conferences.



SHAWN STUCKEY

Shawn Stuckey represents both plaintiffs and defendants in complex litigation matters. Shawn's area of practice includes sports law litigation, antitrust, and complex insurance coverage disputes. Shawn has worked on some of the most complex antitrust, sports law, and insurance coverage cases in the country including representing retired National Football League (NFL) players against the NFL in the 2011 NFL Lockout; representing current and former NCAA student-athletes against the NCAA and Electronic Arts arising out of the alleged misappropriation of student-athletes' publicity and antitrust rights; and both coverage and subrogation

claims arising from the 9/11 World Trade Center attacks.

Shawn, a retired NFL football player (New England Patriots, Minnesota Vikings, & Tampa Bay Buccaneers), dean's list law student, and award winning author, attended the University of St. Thomas School of Law in Minneapolis. Shawn's experience as a retired NFL football player makes him uniquely situated to handle matters involving current and former professional and amateur athletes.



JIM THOMPSON

Jim Thompson is founder and Chief Executive Officer of Positive Coaching Alliance, a nonprofit formed at Stanford University with the mission to create a movement to transform the culture of youth sports so that all youth athletes have a positive, character-building experience. Before launching PCA, Jim was director of the Public and Global Management Programs at the Stanford Graduate School of Business, where he also taught courses in leadership and nonprofit issues.

Alan Schwarz Q&A: Telling the Story of Sports Concussions

Fran Kritz, Senior Editor

This article was previously published NewPublicHealth.org, a public health news and information forum from the Robert Wood Johnson Foundation.

Alan Schwarz spent the majority of his career as a baseball reporter before authoring dozens of stories for The New York Times unearthing the dangers of concussions in football at all levels—from the professional leagues down to kids' leagues. He was working as a freelancer when first approached about the public health issue. The end result was a series that made him a Pulitzer Prize-finalist and helped change the face of football.

NewPublicHealth sat down with Schwarz before he delivered a keynote address at the 2012 Public Health Law Conference to discuss how his interest in sports-related concussions began and what he thinks about the impact he made on public health.

NewPublicHealth: How did you come to report on this issue?

Alan Schwarz: Most regularly I was, along with David Leonhardt, the Keeping Score columnist for the Times sports section on Sundays, where every week we looked at some phenomenon through a statistical lens. But my beat was exclusively baseball. However, I came to know a fellow named Chris Nowinski, former Harvard football player turned professional wrestler, who had written a book about concussions and how serious they were. This was the summer of 2005.

Chris called me up. I got lots of calls from lots of young writers at that time and tried to be nice to them and Chris sent me the manuscript and it was incredible. It was really, really well done, and I thought “this is a very important book.” So I introduced him to a few people I knew here in New York in publishing, because I thought this was really good stuff. Well, no one really gave him the time of day, frankly. No one thought it was commercial enough to succeed as a book. And that was that. I didn't hear from him again, nor did I expect to.

NPH: Then what happened?

Alan Schwarz: Chris had been investigating the death of a former National Football League player who had killed himself in November of 2006, Chris called me up, basically out of the blue, and said “I have something I think is pretty big here and you're the only one who ever took me seriously.” It was brain damage found in the brain tissue of Andre Waters. We talked about where he should bring that story, and I said The New York Times would be probably the right place. I set up a meeting among the Times sports editor, Chris and me, where we explained the significance of the story. The sports editor grasped it immediately, of course. And to my surprise, the sports editor let me write the story. I didn't think he would. But he did, and obviously the first story

got a lot of attention.

NPH: Did you expect that this story would lead to more investigation around sports concussions?

Alan Schwarz: After that first story ran I was still a baseball writer, I was not expecting anything to really come of this. I thought it was one-off story. The next thing I know, Ted Johnson, former New England Patriot, who at the age of 36 was experiencing terrible post-concussion syndrome, called me up and says he wants to go public with his story. And after spending some time with Ted and fact-checking his story, because just because someone wants to tell you his story doesn't mean it's true—a lot of work had to go into verifying what he was saying—I got to write that story, too. And that story ran two days before the Super Bowl. Basically all hell broke loose. At that point the Times was convinced that this was going to be an ongoing story, and to my great appreciation they wanted me to do it. And so they basically hired me right then.

NPH: What changes have you seen in sports since the stories ran in 2007?

Alan Schwarz: Well, there's no question that there are now rules regarding the treatment and handling of concussions that did not exist six years ago. At that time, particularity in the National Football League—and the National Football League set the tone for football leagues nationwide for young and old, not to mention other sports leagues as well—if you got a concussion during a game, it was more than fine to come right back into the game. You weren't necessarily given any tests—you got dinged and then came back in, no problem. You could get knocked unconscious in the middle of a game and come back several plays later.

This was protocol. And not only was it protocol, it was defended in scientific papers composed by the league's concussion committee—papers that held about as much water as your average colander, but nonetheless were published and peer reviewed. And so basically a concussion was seen as a brain bruise and you were fine, you just got dinged, you got back into the game and showed how tough you were, playing with your pain. Clearly, that was not the way to handle things if you wanted to avoid players having post-concussion syndrome or having teenagers die on the football field from second impact syndrome. And so what's happened is there's been an incredible change in the appreciation for the possible severity of concussions. Many concussions are no big deal, nor had anyone ever suggested that every concussion is, by definition, a terrible, terrible problem. As long as you handle it correctly, it doesn't really need to be that big of a deal. However, if you don't handle it correctly—and handling it correctly can sometimes be a little tricky—you can court some real long-term problems.

NPH: Six years later, what would you say the attitude is now, in both professional and school sports? Is there a growing recognition of the concern? Still some resistance to modifying the games to better protect athletes?

Alan Schwarz: Well, I think it varies. I think there are, of course, people who have always understood the importance of concussion and the possible severity of it. They weren't necessarily listened to very well. Maybe that's one-third of the people. Then there are one-third of the people who didn't really understand and now do and really care about doing the right thing. They didn't understand it before, they've learned, and they're applying that information. Perhaps there's that last third that doesn't want the games to change too much, who want to cling to their image of these sports as either not that dangerous or a test of mettle, where if you get hurt you shake it off and you show how tough you are to your team.

Unfortunately, with this particular injury, that's indescribably dangerous. But I think that there is some resistance because people don't like real life intruding upon their games, and health concerns and removing the player because of them—there's just something that destroys the fantasy in many ways. It's one thing if a bone is sticking out of your leg, obviously you're coming out of the game and everyone knows this, but with a concussion, frankly, a player can appear just fine. And so it's very difficult to remove them, especially when he's pleading "I'm fine, I'm fine, I'm fine, I want to go play." And perhaps the parent and this fan would say "What's the matter, why isn't he back in the game? He has a scholarship he's trying to get." It's a very difficult situation.

NPH: What's your take on applying law to preventing sports concussion-related brain injuries?

Alan Schwarz: Well, one of the nice things about our republic is that if people want to pass a law, they'll pass a law, and as long as it doesn't violate the Constitution. That's what the people wanted, or at least a majority or plurality of them. And so laws don't get passed by one crackpot deciding what he or she wants. It's done by a consensus of a community, large or small, deciding what it needs to do in order to obtain what it has decided is important.

And when it comes to, for example, scholastic sports, which are often so far-flung and so at the mercy of each community's attitudes, resources and other approaches to life, that I think that people banded together to say we are not going to allow the communities that don't want to care about this to allow children to be at risk. It's not okay for you if you're in the state of X, it's not okay for the little town of Springfield to say, "You know what, we're just going to let our coaches handle it." I think people in most states have decided, or their elected officials have realized, that leaving it up to the individual school districts and coaches doesn't work.

NPH: You've gotten letters, I'm sure, from parents of small kids, from players, from coaches. Tell me what some of the range of reactions are to the advent of recognizing this is a serious and potentially fatal problem and the use of law to change the game in order to better protect players.

Alan Schwarz: The reaction to the group of stories that we published at the Times...

was overwhelmingly positive. For every letter I get saying you're ruining football or you don't know what you're talking about or you never played football, did you, you wimp—stupid things like that—I would get 99 letters from parents of kids who got hurt, who were friends of kids who got hurt or wives of NFL players who got hurt, or players themselves who either got hurt or didn't want to get hurt, saying thank God somebody finally came along to set the record straight about this. They were very thankful that the Times devoted the resources to clarifying the truth about this injury and this occasional cost to people in communities.

I think that people have underestimated the resources that the Times made available to this. It allowed me to focus all but exclusively on it for most of four and a half years. Tell me another media organization that does that. The Times is really special in that way. I'm sure there are people out there who are very thankful that their kids are not injured or dead, who also probably complain about the media this and the media that. Well, I hope that they recognize that it is the media that stuck its neck out for the public good. And that organization is not expecting praise or even thanks, but I think that it hopefully allows people to see what the media can do occasionally to really help people and the role that it can play in the public trust.

NPH: Tell me how you, as a sportswriter, think about changing the game versus helping to improve the health of the players—whether they're little ones or whether they're professionals.

Alan Schwarz: I will answer the question very honestly, and that is that it has been very difficult for me reconciling the fact that we at the time did not just cover the news, we made the news. And that's not usually what we try to do. And specifically for me, I had never wanted to be a hardcore investigative reporter guy with the sharp claws running around ferreting out malfeasance in society. I was a baseball writer. I was good at it and I was a part of the entertainment industry and I didn't think there was any shame in that. All of a sudden, I found myself doing something very different and very important, and I just allowed the people at the Times—who had such a great track record of navigating this type of thing—I trusted them to lead me where things should go. I owe a tremendous amount to the guidance that I received from my editors.

And so it is difficult. People ask me all the time, you changed the game—that must feel so good. I don't think it feels good—it doesn't feel bad, but it has to be secondary to the gratification that I do get from having set the record straight and of having shown and proven that the public was being lied to by certain people, and kids were being put in harm's way with absolutely no informed consent. And you could argue that NFL players have some informed consent about this, but certainly children didn't. There were children being put in harm's way that aren't anymore. But I didn't change the game. The leagues changed the game. I just gave them the right information to consider before they did it, and that's my job. What they do with it is their business.

The Investment That Really Matters in College Athletics

Patrick Larimore

The most time-honored commitment of a university, at least in academic terms, is to make its students better prepared for life after leaving the institution than they were when they first arrived. While that process requires multifaceted adjustments along the way, the tools for assessment are quite simple.

Administrators hold faculty accountable to the university's success in GPA, graduation rates, entry-level job offers, graduate school admission, and employment rates among graduates.

The performance of student-athletes, viewed in much different terms, has far fewer implications on university officials. The goal is to help student-athletes "get through" college, rather than ensure that they are more prepared for life after leaving the university. There's a world of difference.

The most overlooked distinction between student-athletes and their peers is the high exposure to long-term health risks encountered by student-athletes. Standards for academic growth and character development can be universally applied and achieved on campus. But if that college experience compromises the mental or physical health of a student-athlete, then everything else is lost.

For example, most universities allow their football programs to frequently run live kickoffs in practice, despite the exceptionally high risk to a student-athlete's physical health. Nearly every college football player has witnessed or experienced devastating collisions at full throttle during these practices. Some of these hits have resulted in brain trauma, nerve damage and spinal fractures.

These injuries can be easily minimized with greater oversight and accountability from every program. The obligation of a student athlete to perform athletically pales in comparison to their obligation to develop a sustainable career and fulfilling life.

The bottom line is that universities have a fundamental responsibility to assess and protect the health of their student-athletes.

Head trauma is a perfect place to start.

Prior to college admission, student-athletes should be carefully evaluated for any prior head trauma. Asking the student-athlete is simply not enough. Rather, the admission process should require comprehensive testing.

When an incident does occur in college sports, every diagnosis should result in a unique health regimen for that student-athlete. It's not enough to simply create a symptom chart and prescribe a cookie-cutter solution. Student-athletes all experience

these symptoms differently.

Unfortunately, too many student-athletes experience collisions to the head, and there's simply no follow up. Some administrators and coaches might dismiss it as a case of just "getting his bell rung."

But the symptoms are often clear if someone is willing to look.

For me, it was not just the chronic headaches or the sensitivity to light. I also suffered from mood swings – shifting quickly from relaxed and happy to explosive and angry. It felt as if I were a completely different person.

My sleep patterns were intermittent, depriving my body of the deep sleep that is essential for healing from a concussion. I feared social interactions, particularly those unrelated to football. But above all, I found little enjoyment out of life, no matter the endeavor.

The frightening reality of head trauma is that the physical effects are gradual, and the subtle changes in daily life are often disregarded. The cumulative toll can be physically irreparable, often appearing emotionally insurmountable. Some brain trauma survivors have even taken their own lives.

That is why early detection is critical.

With football players, head trauma can often occur well before college. My first concussion happened in high school. And despite having some time to recuperate in between incidents, concussions have a cumulative effect that garners little attention in the public eye.

It is important that universities fully understand what they are inheriting when admitting a student-athlete.

Head injuries require constant attention throughout the season and beyond. In fact, different types of head collisions can result in unique damage.

A blindside hit causes the brain to bounce and rotate, as opposed to a head-on collision which only moves the brain back and forth.

According to Dr. Robert Cantu, concussions can be attributed primarily to two types of acceleration or "forces" – linear and rotational. Linear force is head on, similar to a car smashing into a tree, causing the head to snap violently. This movement causes the brain to first make contact with the back of the skull, followed by a second contact with the front of the skull. Rotational force occurs from an off-center or tangential collision, causing the brain to spin within the skull. This rotational force is even more

damaging as brain tissue can stretch or even tear altogether.¹

It comes as no surprise why medical trainers in football must meticulously treat an athlete who experiences a blindsided “helmet-to-helmet” hit.

Trainers also need to be especially vigilant with sub-concussive hits, which can be difficult to detect when the initial pain appears relatively mild, especially in a sport that can elicit dizziness or head pain for other reasons.

Despite the overwhelming number of head injuries in college sports, the protocols are not nearly conservative enough to protect the long-term health of a university’s student-athletes.

The overall system is problematic because trainers are heavily evaluated on how quickly they can get an injured athlete back into competition. However, if a student-athlete returns prematurely, the decision is only questioned if there are immediate repercussions.

Many of the serious effects of head injuries in college sports do not occur until years later.

The real question is whether a university must safeguard its student-athletes for the long haul.

Perhaps it’s time to reform the entire approach to rehabilitation, especially in cases of head injuries. Let’s reframe the dialogue from whether they can compete, to whether they should compete. There’s simply no justification to rush student athletes on to the field, even if the student-athlete feels physically able.

Now that’s for individual cases. How about evaluating collective performance?

Can universities establish standards to collectively evaluate the health of their student athletes?

If universities can stipulate that they want a minimum 3.0 GPA or a 90% graduation rate, then they can surely develop standards for the health of their student-athletes.

College coaches and their staffs are bound to specific expectations, contractually and implied, for a team’s performance. The same accountability can be demanded toward the health of their student-athletes.

Putting such measures in place will ensure that athletic programs place a greater priority on the health of their student-athletes. More importantly, universities will benefit

1 ROBERT CANTU & MARK HYMAN, CONCUSSIONS AND OUR KIDS (2012).

from having fewer short-term health incidents and more long-term success stories. Considering the investments made into college athletes, long-term health measures are absolutely essential.

“Highlights and Observations: The Aspen Institute’s Project Play Summit” (June 2013, The Aspen Institute’s Sports & Society Program)



The Aspen Institute’s Project Play Summit 2013 *with Support from the Robert Wood Johnson Foundation*

Highlights and Observations

OVERVIEW

The Aspen Institute’s Project Play is a thought leadership exercise that aims to provide stakeholders – from parents to policymakers to mayors – with a framework and the tools to build healthy communities through sport activity that meets the needs of all children. The two-year initiative was launched at an April 2013 meeting in Aspen, Colo., that convened 80 high-level leaders for a series of educational and brainstorming sessions. The event included voices from across health, business, academia, sports, media and philanthropy, representing more than 100 million direct constituents and more than 30 million youth athletes.

From barriers to access to promising programs and inspiration for disruptive innovation, the Aspen

Institute’s Project Play Summit addressed a range of topics with a group that included, among others: Scott Blackmun, CEO of the United States Olympic Committee; David Drummond, SVP and Chief Legal Officer at Google; Ginny Ehrlich, CEO of the Clinton Health Matters Initiative; Shellie Pfohl, Executive Director of the President’s Council on Fitness, Sports & Nutrition; Sharon Roerty, Senior Program Officer with the Robert Wood Johnson Foundation, Craig Robinson, Men’s Basketball Coach at Oregon State University; John Walsh, Executive Editor of ESPN; Jim



Whitehead, CEO of the American College of Sports Medicine; Olympians Gary Hall Jr., Michelle Kwan, Nancy Hogshead-Makar, Wendy Hilliard and Tom McMillen; and Paralympians Sarah Reinertsen and Jon Lujan.

Attendees embraced the project as a once-in-a-generation opportunity to reimagine youth sports in America. Given new data showing that the U.S. has the world’s worst childhood obesity crisis, can we create sport models that get more kids off the couch? And do so without running them into the ground -- given concerns about burnout, concussions and overuse

injuries among the early-emerging child athletes who have become the focus of the sports system? The perspectives, ideas and research shared at the Summit and subsequent, topic-focused roundtables and panels will help inform the development framework proposed in the Project’s final report, to be underwritten by Summit sponsor Robert Wood Johnson Foundation and delivered in late 2014.



SUMMIT GOALS



Create an aspirational vision for sports, health in 2030

- Conceptualize the benefits if leaders act affirmatively
- Conceptualize the costs of inaction
- Identify policies, practices, and partnerships that could be beneficial



Begin connecting the silos

- Introduce a venue for leaders from across the disjointed sports landscape to share ideas and find common language, as holistic solutions are pursued
- Bring health leaders into the sports conversation, as the barriers to participation in sports (access, safety, age-appropriate play) are addressed

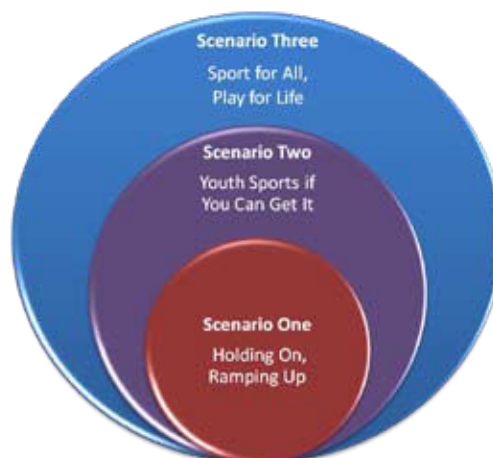


Lay the groundwork for final report

- Identify a framework that stakeholders from across the disjointed sports system could plug into to maximize participation and best serve the interests of children, communities and public health
- Introduce and test themes that could underpin the framework

HIGHLIGHTS & OUTCOMES

With the help of the University of Florida's Sports Policy and Research Collaborative (SPARC), Project Play looked into the future of youth sports and health in America in 2030. Possible scenarios were identified, based on a variety of environmental factors and outcomes. (Read "[Three Scenarios for 2030](#)")



Future scenarios based on interviews, research & data, as captured by Summit graphic artist:



Seeking Systems Change through Disruptive Innovation



Sports & Society Director Tom Farrey elicits Google's keys to systems change from Google Senior Executive David Drummond

A vision of a broad development framework began to coalesce throughout three days of heightened thought and idea-sharing, inspired by outside models of systems change including leading tech innovator Google. David Drummond, Google SVP and Chief Legal Officer, detailed Google's culture of innovation and proposed a parallel open-source model for youth sports: a conceptual platform with simple rules that allows stakeholders -- sport governing bodies,

schools, local entrepreneurs -- to plug into and build less expensive programs that better serve the needs of children and families. He suggested a socially responsible model that is market-driven, with government in a supportive role. He encouraged leaders to be "audacious" in their vision, as well as optimistic about the chances of success.

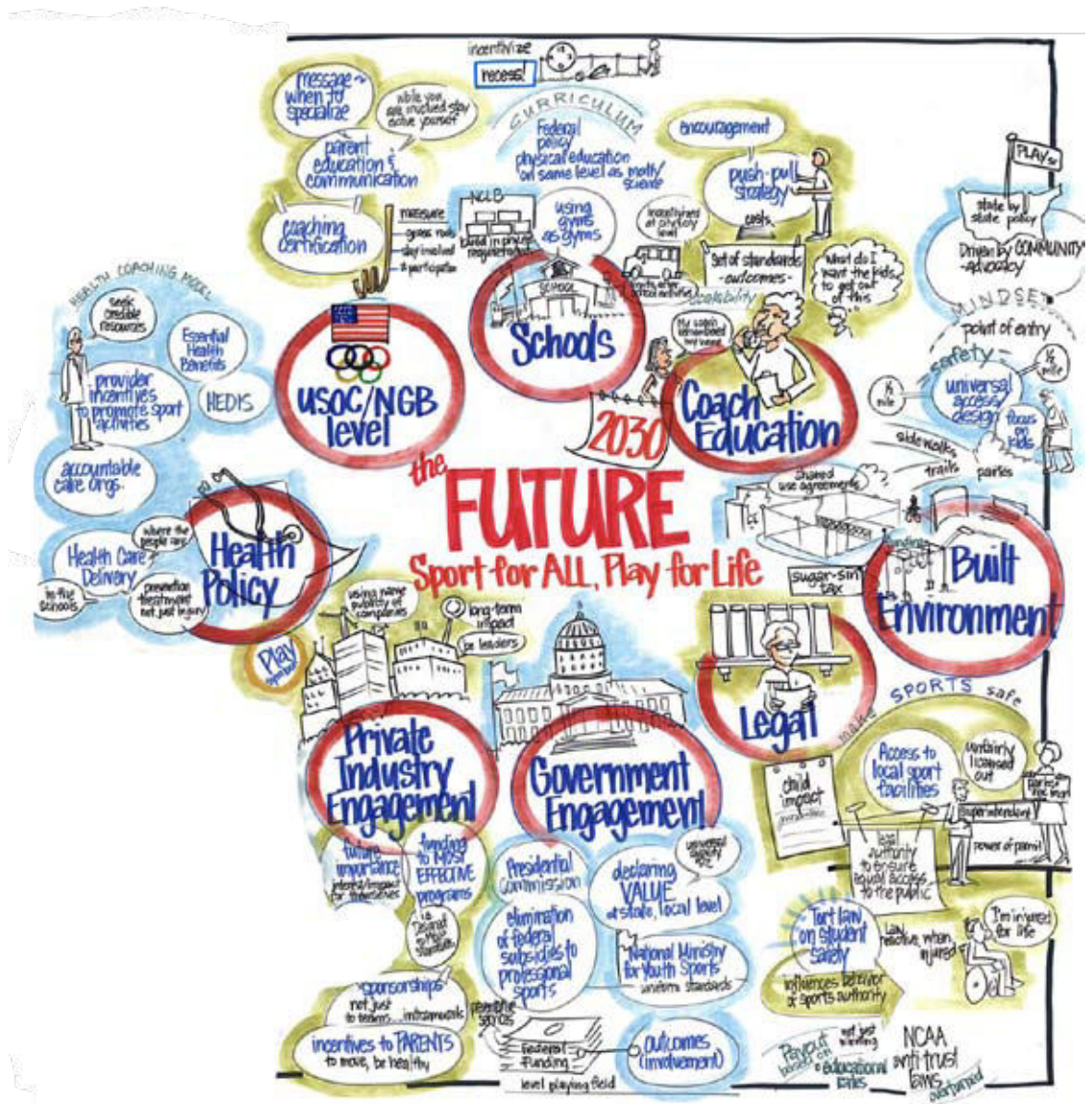
"(Youth sports) reminds me of lots of other industry structures, business systems and ecosystems we see at Google," he said. "It looks like one that ought to be disrupted. Because it seems like there's a huge unmet need out there."

David Drummond, Google SVP and Chief Legal Officer, and former college football player
[Watch clip from Tom Farrey's conversation with David Drummond on systems change](#)
[Read Tom's blog entry](#)

Imagining a New Platform for Youth Sports in America

Brainstorms produced a diversity of ideas. Among those most widely embraced as essential to success:

- “Physical Literacy” – developing/measuring the ability of children to move with competence and confidence in a wide variety of activities in multiple environments that benefit the whole person
- Age-appropriate play – moving from a culture of careless competition to thoughtful development
- Early positive experiences – special emphasis on fun and fundamentals before age 10
- Universal access – programs that can accommodate all kids; parks within half-mile of homes
- Coach education – push (and pull) training down the pipeline to volunteers to reduce attrition rates
- Private industry engagement – kids are tomorrow’s workforce, so explore/support smart reforms



Promising Programs

The Summit highlighted breakthrough programs, from local to international, that embody the values of “Sport for All, Play for Life” and have found success at shifting the paradigm. Among the most ambitious:

[USA Hockey’s American Development Model](#) : Adopted in 2009 by the sport’s national governing body, ADM is an educational and policy tool that promotes age-appropriate play from the toddler years to adulthood. Endorsed and funded by the National Hockey League, ADM was created after USA Hockey realized that 46 percent of children were dropping out of the sport by age nine. [Watch presentation](#)

[The Wendy Hilliard Foundation](#): Gabby Douglas was the top gymnast at the 2012 London Olympics, and the first African American female ever to win gold. But how many other kids could be great at or just enjoy a sport – and are never are introduced it? Wendy Hilliard, a former Olympic rhythmic gymnast, reduces the cost barriers associated with gymnastics through her innovative Harlem-based program. [Watch panel on locally-based initiatives moderated by Robin Schepper and featuring Hilliard](#)

[Canadian Sport for Life](#) : CS4L is a movement to improve the quality of sport and physical activity in Canada through the linking of sport, education, recreation, health and government institutions. Aspen Project Play Summit presenter Stephen Norris was a founder of CS4L, which aims to integrate the goals of elite and grassroots sport development to improve the nation’s health. [Watch presentation](#)

[Aspen Valley Ski & Snowboard Club](#) The mission of AVSC is to provide all youth in the Greater Roaring Fork Valley the opportunity to develop as athletes and as people through sports. Making sport-for-all the top priority has proved to be a powerful lever in raising the charitable funds to offer scholarships to hundreds of immigrant kids, many Hispanic, growing up in outlying areas.

What Kids Want!

Grounding the dialogue with input from local children and teens proved rewarding and provoking as they produced reminders of what kids like/don’t like and why they play/why they don’t play.



Kids are part of the solution, so with the help of co-sponsor The Whistle, we asked what they think:

Best Coaches

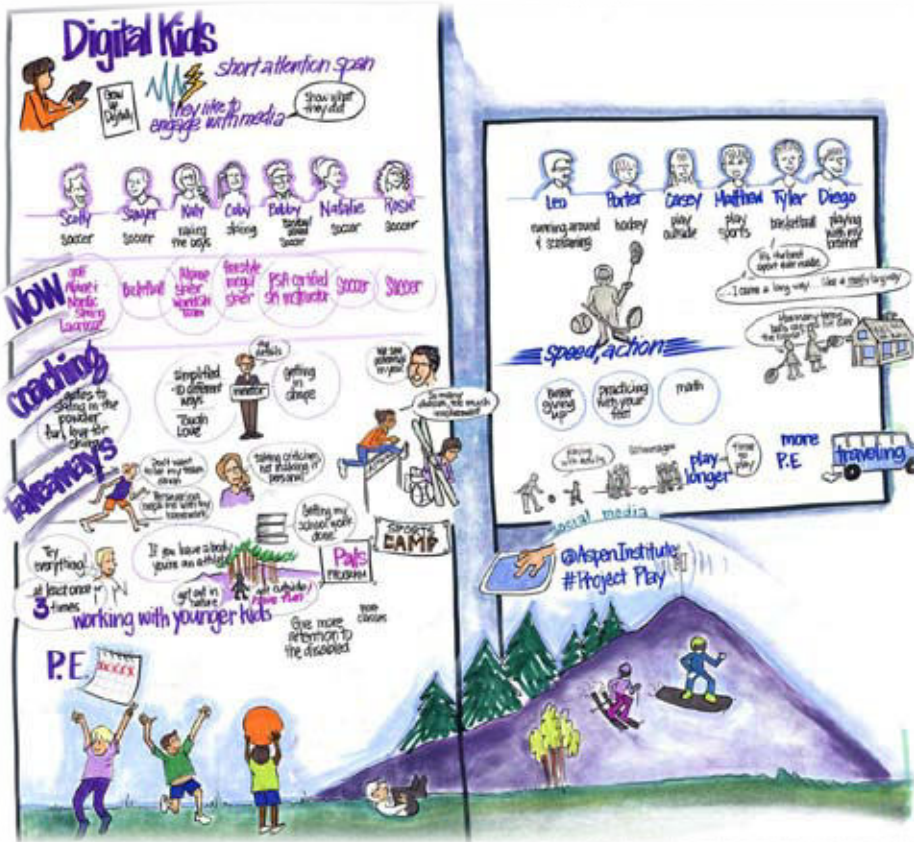
- Teach skills in fun manner
- Love sports & teach kids to love sports
- Approach kids differently according to their needs
- Always “see a lot of potential”

Bad Coaches

- Can make kids disinterested in sports the rest of their lives
- Use degrading language
- Torment/use exercise as punishment

Concerns & Issues

- Tryouts that run forever
- Focus is often on the kids who are good, leaving out many
- Need more camps / training for kids with disabilities
- Need more PE in schools!

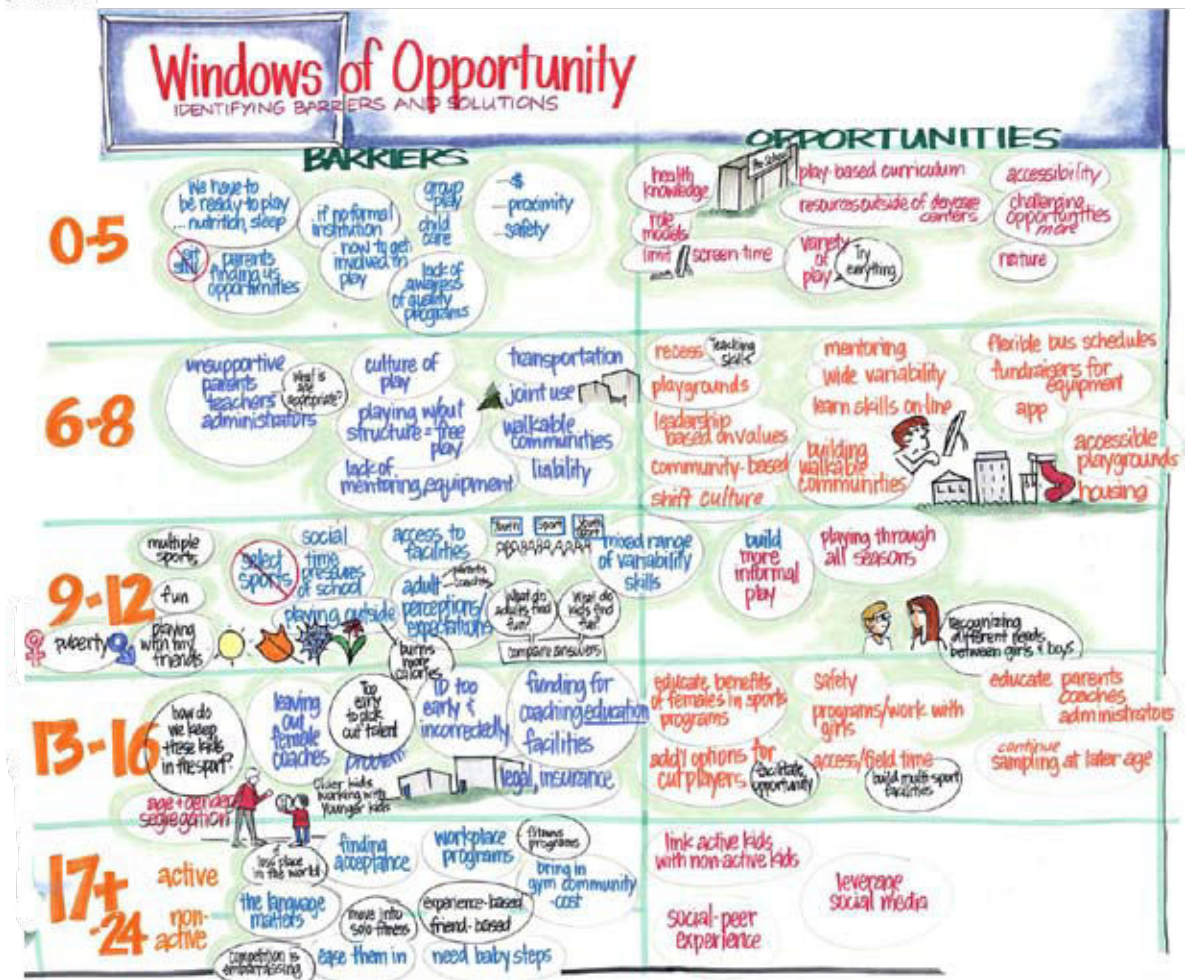


“Kids today need more personal attention than ever...We have to find people who like to teach, who like to mentor. Those are your coaches.”

Craig Robinson, Oregon State University men’s basketball coach
[Watch clip from Craig’s conversation with ESPN’s John Walsh](#)

Windows of Opportunity

Working groups were then asked what needs to happen at each stage of children’s development to maximize, or lay the foundation for, participation in sports activity. Prioritizing informal play and sport sampling were identified as opportunities to reduce high dropout rates as they enter adolescence:



The panel was co-moderated by Nathan Plowman from Nike’s Access to Sport division, which partnered with American College of Sports Medicine and other groups to publish Designed to Move, a global plan to address the epidemic of physical inactivity. In a pre-summit survey, attendees were asked to rate the state of U.S. youth sports based on the seven identified “design filters” to engage children. The average scores, on a scale of 1-10, were all below 5, highlighting ample room for improvement: Universal Access (3.8), Fun (3.9), Dosage & Duration (4.3), Age-Appropriate Play (4.5) Teach/Coach/Mentor (4.7), Incentives & Motivation (4.9), Feedback to Kids (4.9). Overall score for youth sports in America: 4.2.

Youth Sports Hack-a-Thon, Unplugged

The final session of the Summit asked attendees to channel the tech influence and Aspen Ideas Festival and brainstorm game-changing products, partnerships or research. Some of the ideas that emerged:

This Is Your Brain on Exercise

Marketing campaign that uses cutting-edge imaging technology to demonstrate the documented benefits of physical activity to cognitive function, in an effort to rebuild support for regular P.E.

The Athleat App

A smartphone tool for athletes and active people of all ages to make the best food choices possible, in whatever location and circumstance they are in. By planning around practices, training and competition, the app can help nourish their bodies and optimize their choices for well-being.

Kid Leadership Kit

Checklist sent to youth sport providers that would identify ways to help children take more control of their experience and develop leadership skills. Suggestions include offering board positions on youth leagues, proactively seeking player input, allowing kids to select all-stars where appropriate, and encouraging/mentoring teens who show interest in becoming coaches.



Post-Event Reflections and Commitments

Feedback in a post-event survey of attendees was highly favorable, as were expressions of support:

- 100% of respondents described the Aspen Institute’s Project Play initiative as important to the future of youth sports (83% described it as “very important”)
- 98% found the Summit valuable in terms of identifying potential partners in their work
- 80% offered to highlight Project Play content to their constituents; among others, National Federation of State High Schools committed to engaging all coaches through its channels
- ESPN, Nike, the USOC and other sport organizations committed to advancing dialogue, content

Next Steps

Looking ahead to the Aspen Institute’s Project Play framework for youth sports that will be published in late 2014, an expansion of both perspectives and commitments will be critical to feeding the outcome. Roundtables (one-day gatherings of 25-30 thought leaders) and “Aspen Timeouts” (panels held at major conferences of stakeholder organizations) will be held on key topics that beg for a deep dive, including:

- California, city TBD: What’s the role of technology in getting and keeping kids active in sports?
- Baltimore: What’s the business model for sport for all in the era of travel teams?
- Santa Clara, Calif.: How could concussion and liability concerns reshape youth sports?
- City TBD: How to expand the quality and quantity of community coaches?
- Chicago (tentative): What’s the model for school-based sports in the 21st century?



Using our brand to help people understand and believe in the power of sport is something where we can really make a difference.

Scott Blackmun, CEO, United States Olympic Committee

[Watch Scott's comments to Tom Farrey on panel with Michelle Kwan, Gary Hall Jr.](#)

APPENDICES

[Project Play Video Highlights](#)

[Project Play Photos](#)

[Designed to Move](#)

[The Case for Physical Literacy, blog entry by Robin Schepper, Sports & Society Advisory Board Member](#)

FOR MORE INFORMATION

Contact Aspen Institute's Sports & Society Program: sportsandsociety@aspennst.org

Thank you to the Robert Wood Johnson Foundation for their generous support of the Aspen Institute's Project Play Summit, to The Whistle for their sponsorship of the youth panels which provided important input to our agenda, and to Aspen Institute trustee Bill Mayer for his continued support. Those making valuable contributions to structuring or executing event content include Aspen Institute Project Play advisors Jay Coakley, Laurence Chalip, J.O. Spengler and the research team at the University of Florida's Sport Policy and Research Center (SPARC).

Football, Concussions, and Preemption: The Gridiron of National Football League Litigation

William B. Gould IV*

previously published in the FLORIDA INTERNATIONAL UNIVERSITY LAW REVIEW Volume 8, No. 55 (2012).

“I’m a big football fan, but I have to tell you, if I had a son, I’d have to think long and hard before I let him play football. And I think that those of us who love the sport are going to have to wrestle with the fact that it will probably change gradually to try to reduce some of the violence. In some cases, that may make it a little bit less exciting, but it will be a whole lot better for the players, and those of us who are fans maybe won’t have to examine our consciences quite as much.” – President Barack Obama, quoted in Franklin Foer & Chris Hughes, *O*², NEW REPUBLIC, Feb. 11, 2013, at 22, 29.

I. INTRODUCTION

Since its inception in the nineteenth century in the United States, football has been seen as a brutal game, sometimes with such “excess brutality” that President Theodore Roosevelt was induced to convene a White House meeting designed to form rules.¹ This meeting took place two decades prior to the advent of the National Football League (“NFL”) and organized professional football. As early as the 1950s, however, it was possible to witness the public’s rising and sometimes insatiable hunger for violent cataclysmic hits which saw players colliding at full speed with one another coming from considerable distances

* Charles A. Beardsley Professor of Law, Emeritus, at Stanford Law School; Chairman of the National Labor Relations Board, 1994-98. The author served as an expert witness in a recent case involving retired football players. *See* *Eller v. Nat'l Football League Players Ass'n*, 872 F. Supp. 2d 823 (D. Minn. 2012). The author wishes to express his gratitude for the considerable research assistance provided by Eric Weitz, Stanford Law School 14, as well as Chris Hu, Stanford Law School 13. I have also benefited in preparing this article from my Sports Law seminar, particularly the remarks of Steve Fainaru and Mark Fainaru-Wada of ESPN delivered at Stanford Law School on February 25, 2013.

¹ *See Football Conference at the White House*, N.Y. TIMES, Dec. 5, 1905; *see also* Bob Greene, *The President Who Saved Football*, CNN (Feb. 5, 2012), <http://www.cnn.com/2012/02/05/opinion/greene-super-bowl>.

across the field.² The rise in this kind of play, it is thought, had something to do with the change in equipment, particularly the helmet (designed to protect against skull fractures rather than concussions) as well as the public's demand for short-attention-span excitement and titillation. As Alan Schwarz has written:

In the N.F.L., leather helmets of the 1920s evolved into plastic models by the 1950s, after which single face bars evolved into cages through the 1980s. Most experts believe that these advances, while heading off catastrophic injury, have led to greater use of the head while tackling and more daring play over all. This leads to more concussions and subconcussive blows, for which the helmets were not truly designed and that can cumulatively cause later-life cognitive problems. Only in the 21st century have helmet manufacturers begun to focus on directly protecting against concussions.³

The NFL was clearly slow to publicly recognize the relationship between football, head trauma, and subsequent cognitive impairment. In 1994, New York Jets team doctor Elliot Pellman said, "Concussions are part of the profession, an occupational risk," and further that a football player is "like a steelworker who goes up 100 stories, or a soldier."⁴ In 1997, the American Academy of Neurology established guidelines for concussed athletes returning to play, but three years later, the NFL rejected them.⁵ Again, in 2006, an NFL committee rejected the Academy's guidelines, stating that "current attempts to link prospective grading of concussion symptoms to arbitrary, rigid management decisions are not consistent with scientific data," and advocating the case-by-case treatment of players who had received concussions.⁶ Commissioner Roger Goodell, as late as 2007, has said, in announcing an off-season "concussion summit": "We're protecting the players against the players"⁷ — notwithstanding the subsequent alarm raised by a series of articles demonstrating a link in some athletes be-

² See generally Michael Sokolove, *Should You Watch?*, N.Y. TIMES, Oct. 24, 2010, at 1, 7.

³ Alan Schwarz, *Before Reaching N.F.L., Players Also Face the Risk of Head Injuries*, N.Y. TIMES, Oct. 2, 2009, at B13.

⁴ Michael Farber, *The Worst Case: Doctors Warn That Repeated Concussions Can Lead to Permanent Brain Dysfunction*, SPORTS ILLUSTRATED, Dec. 19, 1994.

⁵ Ta-Nehisi Coates, *The NFL's Response to Brain Trauma: A Brief History*, ATLANTIC (Jan. 25, 2013), <http://www.theatlantic.com/entertainment/archive/2013/01/the-nfls-response-to-brain-trauma-a-brief-history/272520>.

⁶ *Id.*

⁷ *Id.* In 2007, an NFL safety pamphlet notified players by stating, "Current research with professional athletes has not shown that having more than one or two concussions leads to permanent problems if each injury is managed properly." *Id.*

tween head trauma and chronic traumatic encephalopathy (CTE) or general cognitive impairment.⁸

But in 2009, matters began to change. As Alan Schwarz noted, the NFL had commissioned a survey which had indicated “that dementia or similar memory-related diseases had been diagnosed in its retired players vastly more often than in the national population, [but] the League [had] claimed the study was unreliable.”⁹ However, Schwarz wrote, “confidential data from the N.F.L.’s dementia assistance plan strongly corroborate[d] claims of a link between football and later-life cognitive impairment.”¹⁰ The turning point occurred in 2009 in the form of hearings before the House Judiciary Committee, which saw the NFL and Commissioner Goodell excoriated for their failure to recognize the link. Congresswoman Linda Sanchez stated that this reminded her of the position of the tobacco companies in the pre-1990s period when they kept saying, “[N]o, there is no link between smoking and damage to your health.”¹¹ Now the NFL Players’ Association, which at some points in the past had said that it had no representation obligation for retirees¹² and that football did not cause

⁸ See, e.g., Alan Schwarz, *Expert Ties Ex-Player’s Suicide to Brain Damage*, N.Y. TIMES, Jan. 18, 2007, at A1; John Branch & Alan Schwarz, *N.F.L. Culture Makes Issue of Head Injuries Even Murkier*, N.Y. TIMES, Feb. 3, 2007; Alan Schwarz, *N.F.L. Doctor Quits Amid Research Doubt*, N.Y. TIMES, Mar. 1, 2007, at D1; Alan Schwarz, *Football: Wives Also Suffer as Dementia Sets In*, N.Y. TIMES, Mar. 14, 2007; Alan Schwarz, *NFL: Survey Links Concussions to Depression*, N.Y. TIMES, May 31, 2007; Alan Schwarz, *Lineman, Dead at 36, Exposes Brain Injuries*, N.Y. TIMES, June 15, 2007, at D1; Alan Schwarz, *Player Silence on Concussions May Block N.F.L. Guidelines*, N.Y. TIMES, June 20, 2007, at D1; Alan Schwarz, *Silence on Concussions Raises Risks of Injury*, N.Y. TIMES, Sept. 15, 2007, at A1.

⁹ Alan Schwarz, *N.F.L. Data Reinforces Dementia Links*, N.Y. TIMES, Oct. 23, 2009, at D1.

¹⁰ *Id.*

¹¹ *Legal Issues Relating to Football Head Injuries (Part I & II)*, Hearings Before the H. Comm. on the Judiciary, 111th Cong. 116 (2010); Alan Schwarz, *N.F.L. Scolded Over Injuries to Its Players*, N.Y. TIMES, Oct. 29, 2009, at B12.

¹² Cf. *Allied Chemical & Alkali Workers v. Pittsburgh Plate Glass Co.*, 404 U.S. 157 (1971) (holding that retirees are not employees within the meaning of the Act and that therefore employers are not obliged to bargain about their conditions). In football, however, the matter is a bit more complex because the NFLPA has bargained on behalf of retirees, though sometimes reluctantly. Cf. *Nedd v. United Mine Workers*, 556 F.2d 190, 200 (3d Cir. 1977) (“When a Union elects to undertake [bargaining over retiree benefits], the union’s duty of fair representation must apply.”); *Toensing v. Brown*, 528 F.2d 69, 72 (9th Cir. 1975) (similar holding). But see *United Auto Workers v. Yard-Man*, 716 F.2d 1476, 1486 n.16 (1983) (suggesting that the duty of fair representation should not extend to retirees, even when the union acts in ways that affect retiree interests); *Anderson v. Alpha Portland Indus., Inc.*, 727 F.2d 177, 183 (8th Cir. 1984) (holding that the duty of fair representation does not apply to contract *administration* on behalf of retirees); *Eller v. Nat’l Football League Players Ass’n*, 872 F. Supp. 2d 823 (D. Minn. 2012) (dismissing retirees’ claims against NFLPA due to the lack of a fiduciary duty). Conditions involving retirees as they related to active incumbent employees are a mandatory subject of bargaining. See *S. Nuclear Operating Co. v. NLRB*, 524 F.3d 1350 (D.C. Cir. 2008); *Inland Steel Co. v. NLRB*, 170 F.2d 247, 250-51 (7th Cir. 1948).

dementia, stated that it shared the blame for head injuries.¹³ A few weeks later, in a moment reminiscent of baseball's recognition that its steroid problem was serious in the wake of the 2005 House hearings,¹⁴ the NFL promised to have independent experts provide an "uncompromised approach to handling players with concussions" for the first time.¹⁵ Schwarz noted:

This continued a pattern of the league requesting credit for improving conditions without accepting its role in preserving the conditions that required improvement. For example, when the N.F.L. decided in 2007 that players who were knocked unconscious during games could no longer return the same day, the league did not address how published research by its own committee doctors had declared the practice safe. And on the day that Goodell held a leaguewide concussion summit in June 2007 to show how serious the league was on the issue, he fought the suggestion that a player found with brain damage . . . had developed it through football. Goodell insisted that the player "may have had a concussion swimming," adding, "[a] concussion happens in a variety of different activities."¹⁶

Then, a month later, the NFL finally "conceded publicly for the first time that concussions can have lasting consequences."¹⁷

Meanwhile, more than 200 concussion-related lawsuits have been filed involving more than 4,000 retired players alleging tort liability on the grounds of negligence, fraud, and misrepresentation, with many of the allegations arising out of the NFL's tardy response. It is said that the NFL awarded disability benefits to at least three former players in the late 1990s and early 2000s, after it concluded that football caused them crippling brain injuries at the same time the NFL was asserting that its "players were different than boxers, whose susceptibility to brain injuries caused by the sport has been documented since the

¹³ Alan Schwarz, *N.F.L. Players and Union Say They Share Blame on Head Injuries*, N.Y. TIMES, Nov. 1, 2009, at SP1.

¹⁴ *Restoring Faith in America's Pastime: Evaluating Major League Baseball's Efforts to Eradicate Steroid Use, Hearings Before the H. Comm. on Gov't Reform*, 108th Cong. (2005); see also WILLIAM B. GOULD IV, *BARGAINING WITH BASEBALL: LABOR RELATIONS IN AN AGE OF PROSPEROUS TURMOIL* 194-234 (2011).

¹⁵ Alan Schwarz, *N.F.L.'s Moves Signal a Truce on Concussions*, N.Y. TIMES, Nov. 26, 2009, at B10.

¹⁶ *Id.*; see also Alan Schwarz, *N.F.L. Head Injury Study Leaders Quit*, N.Y. TIMES, Nov. 25, 2009, at B11; Alan Schwarz, *N.F.L. to Shift Its Handling of Concussions*, N.Y. TIMES, Nov. 23, 2009, at A1.

¹⁷ Alan Schwarz, *N.F.L. Acknowledges Long-Term Concussion Effects*, N.Y. TIMES, Dec. 21, 2009, at D1.

1920s.”¹⁸ Despite the recognition that the helmet is a major component in the concussion problem, to this day, the NFL has refused to mandate or officially recommend helmet models “protecting against collisions believed to be linked to concussions.”¹⁹ The NFL defends itself in the court of public opinion, as well as in the concussion litigation procedural skirmishing relating to preemption, discussed below, on the basis of the role of medical doctors under the collective bargaining agreement. The primary thrust of this preemption relates to the disability procedures providing for claims by retirees predicated upon injuries that they have suffered while playing the game. Preemption, based upon the argument that an interpretation of the collective bargaining agreement is present, also focuses upon the fact that doctors are involved in making an assessment about whether the player can return after suffering an injury, including a concussion or semi-concussion. But the outstanding problem of conflict of interest between doctor loyalty to the club versus the player has been discussed with renewed vigor:

Privacy, confidentiality, speed of recuperation, treatment regimens — all of them stand to suffer when players see a doctor employed by an organization that prefers they return to work ASAP. Then imagine this added conflict: The doctor who just cleared you for duty was so thrilled to have the gig that she paid your employer for the privilege. Now you’re getting closer to the situation many pro athletes face. Put yourself in their cleats for a moment. Would you want to be treated by a doctor who had your employer’s profitability anywhere on her list of concerns? And further, would you be forthcoming about your health problems to someone with a direct pipeline to managers with the power to effectively fire you for poor health?²⁰

The conflict of interest exists whether physicians are paid by the club or whether they are paying the club — but it is clearly exacerbated in the latter instance. Meanwhile, research continues regarding the

¹⁸ Steve Fainaru & Mark Fainaru-Wada, *Mixed Messages on Brain Injuries*, ESPN: OUTSIDE THE LINES, Nov. 14, 2012.

¹⁹ Sam Borden, *Despite Risks, N.F.L. Leaves Helmet Choices in Players’ Hands*, N.Y. TIMES, Sept. 21, 2012, at A1.

²⁰ Sam Eifling, *Why NFL Team Doctors Are Ethically Compromised*, SLATE, Jan. 30, 2013; see also Tom Junod, *This NFL Season Has Been Defined by People Talking About The Injury Issue*, ESQUIRE, Feb. 2013, at 77, 81-82 (“The team doctor works for the team and so does the trainer. They are paid to get you on the field – or, as Dr. Yates says, to help you fulfill your career’ – and you are paid to play. They are not paid to protect you. You have to protect yourself. This is why the players’ union has fought for the right to get a second medical opinion and the right to see your medical records.”).

question of how to “identify protein deposits in the brains of living players” so as to measure the risk of developing chronic traumatic encephalopathy (“CTE”).²¹ It has received professional football recognition only recently, unaddressed by doctors and trainers for years (these individuals were concerned simply with whether a player could return to the game after examining how many fingers the physician or trainer held up in the air),²² a problem compounded by the NFL’s apparent failure to investigate properly and perhaps disclose as well. Inevitably, there will be questions about the issue of causation and whether CTE is attributable to other factors beyond head trauma or whether head trauma has been experienced prior to playing for the NFL in college or high school. These will pose difficult issues not present, for instance, in the smoking cases where the science was already more developed than it is in the concussion cases at the time of litigation.

II. THE PREEMPTION ISSUE

The first area of argument in the substantial number of tort actions filed against the National Football League by former NFL players relates to jurisdiction and involves the issue of preemption and the role of the labor arbitration process. Gaining a substantial impetus during World War II²³ and in the immediate postwar period when grievance-arbitration machinery flourished as a means to peaceably resolve disputes rather than through self-help weaponry in the form of strikes or slowdowns. Section 301 of the Taft-Hartley amendments²⁴ provided the framework for the fashioning of national labor law policy promoting the arbitration process, a policy recognized and implemented through a body of law designed for the enforcement of collective bargaining agreements and rooted in national labor law.²⁵ In the

²¹ *New Scan May Enable Better Diagnosis, Treatment for Athletes’ Brain Damage*, PBS NEWSHOUR, Jan. 22, 2013; *see also* Drew Joseph, *Stanford Analyzes Athletes’ Concussions*, SF GATE (Nov. 20, 2012), <http://www.sfgate.com/collegesports/article/Stanford-analyzes-athletes-concussions-4055088.php>.

²² The approach has now become far more sophisticated. *See* Judy Batista, *NFL to Expand Concussion Efforts*, N.Y. TIMES, Feb. 27, 2013, at B11.

²³ *See generally* Jesse Freidin & Francis J. Ulman, *Arbitration and the National War Labor Board*, 58 HARV. L. REV. 309 (1945); JAMES B. ATLESON, *LABOR AND THE WARTIME STATE: LABOR RELATIONS DURING WORLD WAR II* (1998).

²⁴ “Suits for violation of contracts between an employer and a labor organization representing employees in an industry affecting commerce as defined in this chapter, or between any such labor organizations, may be brought in any district court of the United States having jurisdiction of the parties, without respect to the amount in controversy or without regard to the citizenship of the parties.” Section 301(a), 29 U.S.C. § 185(a).

²⁵ *Textile Workers Union v. Lincoln Mills of Ala.*, 353 U.S. 448, 456 (1957) (“We conclude that the substantive law to apply in suits under s 301(a) is federal law, which the courts must

wake of *Lincoln Mills*, the Court, through the landmark *Steelworkers Trilogy* rulings,²⁶ fostered arbitration.²⁷

The first and most pressing issue in the wake of the *Steelworkers Trilogy* related to the question of the impact of the broad preemption doctrine involving the unfair labor practice²⁸ and the representation machinery jurisdiction of the National Labor Relations Board. The Court held that federal courts and the consequent arbitration process retained jurisdiction, notwithstanding NLRA preemption,²⁹ that state courts retained jurisdiction notwithstanding the dominance of federal labor law as articulated in *Lincoln Mills*,³⁰ and that the state courts' function within a section 301 environment "require[s] the conclusion that substantive principles of federal labor law must be paramount in the area covered by the statute . . . requiring issues raised in suits of a

fashion from the policy of our national labor laws."). Justice Frankfurter dissented, in part, because of his view that arbitration was recognized through the Federal Arbitration Act of 1925, itself, in his view, limited in its relationship to certain employment contracts and collective bargaining agreements. *Id.* at 466-67 (Frankfurter, J., dissenting). *But see* *Circuit City Stores, Inc. v. Adams*, 532 U.S. 105 (2001); *Gilmer v. Interstate/Johnson Lane Corp.*, 500 U.S. 20 (1991). For a discussion of the rise of the Federal Arbitration Act in the collective bargaining agreement arena, see William B. Gould IV, *Kissing Cousins?: The Federal Arbitration Act and Modern Labor Arbitration*, 55 EMORY L.J. 609 (2006); William B. Gould IV, *A Half Century of the Steelworkers Trilogy: Fifty Years of Ironies Squared*, ARBITRATION 2010: THE STEELWORKERS TRILOGY AT 50, PROCEEDINGS OF THE SIXTY-THIRD ANNUAL MEETING OF THE NATIONAL ACADEMY OF ARBITRATORS 35 (Paul D. Staudohar & Mark I. Lurie, eds.)

²⁶ *United Steelworkers v. Enter. Wheel & Car Corp.*, 363 U.S. 593 (1960); *United Steelworkers v. Warrior & Gulf Navigation Co.*, 363 U.S. 574 (1960); *United Steelworkers v. Am. Mfg. Co.* (1960). These cases and the policies inherent in them are discussed in ARCHIBALD COX, *LAW AND THE NATIONAL LABOR POLICY* 64-85 (1960).

²⁷ *Arbitrator Rule Upheld by Court*, N.Y. TIMES, June 21, 1960, at A19.

²⁸ *San Diego Bldg. Trades Council, Millmen's Union, Local 2020 v. Garmon*, 359 U.S. 236 (1959). See generally Archibald Cox & Marshall J. Seidman, *Federalism and Labor Relations*, 64 HARV. L. REV. 211 (1950); Archibald Cox, *Labor Law Preemption Revisited*, 85 HARV. L. REV. 1337 (1972); William B. Gould IV, *The Garmon Case: Decline and Threshold of "Litigating Elucidation."* 39 U. DET. L.J. 539 (1962); cf. Michael H. Gottesman, *Rethinking Labor Law Preemption: State Laws Facilitating Unionization*, 7 YALE J. ON REG. 355 (1990). Though preemption here related to that which "arguably" constituted an unfair labor practice, the preemption doctrine was subsequently promoted for subject matter admittedly not within the unfair labor practice prohibitions and consequent protections. *Lodge 76, Int'l Ass'n of Machinists & Aerospace Workers v. Wis. Emp't Relations Comm'n*, 427 U.S. 132 (1976).

²⁹ *Smith v. Evening News Ass'n*, 371 U.S. 195 (1962); see also *Colo. Anti-Discrimination Comm'n v. Cont'l Air Lines*, 372 U.S. 714 (1963) (finding that state prohibition on employment discrimination did not conflict with federal Railway Labor Act and thus was not preempted); *Humble v. Boeing Co.*, 305 F.3d 1004 (9th Cir. 2002) (state disability law not preempted); *Detabali v. St. Luke's Hospital*, 482 F.3d 1199 (9th Cir. 2007) (state disability law not preempted). *But see* *Reece v. Houston Lighting & Power Co.*, 79 F.3d 485 (5th Cir. 1996); *Oberkramer v. IBEW-NECA Serv. Ctr.*, 151 F.3d 752 (8th Cir. 1998).

³⁰ *Charles Dowd Box Co. v. Courtney*, 368 U.S. 502 (1962).

kind covered by § 301 to be decided according the precepts of federal labor policy.”³¹

Initially and appropriately, the arbitration process took a backseat to anti-discrimination law,³² but some measure of retreat from this position was sounded four years ago.³³ In the interim, new cases involving tension between the preemptive scope of section 301, first heard in the 1960s, emerged in connection with employment tort and contract actions instituted in a judicial forum.

The first case was *Allis-Chalmers Corp. v. Lueck*,³⁴ where the Court considered whether a Wisconsin tort remedy for the bad faith handling of an insurance claim instituted in court was authorized through a collective bargaining agreement procedure for the processing of disability benefit claims. According to the Court, the manner in which a benefit claim was processed, whether it was dilatory or not, inevitably depended upon an interpretation of the collective bargaining agreement, and therefore, it was preempted because of the interest in national uniformity.³⁵ The Court visited this issue again in *Lingle v. Norge Division of Magic Chef, Inc.*,³⁶ where an Illinois employee covered by a collective bargaining agreement was discharged for filing a workers’ compensation claim and sued to recover compensatory and punitive damages in state court. The Court, in an opinion authored by Justice Stevens, rejected the proposition that a state court remedy was preempted by section 301. Here, the Court stressed the fact that the state law remedy was “independent” of the collective bargaining agreement, even though as in *Lueck*, “state-law analysis might well involve attention to the same factual considerations as the contractual determination of whether Lingle was fired for just cause.”³⁷

³¹ *Local 174, Teamsters, Chauffeurs, Warehousemen & Helpers v. Lucas Flour Co.*, 369 U.S. 95, 103 (1962). *Lucas Flour* itself was a damage action for violation of a no-strike clause, which the Court upheld because of an implied obligation to proceed to arbitration under the collective bargaining agreement. *Id.* at 104-05. This policy was further implemented through provisions providing for injunctive relief. *Boys Markets, Inc. v. Retail Clerks Union, Local 770*, 398 U.S. 235 (1970); William B. Gould IV, *On Labor Injunctions, Unions, and the Judges: The Boys Markets Case*, 1970 SUP. CT. REV. 215. *But see Buffalo Forge Co. v. United Steelworkers*, 428 U.S. 397 (1976); cf. William B. Gould IV, *On Labor Injunctions Pending Arbitration: Recasting Buffalo Forge*, 30 STAN. L. REV. 533 (1978).

³² *Alexander v. Gardner-Denver Co.*, 415 U.S. 36 (1974); William B. Gould IV, *Labor Arbitration of Grievances Involving Racial Discrimination*, 118 U. PA. L. REV. 40 (1969).

³³ *Penn Plaza LLC v. Pyett*, 556 U.S. 247 (2009); GOULD, *Fifty Years of Ironies Squared*, *supra* note 25, at 56-79; David L. Gregory & Edward McNamara, *Mandatory Labor Arbitration of Statutory Claims, and the Future of Fair Employment*: 14 *Penn Plaza v. Pyett*, 19 CORNELL J.L. & PUB. POL’Y 429 (2010).

³⁴ 471 U.S. 202 (1985).

³⁵ *Id.* at 220.

³⁶ 486 U.S. 399 (1988).

³⁷ *Id.* at 408.

Conceding that there might be preemption where the subject matter of the law in question is in the collective bargaining agreement, not all such disputes involve “interpretation,” said the Court. “In other words, even if dispute resolution pursuant to a collective-bargaining agreement, on the one hand, and state law, on the other, would require addressing precisely the same set of facts, as long as the state-law claim can be resolved without interpreting the agreement itself, the claim is ‘independent’ of the agreement for § 301 pre-emption purposes.”³⁸

On the other hand, a unanimous Court also held that an employee’s state tort claim was preempted where she alleged the union was negligent in providing her with safety at the workplace inasmuch as this constituted a breach of the union’s federal duty of fair representation.³⁹ The Court, by a 6-3 vote, held that a wrongful death action brought against the miners’ union by the survivors of those killed in an underground fire was preempted by section 301,⁴⁰ inasmuch as the Court reasoned that the union’s duty was thrust upon it by the collective bargaining agreement itself. The principles are fairly easy to state in the abstract. They remind one of Justice Frankfurter’s words, delivered in other contexts, as a “bog of lagomachy”⁴¹ requiring the answers to be fashioned in many instances by “the process of litigating elucidation” before a “Delphic” oracle.⁴²

A union official’s state court defamation and tortious interference claims against his employer and several employees who had allegedly made and discussed false sexual harassment claims regarding the plaintiff were held to be preempted.⁴³ A claim that emotional distress was inflicted by the allegedly retaliatory reassignment of an employee was deemed preempted because it would involve the interpretation of a management rights clause.⁴⁴ Similarly preempted was an

³⁸ *Id.* at 409-10. Here, the Court stressed its holding in *Fort Halifax Packing Co. v. Coyne*, 482 U.S. 1 (1987) that preemption was “not lightly to be inferred” when establishment of labor standards were traditionally within the police power of the state. *Id.* at 21; *see also* *Metro. Life Ins. Co. v. Mass. Travelers Ins. Co.*, 471 U.S. 724 (1985). *But see* *Haw. Pac. Health v. Takamine*, 2012 WL 6738548 (D. Haw. Dec. 31, 2012) (involving regulation of collective bargaining agreements).

³⁹ *Int’l Bhd. of Elec. Workers v. Hechler*, 481 U.S. 851 (1987). This is rooted in *Steele v. Louisville & N.R. Co.*, 323 U.S. 192 (1944), *Vaca v. Sipes*, 386 U.S. 171 (1967), and *Humphrey v. Moore*, 375 U.S. 355 (1964). *See also* *BIW Deceived v. Local S6, Indus. Union of Marine & Shipbuilding Workers*, 132 F.3d 824 (1st Cir. 1997).

⁴⁰ *United Steelworkers v. Rawson*, 495 U.S. 362 (1990).

⁴¹ *NLRB v. Seven-Up Bottling Co. of Miami*, 344 U.S. 344, 348 (1953).

⁴² *San Diego Bldg. Trades Council, Millmen’s Union, Local 2020 v. Garmon*, 359 U.S. 236, 241 (1959).

⁴³ *DeCoe v. General Motors Corp.*, 32 F.3d 212 (6th Cir. 1994).

⁴⁴ *Baker v. Farmers Elec. Coop.*, 34 F.3d 274 (5th Cir. 1994).

intentional infliction of emotional distress claim arising out of an altercation because it would involve the just cause and management rights clauses of the contract.⁴⁵ But the mere consultation⁴⁶ of the collective bargaining agreement, as opposed to its interpretation, will not suffice for preemption.⁴⁷

III. THE FOOTBALL CASES

The seminal appellate decision which establishes some of the framework for the football preemption cases is *Williams v. National Football League*,⁴⁸ involving professional football players suspended after testing positive for a banned substance, who brought an action to claim violations of the Minnesota Drug and Alcohol Testing in the Workplace Act (“DATWA”) and the Minnesota Consumable Products Act (“CPA”). With regard to DATWA, the court, through Judge Shepherd, noted that no provision of the collective bargaining agreement or the drug policy needed interpretation and that therefore an otherwise independent state law claim was not preempted where “only mere consultation” was required.⁴⁹ Accordingly, the court held that the players’ DATWA claim, predicated upon Minnesota law and not the collective bargaining agreement or policy, constituted a “claim [which] . . . is not dependent upon an interpretation of the CBA or the Policy.”⁵⁰ Second, with regard to the CPA, which focuses on the consumption of products off the employer’s premises or during nonwork-

⁴⁵ Foy v. Giant Food, Inc., 298 F.3d 284 (4th Cir. 2002).

⁴⁶ Livadas v. Bradshaw, 512 U.S. 107 (1994); Associated Builders & Contractors v. Local 302, IBEW, 109 F.3d 1353 (9th Cir. 1997) (involving a union targeting a program involving aid to union signatory contractors in targeted projects and its lawfulness under state prevailing wage laws); Burnside v. Kiewit Pac. Corp., 491 F.3d 1053 (9th Cir. 2007) (employees’ overtime pay claims are not preempted).

⁴⁷ Carlson v. Arrowhead Concrete Works, Inc., 445 F.3d 1046 (8th Cir. 2006); Alongi v. Ford Motor Co., 386 F.3d 716 (6th Cir. 2004); Kline v. Sec. Guards, Inc., 386 F.3d 246 (3d Cir. 2004); Karnes v. Boeing Co., 335 F.3d 1189 (10th Cir. 2003); Wynn v. AC Rochester, 273 F.3d 153 (2d Cir. 2001). The same result is obtained in contract disputes. Loewen Grp. Int’l v. Haberichter, 65 F.3d 1417 (7th Cir. 1995); Beals v. Kiewit Pac. Co., 114 F.3d 892 (9th Cir. 1997); cf. Caterpillar, Inc. v. Williams, 482 U.S. 386 (1987). Conduct separate from the content of a collective bargaining agreement such as, for instance, pre-contractual conduct is not preempted. Textron Lycoming Reciprocating Div., Avco Corp. v. UAW, 523 U.S. 653, 657 (1998); CNH America, LLC v. UAW, 645 F.3d 785 (6th Cir. 2011).

⁴⁸ 582 F.3d 863 (8th Cir. 2009).

⁴⁹ *Id.* at 877. Here, the court relied upon a Tenth Circuit opinion in “an analogous fact situation,” *id.* at 876 (citing Karnes v. Boeing Co., 335 F.3d 1189 (10th Cir. 2003)), where that Circuit similarly held that an action under the Oklahoma Standards for Workplace Drug and Alcohol Testing Act did not require interpretation of the collective bargaining agreement.

⁵⁰ *Id.* at 878.

ing hours, the court again found that no provision of the Agreement of Policy was involved and thus preemption was not warranted.⁵¹

But, the court held that common law claims rooted in a breach of fiduciary duty, negligence, and gross negligence, as well as misrepresentation, were “inextricably intertwined” since the duty owed to players could not be determined without examining the “parties’ legal relationship and expectations as established by the CBA and the Policy.”⁵² The court focused upon appendices and supplements to the Policy which addressed masking agents and supplements, the players having contended that they “reasonably relied on the lack of a warning” that the supplement in question contained the forbidden element.⁵³ The same conclusion was reached with regard to the players’ intentional infliction of emotional distress claims based upon the same lack of warning.

Prior to *Williams*, another case raising some of the same considerations arose out of a wrongful death action commenced by the widow of a professional football player who suffered heat exhaustion during summer training camp.⁵⁴ Here, the contention was that the deceased had been “forced to participate in practices conducted in extreme heat and humidity while wearing unsafe, heat-retaining, league-mandated equipment and without proper acclimatization, supervision, or medical care.”⁵⁵ Preliminarily, the court in this case held, in an issue that has been raised in the concussion litigation, that the fact that the NFL itself is not a party to the collective bargaining agreement but rather functions as its bargaining arm, the NFL Management Council, does not bar the NFL from raising the preemption issue. The court noted that the collective bargaining agreement imposed “no independent duty on the NFL to consider health risks arising from adverse playing conditions, or to make recommendations for rules, regulations or guidelines for the clubs to follow.”⁵⁶ While several provisions relating to medical care and treatment imposed specific duties on the individual clubs and players and certain player rights, nothing in the CBA obliged the NFL to “provide medical information and guidance to the individual clubs concerning how to prevent or treat illness or injury among the clubs’ employees.”⁵⁷ The court then found that the agreement imposed no duty to protect players from illness or injury during

⁵¹ *Id.* at 880.

⁵² *Id.* at 881.

⁵³ *Id.* at 882.

⁵⁴ *Stringer v. Nat’l Football League*, 474 F. Supp. 2d 894 (S.D. Ohio 2007).

⁵⁵ *Id.* at 898.

⁵⁶ *Id.* at 906.

⁵⁷ *Id.*

the training camp. Concluding that the “relevant inquiry for preemption purposes” was not the question of to whom the duty to provide safety was owed but rather how it came into being, the court concluded that it did not arise under the CBA. Nonetheless, the court was of the view that the degree of care owed by the NFL in republishing its Hot Weather Guidelines could not be undertaken without examining the significance of the CBA provision relating to the requirement that athletic trainers be certified. According to the court:

If, by virtue of the certification process, the trainers are fully prepared to handle heat-related illnesses, the degree of care owed by the NFL in publishing the Hot Weather Guidelines is diminished. On the other hand, if, as part of the certification process, the trainers receive no instruction on how to prevent, recognize, and treat heat-related illnesses, the NFL’s Hot Weather Guidelines obviously take on much greater significance, and the degree of care owed by the NFL increases considerably. Resolution of Plaintiff’s claim is therefore inextricably intertwined with this CBA provision.⁵⁸

On the other hand, with regard to the negligence claim, the court noted that the collective bargaining agreement did not impose a duty to adequately protect the NFL players from risk of injury or illness and that the NFL was not required to accept recommendations of the Player Safety and Welfare Committee. Accordingly, the negligence count was held as not being preempted. And as a general proposition, a major difference between this case and the concussion litigation lies in the fact that in the latter, the defendants are alleged to have suppressed information which would otherwise have safeguarded player safety.

In a case more easily distinguishable from the concussion litigation, the Eleventh Circuit Court of Appeals held that the players who lost money by virtue of financial advisor investments and alleged negligent representation and breach of fiduciary duty could not sue because of preemption where the investors were listed in the NFL Players’ Association Financial Advisors Program, which in turn stemmed from the collective bargaining agreement that contained the promises and limitations of the Program.⁵⁹ The court concluded that the litigation was preempted given the fact that the collective bargaining agreement provided for the investor concept.

⁵⁸ *Id.* at 910.

⁵⁹ *Atwater v. Nat’l Football League*, 626 F.3d 1170 (11th Cir. 2010).

The cases addressing concussions themselves thus far provide little in the way of persuasive reasoning. *Maxwell v. National Football League*⁶⁰ held that the claims were “inextricably intertwined” and substantially dependent upon an analysis of certain CBA provisions imposing duties on the clubs with respect to the medical care and treatment of NFL players. The court stated that the primary responsibility was placed by the collective bargaining agreement upon the team physicians, as well as athletic trainers,⁶¹ as the provision must be taken into account in determining the degree of care owed. In a two-page opinion containing little reasoning, the court concluded that preemption existed.

In *Duerson v. National Football League*, the plaintiff alleged negligence, fraudulent concealment of the linkage between brain trauma and permanent brain damage, conspiracy to publish false information, and negligent failure to warn.⁶² The complaint also contained counts against the companies that manufactured the helmets that the plaintiff wore while playing professional football, and alleged strict liability and negligence for failure to warn of the defect in helmet design. In a more extensive opinion, the court noted that the CBA imposed an obligation upon the club physician to advise the player in writing if the condition could be “significantly aggravated by continued performance.”⁶³ The court also alluded to other provisions which “address” player health and safety and concluded that they “may be interpreted to impose a general duty on the NFL clubs to diagnose and treat ongoing conditions like the concussive trauma that led to Duerson’s CTE.”⁶⁴ The contractual provisions addressing this subject matter meant that the “necessity of interpreting the CBAs to determine the standard of care still leads to preemption.”⁶⁵

My own judgment is that the defendants ought not to be able to carry the day on the preemption issue in the NFL concussion litigation. Belatedly, after years of denying the relationship between head trauma suffered through football impact and dementia and other brain abnormalities, the League, as noted above, switched course in the wake of the House Judiciary Committee 2009 hearings. As the litigation on behalf of more than 4000 retired players has made its way to multi-district status, confronted with the issue of expanding liabil-

⁶⁰ Case No. CV 11-08394 R(MANx) (C.D. Cal. Dec. 8, 2011).

⁶¹ *Id.* at *2 (“The Court reaches a similar conclusion when examining the CBA provisions relating to the teams’ athletic trainers.”).

⁶² Case No. 12-C-2513, 2012 WL 1658353 (N.D. Ill. May 11, 2012).

⁶³ *Id.* at *4.

⁶⁴ *Id.*

⁶⁵ *Id.*

ity,⁶⁶ it has made changes and engaged in new efforts.⁶⁷ The union, relatively passive in the past, has developed new interest in the subject.⁶⁸ Because both head trauma and cognitive disabilities are perceived to be caused by both subconcussions as well as concussions, regular season padded practices have been diminished in the collective bargaining agreement to one per week.⁶⁹ However, to the contrary, the NFL has continued to push through the collective bargaining process, with apparent success, its objective of extending the season to eighteen games, a result which will undoubtedly diminish player safety as the wear and tear of the season as well as additional games take their toll.⁷⁰

There are parallels with the tobacco lawsuits though, as noted above, it appears causation will be more difficult to establish in the concussion cases. On the preemption issue itself, what is particularly relevant is the essence of the players' position -- i.e., that the NFL spread misinformation, at least prior to 2009, and withheld information about the result of concussions in the game.⁷¹ This does not seem to be related to the collective bargaining agreement although it possible, particularly with regard to the negligence counts, that the obligations of the disability committee, trainers, and doctors under the collective bargaining agreement could be implicated, as the NFL argues. If these provisions can be read to provide for a duty of care, it would seem that the collective bargaining agreement could be intertwined insofar as the negligence count is concerned — but seemingly not on the issues of fraud and failure to disclose. In these respects, the *Stringer* decision may possess some measure of persuasiveness.⁷²

Again, the fundamental claim by plaintiffs on the latter count relates to fraud, concealment, and failure to disclose. Given these allegations it is difficult to see how the obligations of trainers under the collective bargaining agreement are at issue, as they were in *Stringer*. It is hard to imagine how the question of whether doctors made determi-

⁶⁶ Ken Belson, *Concussion Liability Issues Could Stretch Beyond N.F.L.*, N.Y. TIMES, Dec. 11, 2012, at B11.

⁶⁷ Ken Belson, *N.F.L. Hopes to Make Move to Help Identify Concussions*, N.Y. TIMES, Feb. 1, 2013, at B14; Judy Battista, *N.F.L. Joins with G.E. in Effort to Detect Concussions*, N.Y. TIMES, Feb. 3, 2013, at 6.

⁶⁸ Ron Winslow, *NFL Union Funds Study of Injury Risk*, WALL ST. J., Jan. 29, 2013, at A2.

⁶⁹ NATIONAL FOOTBALL LEAGUE-NATIONAL FOOTBALL LEAGUE PLAYERS' ASSOCIATION COLLECTIVE BARGAINING AGREEMENT 143, art. 24, sec. 1(a) (Aug. 4, 2011), available at <https://www.nflplayers.com/about-us/CBA-Download>.

⁷⁰ See, e.g., *Roger Goodell: Owners Want 18 Games*, ESPN, Aug. 26, 2010; Jarrett Bell, *Players Concerned About Pay, Calendar in an Expanded Season*, USA TODAY, Aug. 25, 2010.

⁷¹ Bob Egelko, *Lawsuits on Health Could Hit NFL Hard*, S.F. CHRONICLE, Jan. 19, 2013, at A1.

⁷² *Stringer v. Nat'l Football League*, 474 F. Supp. 2d 894 (S.D. Ohio 2007).

nations about recovery time and the advice that they provided would be directly relevant to the question of whether the NFL withheld the relevant information altogether. Moreover, at least until recent months and years, there did not appear to be a written policy, as such, with regard to head injuries. Thus both the disability committee and the role of physicians does not seem to be bound up with at least the fraud and failure to disclose counts given that they involve subject matter unrelated to the content of the CBA itself. And thus it is hard to see how the uniform development of federal labor policy as it relates to collective bargaining agreements is implicated or frustrated.

IV. CONCLUSION

Preemption is thus then the major issue that the courts must resolve prior to a hearing on the merits. If plaintiffs' position survives at this stage, it is likely that the drama will unfold, which could prove to be both a distraction and harmful publicity for the NFL, thus paving the way toward settlement discussions. This, like the steroids issue for baseball (it awaits further examination in football itself),⁷³ is the drama that now unfolds. It is the most critical issue confronting the game.⁷⁴ Already, some of the rules have begun to change and greater scrutiny and condemnation is being given to head-to-head collisions. It seems clear that many will follow the view expressed by President Obama and keep their boys away from playing the game. Yet as a spectator sport football, for better or worse, is the national pastime with annual revenues exceeding baseball by at least \$2 billion. Leather helmets and a style of tackling more akin to rugby might diminish injury and head trauma. Those developments and other changes similar to them seem unlikely to occur given the public's love for excitement engendered by hard hits and violence. After all, boxing, where cognitive disability has been well known for almost a full century, continues to thrive – indeed the sport is threatened by the emergence of more brutal nontraditional competition. That part of the game will not change, and players who want to share in the ever-expanding bounty produced by it will continue to come forward to endure the game's peril as well as its profits.

⁷³ Judy Battista, *Official Shows Frustration with Union over Delay to Start of H.G.H. Testing*, N.Y. TIMES, Feb. 22, 2013, at B11. Ironically, given the amount of attention that has justifiably been given to baseball in the steroids arena, now the Major League Baseball Players' Association has apparently demonstrated interest in expanding sanctions beyond those contained in the current collective bargaining agreement. *Baseball Eyeing New P.E.D. Rules*, S.F. CHRONICLE, Feb. 26, 2013, at B6.

⁷⁴ See generally CHRIS NOWINSKI, HEAD GAMES (2012); LINDA CARROLL & DAVID ROSNER, THE CONCUSSION CRISIS: ANATOMY OF A SILENT EPIDEMIC (2011).

Mixed Messages on Brain Injuries

Steve Fainaru and Mark Fainaru-Wada

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The NFL's retirement board awarded disability payments to at least three former players after concluding that football caused their crippling brain injuries -- even as the league's top medical experts for years consistently denied any link between the sport and long-term brain damage.

The board paid at least \$2 million in disability benefits to the players in the late 1990s and 2000s, documents obtained in a joint investigation by ESPN's "Outside the Lines" and PBS' "Frontline" show. The approvals were outlined in previously unpublished documents and medical records¹ related to the 1999 disability claim of Hall of Fame center Mike Webster.

The board's conclusion that Webster and other players suffered brain damage from playing in the NFL could be critical evidence in an expanding lawsuit against the league filed in the U.S. District Court in the Eastern District of Pennsylvania. The lawsuit², which involves nearly 4,000 former players, alleges that the NFL for years denied the risks of long-term brain damage and "propagated its own industry-funded and falsified research to support its position."

Bob Fitzsimmons, a Wheeling, W.Va., lawyer who represented Webster in his disability case and is co-director of the Brain Injury Research Institute, described the retirement board's conclusions as "the proverbial smoking gun."

"It's pretty devastating evidence," said Fitzsimmons, who is not part of the lawsuit against the NFL. "If the NFL takes the position that they didn't know or weren't armed with evidence that concussions can cause total disability -- permanent disability, permanent brain injury -- in 1999, that evidence trumps anything they say."

The NFL declined to comment for this story, but league spokesman Greg Aiello emphasized in an email that the retirement board is independent, and that its decisions "are not made by the NFL or by the NFL Players Association."

The seven-member NFL retirement board is composed of three owner representatives, three player representatives, and a non-voting representative of the NFL commissioner. Among its duties is deciding individual disability claims.

1 Letter from Sarah E. Gaunt, Plan Director, to Robert P. Fitzsimmons, Attorney, (May 8, 2008) (available at: http://espn.go.com/pdf/2012/1116/otl_may_2000_letter.pdf)

2 Plaintiffs' Amended Master Administrative Long-Form Complaint In re Nat'l Football League Players' Concussion Injury Litig., No. 2:12-md-02323-AB (E.D. Penn. July 17, 2012) (available at http://espn.go.com/pdf/2012/1116/otl_master_amended_complaint.pdf)

The NFL, which has filed a motion to dismiss the lawsuit, in recent years has denied that it concealed information about the risks of chronic brain injury and says it has updated its policies as concussion research has evolved over the past two decades. Yet in a series of scientific papers from 2003 to 2009, members of the NFL's Mild Traumatic Brain Injury Committee wrote that "no NFL player" had experienced chronic brain damage from repeated concussions. The committee, first formed in 1994, asserted that NFL players were different than boxers, whose susceptibility to brain injuries caused by the sport has been documented since the 1920s.

"Professional football players do not sustain frequent repetitive blows to the brain on a regular basis," members of the NFL committee wrote in a December 2005 paper in "Neurosurgery," the official journal of the Congress of Neurological Surgeons.

However, board documents obtained by "Outside the Lines" and "Frontline" show that the NFL retirement board determined in 1999 that repeated blows to the head had left Webster, who spent most of his 17-year career with the Pittsburgh Steelers, "totally and permanently" disabled. The board based its finding on the diagnoses of five doctors, including a Cleveland neurologist hired by the board to examine the player. The doctors described Webster as "childlike" and showing signs of dementia.

"The Retirement Board determined that Mr. Webster's disability arose while he was an Active Player," wrote Sarah E. Gaunt, director of the NFL's retirement plan, in a May 8, 2000 letter to Fitzsimmons. The medical reports, she wrote, "indicate that his disability is the result of head injuries he suffered as a football player with the Pittsburgh Steelers and Kansas City Chiefs."

The board granted "total and permanent" disability benefits to two other players -- one in 1996³ -- who claimed their mental impairment stemmed from "repetitive trauma to the head or brain from League football activities," according to documents provided by the NFL board as part of a 2004 lawsuit seeking additional compensation for Webster's family. The board redacted the players' names; the documents were stamped "confidential."

Interviews and documents from additional cases suggest that other retired players also received long-term disability benefits for brain injuries related to football, but ESPN/PBS could not verify those cases.

Webster died at age 50 in 2002. After his death, he was the first NFL player to be diagnosed with Chronic Traumatic Encephalopathy, a degenerative brain disease that has since been found in more than a dozen deceased NFL players.

The league first acknowledged in December 2009 that repeated concussions could lead to long-term mental impairment.

3 Letter from Sarah E. Gaunt, Director re: permanent degenerative benefit (Aug. 5, 1997) (available at: http://espn.go.com/pdf/2012/1116/otl_player6_award_letter.pdf).

Jason Luckasevic, a Pittsburgh attorney who represents some of the first players to sue the NFL over the concussion issue, said it was hypocritical for the NFL to award disability benefits based on football-related brain damage while, at the same time, denying there was a link to the sport.

“That’s completely fraudulent -- you say these people have cognitive problems from playing football and award them benefits, and yet you lie and write studies telling the public that’s not the case,” said Luckasevic. “I don’t know that it gets more despicable than that.”

The disability plan, known officially as the Bert Bell/Pete Rozelle NFL Player Retirement Plan, has been criticized for years for failing to meet the financial needs of players who emerge from their careers with severe orthopedic and neurological injuries. The plan, and another that offers supplemental disability benefits, distributes more than \$74 million annually to retired players, according to the NFL.

Many players and lawyers say they were under the impression that the board did not approve any claims for chronic brain injuries related to football. The disability plan’s lead counsel, Douglas Ell, told “The New York Times” in 2009 that a few claims based on neurological impairment related to football had been granted, but none of the cases were identified.

Dr. Edward L. Westbrook, the neurologist who examined Webster in 1999, said that over a period of two or three years in the early 2000s he evaluated at least a half dozen players who had filed disability claims based on traumatic brain injury. Westbrook said he was asked by the NFL board to examine the players.

Westbrook, speaking for the first time to the media after receiving permission from Webster’s family, said he was “impressed and maybe horrified by ... the degree of injury” in the players he examined. Most suffered from some form of mental impairment, Westbrook said, including one case of Parkinson’s disease in a young retired player with no family history of the syndrome.

Westbrook said he had no doubt that Webster’s problems were caused by “multiple hits” related to football.

Except for Webster’s case, Westbrook, a neurologist for 34 years at University Hospitals Case Medical Center in Cleveland, said he did not know how the retirement board ultimately ruled on the other players he evaluated. Attorneys who have handled NFL disability claims said the board often relies on the recommendations of “neutral” physicians, such as Westbrook, who are brought in by the NFL board.

In 2005, the Fourth Circuit Court of Appeals, upholding the lawsuit of Webster’s estate⁴

4 Jani v. Bert Bell/Pete Rozelle NFL Player Retirement Plan, No. 05-2386 (4th Cir., Dec. 13, 2006) (available at: http://espn.go.com/pdf/2012/1116/otl_webstercourt_ruling.pdf).

against the NFL's retirement plan, referred to "eight other cases of [total and permanent] disability due to brain damage" and said the neutral physician played a critical role in determining the outcome.

"In every such case in which the neutral physician offered a clear, conclusive assessment of the applicant's disability, the board chose to follow the neutral recommendation," the court wrote.

Asked about the league's assertion at the time that football did not cause long-term brain damage, Westbrook said: "I don't think it's rocket science to say that there's chronic injury -- from head injury -- in football. I mean, we've all talked about it. I don't know where they're coming from."

In a 2005 case⁵, the retirement board awarded "total and permanent" benefits to Gerry Sullivan, a former offensive lineman who played eight seasons with the Cleveland Browns from 1974-81. In an interview with ESPN-PBS, Sullivan, a plaintiff in the concussion lawsuit against the NFL, said he applied for disability benefits in part because of the deterioration of his mental health. A former chief operating officer for a company that leased automatic icemakers, Sullivan was highly respected by colleagues, but his career unraveled when his behavior became erratic in the late 1980s, vacillating between "manic hilarity and extreme anger," according to a letter provided by the company's president to the retirement board. Sullivan punched holes in ice machines and walls and threatened other employees.

The board took into consideration the recommendation of a Chicago-area psychiatrist who determined that Sullivan was suffering from "cognitive impairment and behavioral disinhibition," according to a letter to Sullivan from the retirement plan's benefits director. Sullivan's disability stemmed from "League football activities," according to the letter, but it is unclear whether the board was referring to the player's mental health problems or to severe orthopedic injuries that also contributed to his disability.

By the time Webster applied for disability benefits in 1999, his mental health problems were widely known, especially in Pittsburgh, where he remained an iconic figure from the Steelers' dynasty of the 1970s.

Financially ruined, the former center lived with little furniture in an apartment with his teenage son, who took care of him. He carried around legal pads on which he scrawled thousands of letters, many of them incomprehensible, as he sought to describe what was happening to him. In constant pain because of his football injuries, he would sometimes jolt himself unconscious with an array of stun guns he picked up in mail-order catalogues.

Webster became addicted to Ritalin, a drug normally prescribed to treat attention

5 Letter from Paul Scott, Benefits Administrator, to Gerald Sullivan (Nov. 28, 2005) (available at: http://espn.go.com/pdf/2012/1116/otl_sullivan_disability.pdf).

deficit disorders, telling people it enabled him to function. He acknowledged using steroids early in his career with the Pittsburgh Steelers, according to medical records separate from his disability claim, but the five doctors who examined him in the disability case either denied that he previously used performance-enhancing drugs or did not address it in their reports.

As part of his disability claim, each of the five doctors blamed Webster's 17-year career in the NFL for his severe mental health problems. Webster "has, to all medical certainty, serious neuropsychiatric and medical-surgical illnesses that can be directly connected with his long years in the sport of football," wrote Jonathan M. Himmelhoch, a psychiatrist at the University of Pittsburgh School of Medicine.

The board granted Webster partial benefits -- more than \$8,000 per month in retirement and supplemental benefits -- but denied him full compensation, arguing that he did not become totally and permanently disabled until several years after his career ended. Webster appealed and, after his death, his estate sued the NFL's retirement plan in federal court.

During the discovery phase of the suit, Fitzsimmons, Webster's attorney, asked the NFL to identify all claims in which players said they were suffering from mental disability from football-related head trauma.

On Oct. 28, 2004, the league produced a list of 11 claims; two were approved for "football degenerative total and permanent benefits," covering cases in which the disability arose from play in NFL. The remaining nine cases were either denied or it was impossible to tell whether benefits had been granted based specifically on repeated head trauma from playing football.

Webster had been dead three years when the court, on April 26, 2005, ruled in his estate's favor, granting it \$1.8 million. In a reference to Westbrook, Judge William D. Quarles Jr. wrote: "The Board ignored the unanimous medical evidence, including that of its own expert" that Webster was disabled during or immediately after his career. That same year, the NFL published the 10th installment in its series on concussions research in the medical journal "Neurosurgery."

The paper, whose authors included three members of the league's Mild Traumatic Brain Injury Committee, asserted that chronic brain injury "has never been reported in American football players."

"Outside the Lines" producer Willie Weinbaum contributed to this story

Confronting the Youth Sports Concussion Crisis: A Central Role for Responsible Local Enforcement of Playing Rules

By Douglas E. Abrams*

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INTRODUCTION

By late 1905, college football was at a crossroads. Raw violence and unremitting bloodshed had stalked the gridiron for years. In that season alone, eighteen players would be killed and scores more would be seriously injured in intercollegiate games.¹ As Americans cringed, calls to abolish the sport as barbaric grew louder because games and death did not mix on college campuses.²

The specter of death in college football was serious business at the dawn of the 20th century. A national professional league was still a few years away, so the collegiate game was the most prominent form of football played in America. Today, even one on-the-field death among several thousand college football players would attract national attention. Because far fewer collegians played football in 1905, eighteen deaths in a single season comprised an astounding percentage of the players, a grim toll unlikely to abate without meaningful changes to the rules of the game.

Most of the deaths were from what doctors diagnose today as multiple concussions, skull fractures, or other traumatic brain injury.³ At the turn of the century, some intercollegiate football players wore skimpy protective equipment and soft leather helmets without face guards, but helmets did not become mandatory in the National Collegiate Athletic Association (NCAA) until 1939.⁴ Game photos from the period show that most players went helmetless,⁵ even though college football degenerated into “a game of mass interference which leveled the defense. Line play deteriorated to brute force where linemen slugged one another and the ball carrier was pulled and pushed into this mass of humanity.”⁶

Some colleges, notably Columbia University and Northwestern University, reacted to the carnage by eliminating their football programs altogether.⁷ Disgusted by the unrelenting bloodshed, President Theodore Roosevelt grew worried that more colleges would follow suit, including his alma mater, Harvard.⁸

Roosevelt was one of the most athletic Presidents in American history, a vigorous sportsman who respected athletic competition.⁹ He was also a “gridiron enthusiast”¹⁰ who closely followed Harvard’s eleven, a team he might have joined as an undergraduate a little more than twenty-five years earlier but for his nearsightedness.¹¹ He embraced football for manifesting rugged Americanism just a few years after the U.S. Census Bureau inspired

¹ MARK F. BERNSTEIN, *FOOTBALL: THE IVY LEAGUE ORIGINS OF AN AMERICAN OBSESSION* 80 (2001).

² LINDA CARROLL & DAVID ROSNER, *THE CONCUSSION CRISIS: ANATOMY OF A SILENT EPIDEMIC* 50 (2011).

³ *Id.*

⁴ Michael L. Levy et al., *Birth and Evolution of the Football Helmet*, 55 *NEUROSURGERY* 656, 656 (2004).

⁵ See, e.g., BERNSTEIN, *supra* note 1 (photographs following page 146); IVAN N. KAYE, *GOOD CLEAN VIOLENCE: A HISTORY OF COLLEGE FOOTBALL*, 55 (1973) (photograph of players with helmets); JOHN SAYLE WATTERSON, *COLLEGE FOOTBALL: HISTORY, SPECTACLE, CONTROVERSY* (2000) (photographs following page 98).

⁶ TOM PERRIN, *FOOTBALL: A COLLEGE HISTORY* 53-54 (1987).

⁷ WATTERSON, *supra* note 5, at 73-74, 92.

⁸ *Id.* at 64.

⁹ JOHN SAYLE WATTERSON, *THE GAMES PRESIDENTS PLAY* 71-72 (2006).

¹⁰ WATTERSON, *supra* note 5, at 64.

¹¹ BERNSTEIN, *supra* note 1, at 12; EVAN THOMAS, *THE WAR LOVERS: ROOSEVELT, LODGE, HEARST, AND THE RUSH TO EMPIRE, 1898*, at 56 (2010).

national soul-searching by announcing the closing of the frontier in 1890.¹² When he charged San Juan Hill during the Spanish-American War, his Rough Riders included former college football players who won his respect.¹³

“To borrow a simile from the football field,” Roosevelt said in 1897, “we believe that men must play fair, but that there must be no shirking, and that the success can only come to the player who ‘hits the line hard.’”¹⁴ From the White House, he wrote to his son, Theodore, Jr., who played on Harvard’s freshman team: “I am delighted to have you play football. I believe in rough, manly sports.”¹⁵

In October of 1905, with “football staring hard at the prospect of demise,”¹⁶ President Roosevelt summoned the head coach and alumni committee head from each of the “Big Three” collegiate gridiron powers -- Harvard, Yale and Princeton -- to convene at the White House and explore ways to maintain the game’s distinctiveness as a collision sport, yet stem its unrestrained brutality.¹⁷

Barely a month before the college football delegations arrived, Roosevelt mediated an end to the Russo-Japanese War, an effort that earned him the Nobel Peace Prize.¹⁸ With participants considerably less hostile to one another than warring nations, the White House football summit led to safety-based rules changes that would soon make deaths on the field remnants of the past.¹⁹ The summit also led to creation of the NCAA, the national governing body that oversees the enforcement of playing rules by member colleges and universities.²⁰

Safety-based rule changes did not doom public enthusiasm for football. On the contrary, college and professional football remain the nation’s most popular spectator sports today,²¹ and the highest award the NCAA bestows on an individual is the Theodore Roosevelt Award, honoring the man whose presidential initiative saved the game from itself.²²

Without suggesting intervention by Congress or any state legislature, President Roosevelt confronted college football’s brain injury crisis by advocating national rule changes that conferences, coaches and referees would administer responsibly in local games. Injury

¹² BERNSTEIN, *supra* note 1, at 38; WATTERSON, *supra* note 5, at 65; THOMAS, *supra* note 11, at 55-57; FREDERICK JACKSON TURNER, *THE FRONTIER IN AMERICAN HISTORY* 1-38 (1920).

¹³ *TR Saves Football*, THEODORE ROOSEVELT ASS’N, <http://www.theodoreroosevelt.org/kidscorner/football.htm>.

¹⁴ *In His Own Words*, THEODORE ROOSEVELT ASS’N, <http://www.theodoreroosevelt.org/life/Quotes.htm>

¹⁵ CARROLL & ROSNER, *supra* note 2, at 50; *see also* WATTERSON, *supra* note 5, at 64-65 (quoting Roosevelt’s letter to a friend: “I would rather see my boys play [football] than see them play any other” sport).

¹⁶ JOSEPH N. CROWLEY, *IN THE ARENA: THE NCAA’S FIRST CENTURY* 41 (2006).

¹⁷ BERNSTEIN, *supra* note 1, at 38, 79-83 (2001); CROWLEY, *supra* note 16, at 40-43.

¹⁸ HENRY F. PRINGLE, *THEODORE ROOSEVELT 185-96* (1956); EDMUND MORRIS, *THEODORE REX* 131-37, 150-69; *THEODORE ROOSEVELT: AN AUTOBIOGRAPHY* 555-58 (1913); *The Nobel Prize 1906: Theodore Roosevelt*, NOBELPRIZE.ORG, http://www.nobelprize.org/nobel_prizes/peace/laureates/1906/roosevelt-bio.html.

¹⁹ WATTERSON, *supra* note 5, at 100-10.

²⁰ CROWLEY, *supra* note 16, at 43-44.

²¹ *Football is America’s Favorite Sport as Lead Over Baseball Continues to Grow: College Football and Auto Racing Come Next*, HARRIS INTERACTIVE, (Jan. 25, 2012) http://www.harrisinteractive.com/vault/Harris%20Poll%209%20-%20Favorite%20sport_1.25.12.pdf.

²² Theodore Roosevelt Award, NAT’L COLLEGIATE ATHLETIC ASSOC., <http://www.ncaa.org/wps/wcm/connect/public/NCAA/Resources/Events/Honors+Calebration/Theodore+Roosevelt+Award>.

prevention was central to the President's formula because mere reaction to serious injury came too late, only after the player and his family suffered irreparable loss.

Today the sports world faces a similar crisis from the epidemic²³ of serious and often permanent brain injury. This crisis -- "the predominant youth sports safety issue of the 21st century"²⁴ -- concerns concussions, a form of traumatic brain injury from externally inflicted trauma.²⁵ "[H]ead trauma in sports is a topic that leads nightly newscasts and is debated at every level of amateur and professional sports."²⁶ Concussions produce "contact sports' nastiest byproducts," with "long-term effects . . . [that] are proving to be absolutely terrifying."²⁷

Until recently, the national spotlight shined brightest on concussions suffered by professional athletes, particularly football and ice hockey players. As neurosurgeon William P. Meehan reports, we know now that "concussion is a risk in almost any sport."²⁸ We also know, as *Time* reports, that "concussions are an alarmingly commonplace injury, particularly among kids and most particularly among active, athletic ones."²⁹ Whether or not the victim loses consciousness,³⁰ a concussion at any age "can affect memory, judgment, reflexes, speech, balance, and muscle coordination and can result in serious complications, such as swelling, bruising, or bleeding of the brain, which can cause permanent disability or death."³¹

Today's concussion crisis³² summons a range of preventive strategies, including the one President Roosevelt prescribed for college football in 1905 – public education about safety risks, ongoing review of national playing rules based on new learning, and responsible

²³ See, e.g., CARROLL & ROSNER, *supra* note 2.

²⁴ Brooke de Lench, *Praise For MomsTEAM Is Nice, But The Fight To Make Youth Sports Safer Isn't Over*, MOMSTEAM (May 23, 2012) <http://www.momsteam.com/blog/brooke-de-lench/praise-momsteam-nice-but-fight-make-youth-sports-safer-not-yet-over#ixzz22VEOTiR9>; see also, e.g., Lyle J. Micheli, Foreword, in KIDS, SPORTS, AND CONCUSSION: A GUIDE FOR COACHES AND PARENTS xi (William Paul Meehan III, 2011) ("[a] true health crisis"); Alan Schwartz, *High School Players Shrug Off Concussions, Raising Risks*, N.Y. TIMES, Sept. 15, 2007, at A1 (quoting Robert Sallis, president of the American College of Sports Medicine, who states, "Poor management of high school players' concussions isn't just a football issue. It's a matter of public health.").

²⁵ *Rehabilitation of Persons With Traumatic Brain Injury*, NIH CONSENSUS DEV. PROGRAM at 5, <http://consensus.nih.gov/1998/1998traumaticbraininjury109html.htm>.

²⁶ ROBERT CANTU & MARK HYMAN, CONCUSSIONS AND OUR KIDS 2 (2012).

²⁷ Alan Siegel, *How to Fix Sports' Concussion Crisis*, THE ATLANTIC, Sept. 27, 2011.

²⁸ WILLIAM PAUL MEEHAN III, KIDS, SPORTS, AND CONCUSSION: A GUIDE FOR COACHES AND PARENTS xi 37 (2011); see also Michael W. Kirkwood et al., *Pediatric Sport-Related Concussion: A Review of the Clinical Management of an Oft-Neglected Population*, 117 PEDIATRICS 1359, 1360 (2006) ("Nearly all athletic endeavors pose some risk of concussive injury.").

²⁹ Jeffrey Kluger, *Headbanger Nation*, TIME, (Feb. 3, 2011) http://www.time.com/time/specials/packages/article/0,28804,2043395_2043506_2043494,00.html.

³⁰ CANTU & HYMAN, *supra* note 26, at 106-07 (stating that 95% of victims who suffer concussions do not lose consciousness); James P. Kelly, *Traumatic Brain Injury and Concussion in Sports*, 282 J. AM. MED. ASS'N 989, 990 (1999) ("Concussion . . . may or may not involve loss of consciousness").

³¹ U.S. GOV'T ACCOUNTABILITY OFFICE, Concussion in High School Sports, GAO-10-569T (May 20, 2010) (referencing the statement of Linda T. Kohn, Director, Health Care); Brooke de Lench, *Concussions Double For Younger Athletes In Team Sports, Study Finds*, MOMSTEAM (Sept. 1, 2010) <http://www.momsteam.com/health-safety/concussions-double-among-younger-athletes-in-team-sports-study-finds> (quoting Dr. Lisa L. Bakhos: "[C]oncussions can happen to anyone. Some [parents] may think, my child is too young to get really hurt in sport, but that is not the case.").

³² CARROLL & ROSNER, *supra* note 2.

local implementation of these rules in practice sessions and games. Mere reaction to a player's brain injury is insufficient to undo prior damage.

This Article concerns the effect of playing rules on efforts to confront today's concussion crisis in youth sports. The term "youth sports" covers the two primary sources of organized athletics for children: (1) community leagues and teams conducted by parents in private associations or clubs or by public parks and recreation departments; and (2) interscholastic leagues conducted by public and private secondary schools.

I remain awed by the sheer quality and quantity of research and commentary generated in recent years by prominent medical professionals who seek to stimulate public awareness of sports-related brain injuries in children. Without venturing into a profession in which I lack training, I seek to apply this learning from my vantage point both as a lawyer and as a youth hockey coach, concerned for more than 40 years about player safety. For ten of these years, I also served as president of a youth hockey program and, thus, designed and helped supervise safety measures implemented by other volunteer coaches.

President Roosevelt sought to save football, not to eradicate it. I recognize that participation in sports inevitably brings risk of injury at any age, and that contact and collision sports depend on a measure of controlled violence within the rules of the game. We can significantly reduce the risk of childhood sports-related concussions and other brain trauma, however, by periodically adjusting safety-based playing rules in light of medical learning, and then by taking meaningful measures to assure responsible enforcement by coaches, league administrators, game officials and parents who remain committed to sportsmanship and mutual respect in vibrant local games.

Now that children's spontaneous sandlot play has yielded to organized youth sports programs conducted by adults,³³ injury prevention, grounded in fidelity to the rules of the game, is more than an adult challenge and opportunity. This central injury-prevention strategy is an adult responsibility because "every hit to the head leaves a mark, or a legacy, on a child's future."³⁴

Part II of this Article discusses rules-based prevention of concussions and other traumatic brain injury in youth sports, a proactive stance that the National Institutes of Health says holds "great promise."³⁵ Primary responsibility for the rules rests with national youth sports governing bodies (USA Soccer, USA Hockey, and others), and with the state high school activities associations that oversee the interscholastic sports programs conducted by their member public and private secondary schools. Rule making remains a work in progress, but national and state rule makers have proved increasingly responsive to parents, medical professionals, legislators and similar advocates of periodic review.

National and state rule making, however, does not end the story because children play games from coast to coast on fields and other local venues largely beyond the direct day-to-day supervision of national and state governing bodies. Part II explains why the rules of the game stand the best chance of protecting players when coaches, league administrators,

³³ Douglas E. Abrams, *The Challenge Facing Parents and Coaches in Youth Sports: Assuring Children Fun and Equal Opportunity*, 8 VILL. SPORTS & ENT. L.J. 253, 264-65 (2002).

³⁴ *Our Story*, SPORTS LEGACY INST., <http://sportslegacy.org/about-sports-legacy-institute/about-sli/>.

³⁵ NIH CONSENSUS DEV. PROGRAM, *supra* note 25, at 9.

game officials and parents enforce the rules responsibly.

Part II concludes by discussing how local adult irresponsibility, particularly when passion to win overcomes reason in the heat of competition, can neutralize national and state safety-based playing rules and put young athletes in harm's way. These rules resemble an impressive building, which may take years to design and construct with care, but which can implode locally in moments.

Part III discusses the role of legal constraints in the quest for greater safety from concussions in youth sports. Most states have taken a giant step forward since 2009 by enacting concussion legislation that, while not displacing safety-based review and local enforcement of playing rules, holds potential to make life better for the nation's youngest athletes. Parents, coaches and players generally must receive information and education about the dangers of concussions and when to suspect that a player may have suffered one. When someone suspects that a player has suffered possible concussive injury, teams and coaches must immediately remove the player from practice sessions and games until the player secures medical clearance to return to action.

Thus far, private litigation has played comparatively little direct role in preventing youth league concussions. The specter of lawsuits by injured players might influence and accelerate safety initiatives by stimulating the sensibilities of rule makers and other concerned adults, either by jeopardizing the availability of insurance at favorable rates or by leaving individual parents reluctant to enroll their children in a particular sport. These prospects seem to have already moved national and state governing bodies toward greater safety measures, but lawsuits in large numbers remain unreported in youth sports.³⁶

Recovery in an injured player's tort suit against governing bodies, leagues and coaches helps ease the frequently substantial financial burdens of short-term and long-term care following a concussion or other traumatic brain injury. Recovery, however, comes only after the player suffers immediate and sometimes permanent damage. In practice sessions and games, proactive prevention best protects youth leaguers from concussions and other serious injuries, rather than essentially reactive tort law.

I. PREVENTING YOUTH SPORTS CONCUSSIONS

Emphasizing injury prevention initiatives in youth sports plows no new ground. Prevention initiatives in the schools and the greater community already seek to protect children from an array of potential dangers, such as delinquency, bullying, and school violence.³⁷ Because parents also strive to prevent childhood injuries in their homes (including injuries from sports and games), it seems natural to contemplate injury prevention initiatives in the organized sports their children play in the community.

Prevention initiatives measure success by rates of reduction rather than by total elimination of targeted conduct. The nation cannot eliminate all delinquency, bullying, school violence, or all youth sports concussions, but parents and safety advocates can strive for significant reduction rates, rather than tolerate continued high rates of adverse

³⁶ See *infra* note 55 and accompanying text (discussing class action lawsuit by more than 2,000 former National Football league players against the NFL arising out of the concussion crisis).

³⁷ See, e.g., Douglas E. Abrams, *A Coordinated Public Response to School Bullying*, in OUR PROMISE: ACHIEVING EDUCATIONAL EQUALITY FOR AMERICA'S CHILDREN 399, 410-12 (Maurice R. Dyson & Daniel B. Weddle eds., 2009).

outcomes that are controllable through due care.³⁸ As Benjamin Franklin said, “an ounce of prevention is worth a pound of cure.”³⁹

A. *The Contemporary Sports Concussion Crisis*

1. Professional sports

When parents first enroll a child in a youth sports program, their perceptions about sports typically come almost entirely from following professional games.⁴⁰ “[T]hrough their pervasive presence in the media,” says the U.S. Court of Appeals for the Sixth Circuit, “sports . . . celebrities have come to symbolize certain ideas and values in our society and have become valuable means of expression in our culture.”⁴¹ Amid the unprecedented saturation of professional sports in the broadcast and print media and, more recently, on the Internet,⁴² the impetus toward concussion prevention in youth sports reflects adult reactions to the well-publicized concussion crisis that besets several professional sports.

The Minnesota Twins’ all-star first baseman Justin Morneau, the American League’s Most Valuable Player in 2006, acknowledged these reactions when he returned to the lineup last season after being sidelined with his second concussion. “If anything good comes” from his prolonged recovery, said Morneau, “it’s the fact that if parents see us big guys, professional athletes, missing good chunks of time, they’re going to take it seriously and not rush their high school kids back out there to play a football game.”⁴³

Traumatic brain injury in sports has been called a “silent epidemic,” partly because until recently its potentially devastating effects had received relatively moderate attention from medical researchers amid concern for other neurological conditions that afflict the general population, such as Alzheimer’s disease and stroke.⁴⁴ In the United States’ “sports dominated culture,”⁴⁵ dramatic media accounts broke the silence regarding professional athletes in distress, often years after their retirement. These accounts typically chronicled not the immediate disability and death that stained college football by 1905, but the lingering physical incapacity, dementia and early death attributable to concussions and other brain trauma, particularly in contact and collision sports.

It might seem odd that so much of the nation’s early attention to sports-related traumatic brain injuries focused primarily on the professional leagues, which is included a few thousand of the nation’s elite adult athletes, and not on youth leaguers, the estimated thirty

³⁸ *Id.* at 410-12.

³⁹ See *In re Lower Merion Twp Fire Dep’t Labor Standards Litig.*, 972 F. Supp. 315, 320-21 (E.D. Pa. 1997) (referencing Benjamin Franklin’s *Gazette*, Jan. 28-Feb. 4, 1735, at 1).

⁴⁰ Abrams, *supra* note 33, at 273.

⁴¹ *ETW Corp. v. Jireh Publ’g, Inc.*, 332 F.3d 915, 937-38 (6th Cir. 2003).

⁴² Douglas E. Abrams, *Sports in the Courts: The Role of Sports References in Judicial Opinions*, 17 *VILL. SPORTS & ENT. L.J.* 1, 6 (2010).

⁴³ Tyler Kepner, *Feeling Right, Finally*, *N.Y. TIMES*, Aug. 5, 2012, at 10 (quoting Morneau).

⁴⁴ Kelly, *supra* note 30; see also, e.g., Philipp R. Aldana & Mark S. Dias, *Are You Ready for the “Silent Epidemic”?*, 32 *AAP NEWS* 1 (July 1, 2011); Siegel, *supra* note 27 (attributing silence to the reluctance of many former professional players to acknowledge publicly the likelihood of future deterioration).

⁴⁵ *Butts v. Nat’l Collegiate Athletic Ass’n*, 751 F.2d 609, 612 (3d Cir. 1984) (citation omitted).

to thirty-five million boys and girls who play each year.⁴⁶ Hefty youth sports enrollments comprise nearly half the children in America.⁴⁷ Nearly every child has some experience with organized sports, and thus some exposure to serious injury, before turning eighteen.⁴⁸

Odd or not, the headlines first spotlighted the pros. Knowing they suffered multiple concussions in contact or collision sports, some professional athletes or their families have donated their brains to the Sports Legacy Institute in Boston for post-mortem examination.⁴⁹ Examinations of a few deceased football and hockey players' brains reveal that most suffered from chronic traumatic encephalopathy (CTE), a progressive degenerative brain disease caused by repeated blows to the head, including concussions.⁵⁰ CTE is linked to behavioral changes, dementia, and premature death.⁵¹ Indeed, football players with CTE may suffer the same type of brain damage as Alzheimer's disease patients⁵² or as "combat veterans who endured bomb blasts in Iraq and Afghanistan."⁵³ A September 2012 study of nearly 3,500 retired NFL players found that the players die from Alzheimer's, Parkinson's disease, amyotrophic lateral sclerosis ("Lou Gehrig's disease"), and other brain diseases at rates three to four times higher than other Americans.⁵⁴

More than 2,000 former National Football League (NFL) players also attracted national attention by filing a class action alleging that the league knew, or should have known, about the lifelong dangers of concussions and other head trauma.⁵⁵ Some former pros have retired early from collision or contact sports, such as football and hockey, for fear that further concussions would haunt them later in life.⁵⁶ A few former pros have died young from ailments or painkiller overdoses evidently traceable to traumatic brain injury.⁵⁷ Others have committed suicide in suspected attempts to escape progressing debilitation.⁵⁸

⁴⁶ Douglas E. Abrams, *Achieving Equal Opportunity in Youth Sports: Roles for the "Power of the Permit" and the "Child Impact Statement,"* in LEARNING CULTURE THROUGH SPORTS; PERSPECTIVES ON SOCIETY AND ORGANIZED SPORTS 32 (Sandra Spickard Prettyman & Brian Lampman eds., 2011) (citations omitted).

⁴⁷ See America's Children: Key National Indicators of Well-Being, FORUM ON CHILD AND FAMILY STATISTICS, at 3 (2012) (showing that in 2011, there were 73.9 million children under 18 in the United States).

⁴⁸ See, e.g., Bari Katz Stryer et al., *A Developmental Overview of Child and Youth Sports in Society*, 7 CHILD & ADOLESC. PSYCHIATR. CL. N. AM. 697, 697 (1998); *Having Fun is a High Priority*, USA TODAY, Sept. 10, 1990, at 14C (estimating that only 1 in 20 children has not played an organized sport).

⁴⁹ See, e.g., Legacy Donors, SPORTS LEGACY INST., <http://sportslegacy.org/research/cte-concussions-sli-legacy-donors/>

⁵⁰ CANTU & HYMAN, *supra* note 26, at 90-104 (2012); see also, Mary Pilon, *Family of Seau Decides to Give Brain for Study*, N.Y. TIMES, May 5, 2012, at 3.

⁵¹ CANTU & HYMAN, *supra* note 26, at 90-104.

⁵² *Id.* at 90; Andy Staples, *Justified Or Not, Seau's Death Puts Football Under Question Again*, SPORTS ILLUS., May 3, 2012 (recalling that when 44-year-old former NFL player Andre Waters committed suicide in 2006, his brain "resembled what one would expect in an 85-year-old man in the early stages of Alzheimer's").

⁵³ Kay Lazar, *Football, Combat Brain Trauma Similar: Study Finds That the Head Injuries In Players, Veterans Cause Comparable Impairments*, BOSTON GLOBE, May 17, 2012, at B1.

⁵⁴ Everett J. Lehman et al., *Neurogenerative Causes of Death Among Retired National Football League Players*, NEUROLOGY (Sept. 5, 2012); see also Kevin Cook, *Dying to Play*, N.Y. TIMES, Sept 12, 2012 at A31.

⁵⁵ *2,000 Players Unify in Suing NFL Over Head Injuries*, CNN (June 7, 2012, 12:20 PM), http://news.blogs.cnn.com/2012/06/07/2000-players-unify-in-suing-nfl-over-head-injuries/?hpt=hp_t1.

⁵⁶ CARROLL & ROSNER, *supra* note 2, at 17-24; Lorenzo Arguello, *10 Athletes Whose Careers Came To A Tragical End After Suffering Concussions (Or Kobe's Worst Nightmare)*, BUSINESS INSIDER, Feb. 29, 2012.

⁵⁷ See, e.g., John Branch, *In Hockey Enforcer's Descent, a Flood of Prescription Drugs*, N.Y. TIMES, June 4, 2012 (stating that 28-year-old ex-N.Y. Rangers hockey player Derek Boogaard died of drug overdose and was found to

What does the looming concussion crisis bode for the future of professional football and for the future of youth football? Despite persistently high rates of serious injury, writer James A. Michener found in 1976 that “there is no cry to end football, nor will there be, because every society decides what it is willing to pay for its entertainment.”⁵⁹ Michener concluded, “Football is the American form of violence . . . because we have given it our moral sanction.”⁶⁰

Journalist Buzz Bissinger, author of the acclaimed *Friday Night Lights* high school football chronicle,⁶¹ may be right that raw violence defines football’s popularity among Americans. “Take [violence] away,” he writes, “and the game will be nothing.”⁶² Columnist George F. Will similarly wrote recently about the “fiction that football can be fixed and still resemble the game fans relish.”⁶³

Other commentators suggest that public unease about concussions and other traumatic brain injury may lead many fans to spurn NFL games between players they know are destined for early debilitation.⁶⁴ Conjuring images of the crisis that afflicted college football when President Roosevelt interceded in 1905, the *New Yorker’s* Malcolm Gladwell likens football to dog fighting.⁶⁵ Accusing the NFL of “chewing up players like a meat

have CTE); CHRISTOPHER NOWINSKI, HEAD GAMES: FOOTBALL’S CONCUSSION CRISIS FROM THE NFL TO YOUTH LEAGUES 71-75 (2007) (stating that NFL Hall of Famer Mike Webster died of heart failure at age 50, and post-mortem brain examination found evidence of CTE); Alan Schwartz, *Hockey Brawler Paid Price, With Brain Trauma*, N.Y. TIMES, Mar. 3, 2011, at A1 (stating that NHL “enforcer” Bob Probert died of heart failure at 45, found to suffer from CTE).

⁵⁸ See, e.g., Seau, *Football: Game of Death*, CHI. SUN-TIMES, May 8, 2012, at 63 (Junior Seau, 43-year-old NFL star and likely future Hall of Famer); Alan Schwartz, *Duerson Lawsuit Says N.F.L. Ignored Concussion Risks*, N.Y. TIMES, Feb. 24, 2012, at 15 (stating that 50-year-old NFL player Dave Duerson committed suicide with gunshot wound to chest and requested that his brain be studied for severe damage).

⁵⁹ JAMES A. MICHENER, *SPORTS IN AMERICA* 85 (1976).

⁶⁰ *Id.*

⁶¹ H.G. BISSINGER, *FRIDAY NIGHT LIGHTS: A TOWN, A TEAM AND A DREAM* (1990).

⁶² Buzz Bissinger, *NFL Playoffs: Why Football Needs Violence*, THE DAILY BEAST (Jan. 17, 2011), <http://www.thedailybeast.com/articles/2011/01/18/nfl-playoffs-buzz-bissinger-on-why-football-needs-violence.html>; see also Buzz Bissinger, *The NFL’s Hypocritical Outrage Against Bonuses for Injuring Players*, THE DAILY BEAST (Mar. 5, 2012), <http://www.thedailybeast.com/articles/2012/03/05/the-nfl-s-hypocritical-outrage-against-bonuses-for-injuring-players.html> (“[W]e watch football . . . [b]ecause it is barbaric and terrifying and sick. Because we love good hits and kamikaze safety blitzes and a quarterback sitting on the field after a sack with visions of Tweety Bird dancing in his brain.”).

⁶³ George F. Will, *Football’s Problem with Danger on the Field Isn’t Going Away*, WASH. POST, Aug. 6, 2012; see also, Tim Layden, *The Power of the Game*, SPORTS ILLUS., Feb. 13, 2012, at 15-16 (calling the NFL’s concussion crisis “a possibly irresolvable problem” because meaningful safety-based rules changes would blunt fans’ passion for the pro game).

⁶⁴ See, e.g., Jonathan Tamari, *Concussion Lawsuits Put Spotlight on NFL Policies*, PHILA. INQUIRER, Feb. 12, 2012, at E1 (arguing that lawsuits filed by former NFL players “carry a steep public relations risk” for the league, striking at its “sustainability” over time); Gary Myers, *With the State of Game and Concussions, Jets LB Scott Does Not Want Son to Play Football*, N.Y. DAILY NEWS, May 27, 2012, at 76 (calling concussion crisis “the biggest threat to the future of” football); Ken Belson, *For N.F.L., Concussion Suits May Be Test for Sport Itself*, N.Y. TIMES, Dec. 30, 2011, at A1; Staples, *supra* note 52 (calling head shots “the biggest problem the sport has right now”).

⁶⁵ Malcolm Gladwell, *Offensive Play: How Different are Dogfighting and Football?*, THE NEW YORKER, Oct. 19, 2009; see also Katy Waldman, *College Football Should Be Banned*, SLATE, (May 9, 2012, 10:41 AM), http://www.slate.com/articles/sports/intelligence_squared/2012/05/ban_college_football_how_buzz_bissinger_and_malcolm_gladwell_won_the_slate_intelligence_squared_debate_on_may_8_2.html (quoting Gladwell, who wrote that college football should be banned because of “the collateral damage [it] has left in its wake.”);

grinder,” former *New York Times* columnist Bob Herbert says that “[w]ith the carnage increasingly emerging from the shadows, there is no guarantee that football’s magical hold on the public will last.”⁶⁶

To promote effective responses to the youth sports concussion crisis, it is not necessary to choose sides in the prognoses over the NFL’s future. If the commentators predicting storm clouds ahead for the pro game prove to be correct, however, any significant loss of popularity would likely affect the youth game’s vitality in many communities.

2. Youth sports

The American Academy of Pediatrics calls sports-related concussions “a common problem for children and adolescents.”⁶⁷ The professional and youth sports concussion crises may share similarities, but tolerance for serious injury should be considerably lower in children’s games than in the pros.

Professional athletes are well-compensated adults, employed by major corporations in billion-dollar businesses.⁶⁸ The law’s conception of personal autonomy generally grants competent adults considerable right to decide on their own health care and personal safety in the absence of harm to others.⁶⁹ Former National Hockey League Hall of Fame goalie Ken Dryden observes correctly that “[f]or players or former players, owners, managers, coaches, doctors and team doctors, league executives, lawyers, agents, the media, players’ wives, partners and families, it’s no longer possible not to know and not to be afraid, unless we willfully close our eyes.”⁷⁰ The pros bargain collectively with team owners about safety measures and other terms of employment, and thus, may determine for themselves how much risk of injury they wish to tolerate.

Children, however, play sports without lucrative contracts and nationwide audiences of millions as they seek to have fun, win games and develop their skills.⁷¹ Christopher Nowinski, co-director of the Sports Legacy Institute, puts it well: ““What’s good television is not necessarily good for kids. They’re not little men. They’re children.”⁷² Few youth leaguers

Buzz Bissinger, *Why College Football Should be Banned*, WALL ST. J., May 8, 2012, (advocating a ban on college football, partly because of the “the medical dangers of football in general caused by head trauma over repetitive hits”).

⁶⁶ Bob Herbert, *The Sport Needs to Change*, N.Y. TIMES, Mar. 15, 2011, at A5; see also, Tim Sullivan, *Love of Football Just Might Not Be Enough to Keep It Viable*, SAN DIEGO UNION-TRIB., May 28, 2012, at D1 (arguing that unless the NFL meets the concussion crisis with meaningful rules changes, “football will eventually be deemed so dangerous that its participants will progressively reflect much the same desperate demographic as boxing”); Jake Simpson, *Will Concussions Kill Football?*, THE ATLANTIC, Sept. 21, 2010 (“If the NFL, NCAA, and other football bodies do not take serious action right now to combat the constant, destructive head trauma that is as much a football staple as the extra point, the sport could face a massive decline in popularity and relevance over the next 20 to 30 years.”).

⁶⁷ William P. Meehan & Richard G. Bachur, *Sport-Related Concussion*, 123 PEDIATRICS 114, 119 (2009).

⁶⁸ See, e.g., JERRY GORMAN & KIRK CALHOUN, *THE NAME OF THE GAME: THE BUSINESS OF SPORTS* (1994)

⁶⁹ See, e.g., *Prince v. Massachusetts*, 321 U.S. 158, 170 (1944) (“Parents may be free to become martyrs themselves. But it does not follow they are free, in identical circumstances, to make martyrs of their children before they have reached the age of full and legal discretion when they can make that choice for themselves.”).

⁷⁰ Ken Dryden, *Head Shots Should Be History*, GLOBE & MAIL (Canada), Mar. 12, 2011, at F5.

⁷¹ See, e.g., MICHENER, *supra* note 58, at 10 (“If the game isn’t fun, it has lost at least half its justification”); Ron Borges, *Counting Cost to Children*, BOSTON HERALD, Feb. 4, 2012, at 42 (quoting Christopher Nowinski, co-founder of the Sports Legacy Institute)

⁷² Ron Borges, *Counting Cost to Children*, BOSTON HERALD, Feb. 4, 2012, at 42 (quoting Nowinski).

progress to the Division I collegiate ranks, and fewer still progress to the pros and receive a single paycheck for their play.⁷³ For most parents, youth sports are an opportunity to provide children with memories, during a lifetime of good health, as free as possible from the chronic effects of childhood injury.⁷⁴

The numbers define the imposing contours of the youth sports crisis, with "[c]oncussions representing an estimated 8.9% of all high school athletic injuries."⁷⁵ It is commonly reported that

300,000 sport-related concussions occur each year, although it was estimated in a recent review that up to 3.8 million recreation- and sport-related concussions occur annually in the United States. . . . Because of the large numbers of participants in youth and high school sports, concussions in the pediatric and adolescent age groups account for the majority of sport-related concussions.⁷⁶

The pediatric concussion crisis affects more sports than traditionally imagined. As Dr. Stanley Herring told a congressional committee, the crisis "is not a football issue. It's not a boy sport issue."⁷⁷ The American Academy of Pediatrics finds that "[a]mong the more commonly played high school sports, football and ice hockey have the highest incidence of concussion, followed by soccer, wrestling, basketball, field hockey, baseball, softball, and volleyball."⁷⁸ The concussion rate in girls' soccer is almost as high as it is in boys' football, and girls have higher rates of reported concussions than boys in similar sports and may experience more difficulty than boys in recovering from concussions.⁷⁹

The hefty numbers and broad reach likely shroud an even more profound crisis because "underreporting of concussions exists in all sports and is a special challenge in a few

⁷³ *Estimated Probability of Competing in Athletics Beyond the High School Interscholastic Level*, NAT'; COLLEGIATE ATHLETIC ASS'N,

<http://www.ncaa.org/wps/wcm/connect/public/test/issues/recruiting/probability+of+going+pro>

⁷⁴ See, e.g., Jonathan Tamari, *Young Athletes Growing Mindful of Concussion Danger*, Philly.com (Feb.2, 2012) http://articles.philly.com/2012-02-12/sports/31052461_1_concussion-awareness-traumatic-encephalopathy (quoting neurosurgeon Robert Cantu who wrote "[i]ndividuals who aren't being paid need to be informed of the risk they're taking and then decide whether they want to take those risks.").

⁷⁵ Mark E. Halstead & Kevin D. Walter, *Clinical Report—Sport-Related Concussion in Children and Adolescents*, 126 PEDIATRICS 597, 599 (2010).

⁷⁶ *Id.* at 598-99; see also, Meehan & Bachur, *supra* note 66, at 114 ("the majority of at-risk athletes are children," and "children are particularly susceptible to" sport-related concussions).

⁷⁷ *Protecting Student Athletes from Concussions*: Hearing on H.R. 6172 before the Comm. on Educ. and Labor, 111th CONG. 27 (2010), (referencing the statement of Dr. Stanley Herring, clinical professor, Dep't of Rehabilitative Medicine, Orthopedics and Sports Medicine and Neurological Surgery, Univ. of Wash.).

⁷⁸ Kirkwood et al., *supra* note 28, at 1359, 1360; see also MEEHAN III, *supra* note 28, at 29-37 (discussing concussions in various sports); *The Impact of Concussions on High School Athletes*: Hearing Before the H. Educ. and Labor Comm., 111th Cong. 7 (2010) (referencing the statement of Dr. Gerard Gioia, director of neurophysiology, Children's Nat'l Med. Center, Washington, D.C.) (showing there is a possibility that children can suffer concussions in any sport that has high risk of direct contact, including wrestling, cheerleading and gymnastics); GAY CULVERHOUSE, *THROWAWAY PLAYERS: THE CONCUSSION CRISIS FROM PEE WEE FOOTBALL TO THE NFL* 77-78 (2012) (discussing concussions in sports other than football).

⁷⁹ Halstead & Walter, *supra* note 75, at 599; Chris G. Koutures & Andrew J. M. Gregory, *Injuries in Youth Soccer*, 125 PEDIATRICS 410, 412 (2010); Randall W. Dick, *Is There a Gender Difference in Concussion Incidence and Outcomes?*, 43 BRIT. J. SPORTS MED. 146, 149 (2009); Anahad O'Connor, *Concussions May Be More Severe in Girls and Young Athletes*, *Study Says*, N.Y. TIMES, May 11, 2012, at 12.

sports such as football and ice hockey.”⁸⁰ Not only do national and state injury databases provide inexact measures of concussive injuries,⁸¹ but players, parents and coaches also often do not recognize concussive symptoms.⁸²

Many youth leaguers, particularly boys, also remain reluctant to report head injuries to their elders.⁸³ The “shake it off and tough it out” ethic, a manifestation of children’s notions that they are invincible,⁸⁴ encourages a “code of silence” among young athletes who fear that reporting may cause them to lose playing time, lose their position to a teammate, lose permission to play at all, incur disfavor from coaches, or let their team down.⁸⁵

“Sometimes we have ignored concussions in younger athletes, and we now realize those athletes are most significantly affected,” says Dr. Daniel Kraft, director of Riley Hospital for Children’s Sports Medicine at Indiana University Health.⁸⁶ “Young athletes pose a unique challenge,” add two other researchers, “because their brains are still developing and may be more susceptible to the effects of a concussion.”⁸⁷

Children also appear particularly susceptible to repeated sub-concussive blows to the head that occur over the span of one or more seasons.⁸⁸ “[S]econd-impact syndrome, a rapid and often fatal condition associated with a second head injury while the person is still symptomatic from a first, has been described mainly in adolescent athletes.”⁸⁹ Because concussed children seem to require longer recovery periods than concussed adults,

⁸⁰ CANTU & HYMAN, *supra* note 26, at 14; *see also* Schwartz, *supra* note 24 (stating that concussions in high school football are “drastically underreported”).

⁸¹ U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 3q, at n.3.

⁸² *See, e.g.*, Halstead & Walter, *supra* note 75, at 605-06; Jack Kelly, *What Dangers Await the Young Athlete?*, PITTSBURGH POST-GAZETTE, June 4, 2012, at C1.

⁸³ *See, e.g.*, Halstead & Walter, *supra* note 75, at 599; Jack Kelly, *Concussion, The Invisible Injury*, PITTSBURGH POST-GAZETTE, June 4, 2012, at C1; Tom Avril, *Researchers Say Hockey Concussions Underreported*, PHILA. INQUIRER, Dec. 18, 2011, at E11; Brooke de Lench, *Athletes’ Resistance To Self-Reporting of Concussion Continues Despite Increased Education*, MOMSTEAM (July 18, 2012) <http://www.momsteam.com/health-safety/athletes-resistance-to-self-reporting-concussion-continues-despite-increased-education#ixzz22VB4nmp>.

⁸⁴ Am. Acad. of Pediatrics, *Policy Statement, Use of Performance-Enhancing Substances*, 115 PEDIATRICS 1103, 1103 (2005).

⁸⁵ *See, e.g.*, NOWINSKI, *supra* note 57, at 129-34; Fred Theye & Karla A. Mueller, “Heads Up”: *Concussion in High School Sports*, 2 CLIN. MED. & RES. 165, 167-68 (2001).

⁸⁶ Mark Ambrogi, *Rethinking Kids Sports*, INDIANAPOLIS STAR, July 8, 2012, at A1 (quoting Dr. Kraft).

⁸⁷ Halstead & Walter, *supra* note 75, at 597; *see also*, Kirkwood et al., *supra* note 28, at 1359, 1367 (“younger athletes may respond more poorly” than adults to brain injuries); Paul McCrory et al., *Can We Manage Sport Related Concussion in Children the Same as in Adults?*, 38 BRIT. J. SPORTS MED. 516, 517-18 (2004).

⁸⁸ Frank J. Genuardi & William D. King, *Inappropriate Discharge Instructions for Youth Athletes Hospitalized for Concussion*, 95 PEDIATRICS 216, 216 (1995); Lindsay Barton, *Sub-Concussive Hits: A Growing Concern in Youth Sports*, MOMSTEAM (July 23, 2012) <http://www.momsteam.com/sub-concussive/sub-concussive-hits-growing-concern-in-youth-sports>.

⁸⁹ Jordan D. Metz, *Concussion in the Young Athlete*, 117 PEDIATRICS 1813, 1813 (2006); *see also*, Bonnie R. Swaine et al., *Previous Head Injury Is a Risk Factor for Subsequent Head Injury in Children: A Longitudinal Cohort Study*, 119 PEDIATRICS 749, 749 (2007) (having a head injury increases a child’s risk of having a later head injury); Robert C. Cantu, *Second-Impact Syndrome*, 17 CLIN. SPORTS MED. 37 (1998).

continued hits can produce devastating consequences even if none of the hits by itself would cause serious injury.⁹⁰

Some voices have suggested that greater public awareness of particularly high concussion rates in contact and collision youth sports may jeopardize the ability of leagues and high school programs to maintain insurance at rates affordable to many families.⁹¹ Other voices speculate that heightened danger of traumatic brain injury may cause more manufacturers of protective equipment to turn away from the prospect of impending legal liability.⁹² The *San Jose Mercury News* anticipates an even wider net: “[J]unior high and high school principals, athletic directors and coaches are soon going to have to start worrying about their liability” unless they take meaningful preventive measures in the face of known dangers.⁹³

Perhaps even more ominous for the futures of some youth collision and contact sports, the specter of concussions may depress enrollment by leaving some parents reluctant to register their children to play in the first place.⁹⁴ Emile Therien, former president of the Canada Safety Council, spoke recently about safety-based rule changes that USA Hockey has made over the past few decades. His son Chris played twelve years in the National Hockey League, but the elder Therien says that, “If we hadn’t made changes to the equipment back then, . . . the game wouldn’t exist today. Parents just wouldn’t enroll their kids. It would be child abuse.”⁹⁵

Because parents ultimately decide with their children what level of risk remains tolerable, parental reluctance amid the well-publicized concussion crisis may help explain the recent national declines in the numbers of youngsters who play youth league and high school

⁹⁰ See, e.g., Gladwell, *supra* note 65 (quoting Dr. Robert Cantu); Alice Park, *Kids’ Concussion Symptoms May Persist for a Year*, TIME, Mar. 6, 2012.

⁹¹ See, e.g., Bonnie Cavanaugh, *Concussions, Sexual Abuse the Latest Hot-Button Issues for Youth-Sports Insurers*, PROP. AND CAS. 360 (Apr. 23, 2012) (“While serious coverage implications due to concussions have yet to emerge, insurers, coaches and league officials are looking at prevention, testing and return-to-play guidelines”); *Seau, Football: Game of Death*, *supra* note 58 (“it’s reasonable to ask what entity will insure a sport such as football someday”).

⁹² Sullivan, *supra* note 66; James H. Andrews, *Injury Lawsuits Said to Cause Financial Crisis for Many US Companies*, CHRISTIAN SCI. MON., Jan. 25, 1994, at 11; NOWINSKI, *supra* note 57, at 116 (discussing helmet manufacturers that have left the industry because of litigation losses).

⁹³ *California Parents Ignoring Risks of High School Football*, (SAN JOSE, CAL.) MERCURY NEWS, Aug. 29, 2011 (editorial); see also, e.g., Tyler Cowen & Kevin Greer, Tyler Cowen & Kevin Greer, *What Would the End of Football Look Like?*, http://www.grantland.com/story/_/id/7559458/cte-concussion-crisis-economic-look-end-football (“The most plausible route to the death of football starts with liability suits If you are coaching a high school football team, or refereeing a game as a volunteer, it is sobering to think that you could be hit with a \$2 million lawsuit at any point in time.”).

⁹⁴ See, e.g., Eric Sondheimer, *Sports Doctor Answers: “Would I Let My Son Play Football?”*, L.A. TIMES (Varsity Times Insider), July 1, 2012 (quoting Andrew Blecher, M.D., who would give his son a “qualified yes,” but would hope that he would not play particularly dangerous positions); see also, William C. Rhoden, *Football’s Future Rests on Parents as Much as Players*, N.Y. TIMES, Sept. 3, 2012, at D2 (“The more options a family has, the less attractive football may become, except where college scholarships are involved. Then there are parental ego and male vanity.”); Jonathan Anker, *Why My Son Will Never Play Football*, HLN (May 22, 2012) <http://www.hlnv.com/article/2012/05/04/why-i-will-not-let-my-son-play-football> (“[T]here are other sports out there. The world needs teachers and doctors. It does not need football players.”) (emphasis in original).

⁹⁵ Chris Hemond, *Hockey Concussion: Is It Child Abuse?*, 184 CANADIAN MED. ASS’N J. 861 (May 15, 2012) (quoting Emile Therien).

football.⁹⁶ Columnist George F. Will speculates that “in this age of bubble-wrapped children, when parents put helmets on wee tricycle riders, many children are going to be steered away from youth football, diverting the flow of talent to the benefit of other sports.”⁹⁷

Emerging parental reluctance actually extends well beyond the bubble-wrap set. Even some professional football players have stated publicly that they do not want their own sons to play the sport under present rules, or that they would hesitate to permit them to play. Former quarterback and two-time NFL Most Valuable Player Kurt Warner, for example, openly discusses his “fear of placing any of [his] kids in an environment where brain trauma is a possible byproduct of the competition.”⁹⁸

Former Pittsburgh Steelers Hall of Fame quarterback Terry Bradshaw, who still suffers headaches from the hits he absorbed during his fourteen-year NFL career,⁹⁹ states unequivocally “If I had a son today... I would not let him play football.”¹⁰⁰ After ten NFL seasons, New York Jets linebacker Bart Scott says “I don’t want my [seven-year-old] son to play football. I play football so he won’t have to. . . . I don’t want to have him deal with getting a concussion and what it would be like later in life.”¹⁰¹ Derek Brown, who played eight seasons in the NFL, says that “a lot of guys in the [NFL] feel the same way” about exposing their children to the risk of concussions.¹⁰²

Neurosurgeons report that some parents still push their children to return to the lineup too soon after a concussion,¹⁰³ but Kurt Warner expresses the attitude of parents who refuse to dismiss the prospect of brain injury as “part of the game.” Warner claims, “We fall short as guardians if we don’t try to reduce traumatic injuries such as concussions, especially with the information we now have.”¹⁰⁴

⁹⁶ Mike Kaszuba, *End of the Innocence*, STAR TRIBUNE (Minneapolis, Minn.), Aug. 5, 2012, at 3C (discussing falling youth football enrollments in five Minneapolis-area communities); Bob Holmes, *Fewer Played Football in 2011*, BOSTON GLOBE, June 5, 2012, at C7 (“For the fifth straight year, participation in football across the state has dropped.”).

⁹⁷ Will, *supra* note 63 (emphasis in original).

⁹⁸ Kurt Warner, *Love For Game of Football Means Safety First*, USA TODAY, June 13, 2012, at 9A.

⁹⁹ CULVERHOUSE, *supra* note 78, at 66.

¹⁰⁰ Richard Koenig, *Terry Bradshaw and I Would Like to Tell You About Concussions*, PITTSBURGH POST-GAZETTE, July 29, 2012, at B1.

¹⁰¹ Myers, *supra* note 64; *see also*, *Outside the Lines, Future of Football*, ESPN (Feb. 4, 2011, 5:35 PM), <http://espn.go.com/video/clip?id=6091106>; *Student Athlete Concussions*, *supra* note 76 (statement of Sean Morey, retired NFL player) (“Football is the profession I have chosen. I choose to risk my health to financially provide for my family. . . . However, our children’s developing brain is far more sensitive to chemical and metabolic changes of concussion.”).

¹⁰² Pete Iorizzo, *Goal For Kids is Safety First*, TIMES-UNION (Albany, N.Y.), Aug. 5, 2012, at A1 (quoting Brown who stated “To be honest, I’d probably rather [his 11-year-old son] not play football.”); *see also*, Gwenn Knapp, *A Zero Tolerance Policy Toward Football*, S.F. CHRONICLE, May 25, 2012, at B2 (quoting Tom Brady, Sr., father of the Boston Patriots quarterback, “I would be very hesitant to let him play.”); Dan Pompei, *Duerson Lawsuit a Major Hurdle*, CHI. TRIB., Feb. 24, 2012, at 1 (quoting Troy Aikman who “said if he had a son, he might not encourage him to play football.”); Joe Nocera, *The Cost of Football Glory*, N.Y. TIMES, Feb. 4, 2012, at A21 (quoting former Dallas Cowboy tight end Jean Fugett, “I cried when my youngest son took a football scholarship.”).

¹⁰³ *Some Hockey Parents Take Risks With Young Brains, Expert Says*, TORONTO STAR, Sept. 18, 2011, at S4 (quoting Dr. Michael Cusimano of St. Michael’s Hospital, Toronto).

¹⁰⁴ Warner, *supra* note 98.

B. Meeting the Youth Sports Concussion Crisis

Millions of children play organized sports each year,¹⁰⁵ a number much larger than the number of collegians who played football when Theodore Roosevelt intervened in 1905. With these imposing numbers, injury prevention today does not depend on White House summits or other intercessions by the President or any other national political leader (though the President's Council on Fitness, Sports and Nutrition partners with the Centers for Disease Control and Prevention to promote "Heads Up: Concussions in Youth Sports," the Centers' educational campaign for coaches, parents and athletes).¹⁰⁶

Injury prevention in youth sports depends instead largely on parents, medical professionals, legislators, journalists and other voices who spur national youth sports governing bodies and state high school activities associations toward ongoing rule changes in the name of greater safety. Concerned about the prospects of diminishing enrollments and perhaps difficulties maintaining insurance, governing bodies seem to be listening.

For example, neurosurgeon Julian Bailes, chair of Pop Warner football's Medical Advisory Board, says that the organization's recently announced rules changes, discussed below, "can eliminate 60-plus percent of the brain impacts or concussions."¹⁰⁷ "We're not trying to fundamentally change the game," he explained,

We're trying to ensure its survival by reducing the potential for injury in practice. . . . For the future of the sport, we need to morph it now and take the unnecessary head contact out of the game. If parents were considering allowing their child to play football, [the new rules changes] should assure them.¹⁰⁸

1. Ongoing review of national playing rules

Two recent actions suggest the influence of parents and other advocates for greater safety in youth sports. As part of their continuing efforts to enhance player safety, Pop Warner Football and USA Hockey have adopted rules changes that retain the essential character of their respective sports, but postpone or reduce contact or collision until the age levels when medical experts conclude that players are developmentally ready.

a. Pop Warner football

A 2012 Virginia Tech study, which gathered data from sensors placed inside helmets, showed that some head hits suffered by seven- and eight-year-old football players resemble

¹⁰⁵ See *supra* notes 46-47 and accompanying text.

¹⁰⁶ President's Council on Physical Fitness and Sports, *Heads Up: Concussion in Youth Sports*, <http://www.fitness.gov/newspartnersandfriends-headsupinitiative-cdc.htm>; *Heads Up: Concussion in Youth Sports*, CTR. FOR DISEASE CONTROL AND PREVENTION, <http://www.cdc.gov/concussion/HeadsUp/youth.html>

¹⁰⁷ Te-Nehisi Coates, *Youth Football Starts to Change*, THE ATLANTIC, June 14, 2012 (quoting Dr. Bailes).

¹⁰⁸ Tom Farrey, *Pop Warner to Limit Practice Contact*, ESPN (June 15, 2012, 2:27 PM), http://espn.go.com/espn/story/_/id/8046203/pop-warner-toughens-safety-measures-limiting-contact-practice; Jamie McCracken, *Ahead of Season, Pop Warner Renews Safety Emphasis*, USA TODAY, June 13, 2012, at 9C.

the harder hits taken by college football players.¹⁰⁹ The cumulative effects of sub-concussive hits can also exact a toll, even when none by itself rises to the level of a concussion.¹¹⁰

Reflecting a "new focus on brain injuries in [the] youngest athletes,"¹¹¹ Pop Warner instituted new national rules changes recommended by its medical advisory board in 2012. The organization, which enrolls players between the ages of five and sixteen,¹¹² now limits body contact to a third of a practice session (or a maximum of 40 minutes), and prohibits full speed head-on blocking or tackling drills where players line up more than three yards from each other.¹¹³

ESPN's Tom Farrey reports that with these rules changes, Pop Warner "challenges the longtime culture of America's most popular game" by becoming "the first nationwide league at any level of football to restrict the amount of contact players experience."¹¹⁴ The *Bergen Record* also reports that even before the national organization acted, some local youth football associations already instituted safety measures of their own.¹¹⁵

Pop Warner's executive director confidently claims that "[f]ootball . . . is very capable of evolving and changing appropriately. If new research comes out, we will continue to change our rules to keep our kids as safe as we can."¹¹⁶ Controversy remains, however, because American Youth Football says that Pop Warner has gone "overboard," and argues that health risks to young players can be better managed through sportsmanship and proper coaching.¹¹⁷

b. USA Hockey

Several years ago, USA Hockey banned body checking in the mite and squirt age levels, which enroll players under the age of eleven. In June of 2011, the organization extended the ban to the peewees (ages eleven to twelve), and thus postponed checking until the bantams (ages thirteen to fourteen).¹¹⁸ The organization's Progressive Checking Skill Development Program tightens standards of play for intimidation checks beginning in the bantams.¹¹⁹ The bans affect only boys' hockey because checking is already banned in girls' hockey.

¹⁰⁹ Tim Rohan, *Pop Warner Weighing Research and Risks in Concussion Prevention Efforts*, N.Y. TIMES, June 15, 2012, at 14.

¹¹⁰ See *supra* notes 88-89 and accompanying text.

¹¹¹ Lindy Washburn, *New Focus on Brain Injuries in Youngest Players*, THE RECORD (Bergen County, N.J.), June 15, 2012, at A1.

¹¹² About Us, POP WARNER LITTLE SCHOLARS, http://www.popwarner.com/About_Us.htm.

¹¹³ Farrey, *supra* note 108; McCracken, *supra* note 108.

¹¹⁴ Farrey, *supra* note 108.

¹¹⁵ See, e.g., Jeff Roberts, *Youth Teams Battle Concussion Risk*, THE RECORD (Bergen County, N.J.), June 17, 2012, at A1.

¹¹⁶ McCracken, *supra* note 108.

¹¹⁷ *Id.*

¹¹⁸ 2011-2013 Official Rules of Ice Hockey, USA HOCKEY R. 604, at 58, http://usahockey.com/uploadedFiles/USAHockey/Menu_Officials/Menu_RulesEquipment/2011%20-%202013%20Rulebook.pdf.

¹¹⁹ USA Hockey Board of Directors Approves All Points of Progressive Checking Skill Development Program, USA HOCKEY (June 11, 2012), http://www.usahockey.com/Template_Usahockey.aspx?NAV=AU_02_03&id=305004

USA Hockey acted after most medical studies found that body checking dramatically increases risks of concussion and other serious injury in particularly young hockey players.¹²⁰ The *Journal of the American Medical Association*, for example, published a 2010 University of Calgary study that found that body checking at the peewee level tripled concussion rates.¹²¹

Dr. Robert Cantu and Mark Hyman are right that “[y]outh hockey is a safer sport for the checking restrictions – that’s beyond dispute.”¹²² USA Hockey’s decision to postpone checking is the latest step in a march toward greater player safety that began decades ago.¹²³ Much of what passed for protective equipment when I first laced up my skates in the mid-1960s (including soft leather helmets that left the ears and much of the head exposed) would appear laughable today to anyone who peruses family snapshots in an old scrapbook. Concussions and other head injuries must have been common, if often undiagnosed, ignored or misunderstood, in those days.

After some initial resistance to periodic rules changes that appeared odd or unusual, parents, coaches and players adapted each time. They seem also to have adapted to the latest postponement of body checking. “I have eleven- and twelve-year-old boys,” concludes parent, Hockey Night in Canada analyst, and former NHL star Mike Milbury, who was known for his physical play during his career.¹²⁴ “At that age, their heads and necks are not developed. They’re more susceptible to concussions and the after-effects. . . . They should take hitting out until kids are in bantam.”¹²⁵

2. Implementation of Playing Rules: “All Safety is Local”

Thomas P. (Tip) O’Neill, former Speaker of the U.S. House of Representatives, famously said that “all politics is local.”¹²⁶ Decision-making in Washington D.C., surely influences voters, but the former Speaker recognized that local happenings could influence voters even more by affecting their daily lives directly. O’Neill’s explanation holds relevance in youth sports, where ultimately “all safety is local” because protocols and playing rules are enforced, or not enforced, in practice sessions and games in towns and cities largely beyond the direct day-to-day supervision of national and state governing bodies.

“The life of the law,” explained former Harvard Law School Dean Roscoe Pound, “is in its enforcement.”¹²⁷ Pound meant that achieving a statute’s protective purpose depends on

¹²⁰ See, e.g., Roman Augustoviz, *Checking Ban Has Governing Bodies at Odds*, STAR TRIBUNE (Minneapolis, Minn.), June 8, 2021, at 1C.

¹²¹ Carolyn A. Emery, *Risk of Injury Associated with Body Checking Among Youth Ice Hockey Players*, 303 J. AM. MED. ASS’N 2265 (June 9, 2010); see also, Augustoviz, *supra* note 119 (quoting Dr. Michael Stuart, USA Hockey chief medical officer and Mayo Clinic Sports Medicine Center co-director; “numerous studies document significant risks of injuries, including concussions, in leagues that allow body checking at the peewee level”).

¹²² CANTU & HYMAN, *supra* note 26, at 22.

¹²³ See, e.g., Glen Colbourn & Lois Kalchman, *Pashby Changed the Face of the Game: Hockey Pioneer Saved Many Players*, TORONTO STAR, Aug. 25, 2005 at A1.

¹²⁴ Bruce Dowbiggin, *The “Wussifi . . .” er . . . Enlightenment of Mike Milbury*, GLOBE AND MAIL (Canada), Mar. 25, 2011, p. S1.

¹²⁵ *Id.*

¹²⁶ THOMAS P. O’NEILL, ALL POLITICS IS LOCAL, AND OTHER RULES OF THE GAME (1994); THOMAS P. O’NEILL, MAN OF THE HOUSE 26 (1987).

¹²⁷ Roscoe Pound, *Mechanical Jurisprudence*, 8 COLUM. L. REV. 605, 619 (1908).

responsible enforcement because words on paper protect no one, and statutes do not apply themselves. A youth sport's playing rules – the “statutes of the game” -- similarly are merely words on paper, and they achieve their protective purpose only with responsible local enforcement by coaches, league administrators, game officials and parents.

Youth sports playing rules can lose much of their protective force when adults intimidate referees, skirt the rules, or incite the players in local games. For nearly fifteen years, sports safety advocates have been haunted by an overheated Chicago-area youth hockey game in which these three manifestations of local irresponsibility led to a fifteen-year-old player's catastrophic injury. The player suffered quadriplegia, not a concussion, but the story provides harsh lessons about the tenuous role of safety-based playing rules in youth sports generally.

On the night of November 3, 1999, New Trier High School's junior varsity hockey team faced off against bitter rival Glenbrook North High School in the Chicago suburb of Gurnee. With only a few seconds remaining in the game, New Trier led, 7-4, in the teams' first meeting since Glenbrook North had edged them, 3-2, for the Illinois state junior varsity title a season earlier.¹²⁸

The November rematch was out of control from the opening faceoff. “[V]iolence flared repeatedly as the mood grew ugly,”¹²⁹ and eyewitnesses later described “an intense battle”¹³⁰ as each team's parents and students taunted rival fans and players.¹³¹ The players trash talked to one another and squared off in confrontations unrestrained by their coaches,¹³² the leaders recognized by pediatric professionals as “the most important individual[s] for maintaining safety” in youth sports.¹³³ The referees called sixteen penalties, an especially high number for a junior varsity hockey game.

At the final buzzer or within a second or two afterwards, a fifteen-year-old Glenbrook North player sped across the ice, blind-sided New Trier sophomore co-captain Neil Goss, and body checked him head-first into the boards.¹³⁴ “This is what you get for messing,” the player said as Goss lay prone on the ice, permanently paralyzed from the neck down.¹³⁵

USA Hockey's national playing rules did not fail Neal Goss.¹³⁶ He wore a helmet, face cage and other protective equipment that met safety specifications. No report indicated that any coach or referee had evaded or failed USA Hockey's nationally mandated criminal or child

¹²⁸ Megan O'Matz, *Teen Charged With Battery in Hockey Hit: Intent to Injure Is Cited: Foe Paralyzed From Check*, CHI. TRIB., Dec. 8, 1999, at 1; Bryan Smith et al., *Emotions High Before Hockey Tragedy*, CHI. SUN-TIMES, Dec. 9, 1999, at 1.

¹²⁹ Assoc. Press, *Hockey Charge Reduced: No Contest: Illinois Prep Enters Plea*, TELEGRAPH-HERALD (Dubuque, Iowa), Aug. 8, 2000, at B1.

¹³⁰ Debbie Howlett, *Teen May Face Trial In Sports Injury*, USA TODAY, May 5, 2000, at 3A.

¹³¹ Assoc. Press, *supra* note 129; see also, Smith, *supra* note 128.

¹³² Richard Roeper, *Decatur Fight Child's Play Next to Hockey Violence*, CHI. SUN-TIMES, Dec. 13, 1999, at 11.

¹³³ Charles H. Tator et al., *Spinal Injuries in Canadian Ice Hockey: An Update to 2005*, 19 CLIN. J. SPORT MED. 451, 455 (2009).

¹³⁴ Tony Gordon, *Plea Deal Ends Emotional Hockey Case*, CHI. DAILY HERALD, Aug. 8, 2000, at 1; Howlett, *supra* note 130, at 3A.

¹³⁵ Dirk Johnson, *Hockey Player, 15, Is Charged After Seriously Injuring a Rival*, N.Y. TIMES, Dec. 9, 1999, at A21; Megan O'Matz, *Hockey Suit Detailed: Family Seeks Damages*, CHI. TRIB., Dec. 9, 1999, at 1.

¹³⁶ See O'Matz, *supra* note 135 (discussing the Goss family's lawsuit, which did not name USA Hockey as a defendant).

abuse background checks or lacked the classroom training required of coaches and officials. The Glenbrook North attacker received a penalty for crosschecking and a thirty-day suspension pending a hearing before state amateur hockey officials.¹³⁷

Instead, players on both teams were left vulnerable instead by rabid adults who let their emotions get the better of them. As the game spiraled out of control for an hour or more, no coach, referee, league administrator or parent had the common sense to stop the game, deliver a public address announcement requesting respect for the rules, or otherwise move the teams from the brink before it was too late.

We cannot prove that adult irresponsibility caused the cheap shot that left Neal Goss a quadriplegic, but adults concerned about player safety do not need any such proof. Parents seek to protect their children every day based not on demonstrable proof, but on their own intuition and common sense.

Intuition and common sense suggest that, particularly in contact and collision sports, adults heighten the risk of concussion or other avoidable injury when they tolerate or encourage dirty play and other violence outside the rules of the game. Adult irresponsibility may not render serious injury inevitable, but adult irresponsibility creates a toxic local atmosphere that can make serious injury more likely.

Nearly 15 years after the Chicago junior varsity hockey tragedy, too many parents and coaches continue moving in the wrong direction. In 2010, Reuters News and the market research company Ipsos jointly conducted a survey in twenty-two nations. The survey ranked parents in the United States as the world's worst behaved parents at children's sports events.¹³⁸ Sixty percent of U.S. adults who had attended youth sports contests reported they saw parents become verbally or physically abusive toward coaches or officials; runners-up were parents in India (59%), Italy (55%), Argentina (54%), Canada (53%) and Australia (50%).¹³⁹

"It's ironic that the United States, which prides itself in being the most civilized country in the world, has the largest group of adults having witnessed abusive behavior at children's sporting events," said an Ipsos senior vice president.¹⁴⁰

The Reuters/Ipsos survey confirmed earlier surveys that uniformly found significant rates of adult violence, vulgarity and abuse at children's games in the United States.¹⁴¹ Observers report "innumerable cases . . . throughout the country every month . . . of games turning tragic at the hands of enraged parents."¹⁴² "Waves of head-butting, elbowing and fighting have been reported at youth sporting events across the country."¹⁴³

¹³⁷ Douglas E. Abrams, *Player Safety in Youth Sports: Sportsmanship and Respect as an Injury-Prevention Strategy*, 39 SETON HALL J. OF SPORTS AND ENT. L. 1, 9-10 (2012).

¹³⁸ *Four In 10 (37%) Global Citizens Have Been To Children's Sports Event*, MARKET WIRE (Apr. 7, 2010, 1:00PM), <http://www.marketwire.com/press-release/Four-In-10-37-Global-Citizens-Have-Been-To-Childrens-Sports-Even-1143748.htm>

¹³⁹ *Id.*

¹⁴⁰ *U.S., India Parents Seen as Worst Behaved at Kids' Sports?*, REUTERS (Apr. 7, 2011, 1:11 PM), <http://www.reuters.com/article/2010/04/07/us-parents-abuse-odd-idUSTRE6364CZ20100407>

¹⁴¹ Abrams, *supra* note 137, at 15-16.

¹⁴² Gwen Morrison, *Parent Rage in Youth Sports: Giving the Game Back to Our Children*, IPARENTING (Nov. 1, 2010), <http://www.sp2.upenn.edu/ostrc/pysc/prog/documents/ParentRageInYouthSports.pdf>

¹⁴³ Michael S. James & Tracy Ziemer, *Are Youth Athletes Becoming Bad Sports?*, ABCNEWS (Aug. 8, 2000), <http://abcnews.go.com/Sports/story?id=99665>.

These reports and the consistent survey numbers suggest that when ill-tempered adults tolerate or incite local rules violations, the adults risk neutralizing national safety standards that seek to protect youth leaguers from concussions and other preventable injury. Dr. Michael Stuart, professor of orthopedic surgery at the Mayo Clinic and USA Hockey's chief medical officer, helped design the organization's recent ban on peewee body checking, but he recognizes that rules changes are not enough: "The hardest thing of all is trying to instill sportsmanship and mutual respect."¹⁴⁴

On the first anniversary of the fateful New Trier-Glenbrook North junior varsity game, a veteran local referee said that "nothing" had changed in Chicago-area high school hockey.¹⁴⁵ "It's just as bad as it ever was," he concluded. "There's kids being carried off the ice every night. You have parents acting like animals in the stands, coaches acting like animals on the bench But when their kid gets hurt, they can't figure out why."¹⁴⁶

a. Medical Research

The link among adult irresponsibility, local rules breakdowns, increased risk of concussions and other serious sports-related injuries finds support in medical research. Researchers have intimated that the United States should perceive "foul play" in youth sports as a "public health concern" for the risk of serious injuries that persistent rules violations pose in games played by millions of children each year.¹⁴⁷

A recent study by the Center for Injury Research and Policy at Nationwide Children's Hospital, one of the nation's most comprehensive pediatric research institutes, demonstrates not only how clean play enhances player safety, but also how dirty play enhances preventable risk.¹⁴⁸ The study concerned nine high school sports: boys' football, soccer, basketball, wrestling and baseball; and girls' soccer, volleyball, basketball and softball.¹⁴⁹

The Children's Hospital researchers estimated that between 2005 and 2007, more than 98,000 injuries in these nine sports were directly related to an act that a referee or disciplinary committee ruled illegal.¹⁵⁰ In four of the nine sports that were studied, illegal acts were responsible for more than ten percent of injuries: boys' soccer (11.4%), girls' soccer (11.9%), boys' basketball (10.3%), and girls' basketball (14.0%).¹⁵¹ Thirty-two percent of these injuries were to the head or face, and twenty-five percent were concussions.¹⁵²

The Children's Hospital study was unequivocal: "Reducing the number of injuries attributable to illegal activity in general among United States high school athletes can specifically reduce the number of injuries to the head/face and concussions."¹⁵³

To spur injury reduction, the Children's Hospital researchers urged better local rules

¹⁴⁴ Lisa Kocian, *Checking Head Injuries in Winter Sports*, BOSTON GLOBE, May 24, 2012 (quoting Dr. Stuart).

¹⁴⁵ Barry Rozner, *One Year After a Hockey Tragedy, What Has Changed?*, CHI. DAILY HERALD, Nov. 3, 2000, at 1.

¹⁴⁶ *Id.*

¹⁴⁷ S. K. Fields et al., *Violence in Youth Sports: Hazing, Brawling and Foul Play*, 44 BRIT. J. SPORTS MED. 32 (2010).

¹⁴⁸ See Christy Collins et al., *When the Rules of the Game Are Broken: What Proportion of High School Sports-Related Injuries Are Related to Illegal Activity?*, 14 INJURY PREVENTION 34, 34 (2008).

¹⁴⁹ *Id.* at 35.

¹⁵⁰ *Id.* at 34.

¹⁵¹ *Id.* at 35-6.

¹⁵² *Id.* at 36.

¹⁵³ *Id.*

enforcement through “targeted education about the dangers of illegal activity for players, coaches and referees.”¹⁵⁴ “Each sport has . . . rules developed to promote fair competition and protect participants from injury,” the researchers explained.¹⁵⁵ “[E]nforcing rules and punishing illegal activity is a risk control measure that may reduce injury rates by modifying players’ behavior.”¹⁵⁶

b. *Abuse of Game Officials*

The American Academy of Pediatrics reports agreement among sports medicine professionals that “[o]fficials controlling the physicality of the game . . . can . . . play significant roles in reducing contact injuries.”¹⁵⁷ Another recent medical study concurs that “[t]o be effective for promoting safety,” a youth sport’s rules “must be enforced rigorously and consistently by referees and leagues.”¹⁵⁸

In many communities, however, parents and coaches thwart rigorous, consistent rules enforcement by creating directly or indirectly a chronic shortage of referees and other game officials.¹⁵⁹ A primary reason for the chronic shortage is the steady exodus of experienced officials who grow disgusted with the verbal, and sometimes physical, abuse inflicted on them by adults on the benches and in the stands.¹⁶⁰ Efforts to recruit replacement officials may not keep pace with attrition because, according to the *Deseret Morning News*, “[b]rand-new officials often suffer through their first season of abuse before deciding that refereeing just isn't worth it.”¹⁶¹

“Officiating a youth sports game is becoming an increasingly risky job,” explains Positive Coaching Alliance executive director Jim Thompson, who says, “[y]outh sports officials are under attack – literally.”¹⁶² The risk has increased so much that the National Association of Sports Officials offers youth sports officials insurance for “injuries suffered when an official is the victim of an assault and/or battery by a spectator, fan or participant.”¹⁶³

Particularly in contact or collision youth sports at older age levels, player safety suffers when veteran officials hang up their whistles each year. Many replacement officials are inexperienced and unprepared for responsibilities thrust on them, and frequently unable to keep up with fast-paced games. But for the veteran officials’ departures, many replacements would not be on the field.

¹⁵⁴ *Id.* at 34.

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*; see also, U.S. CENTERS FOR DISEASE CONTROL AND PREV., *Nonfatal Traumatic Brain Injuries Related to Sports and Recreation Activities Among Persons Ages Under 19 Years -- United States, 2001-2009*, 60 MORBIDITY AND MORTALITY WEEKLY REP. 1337, 1340 (2011) (advising that to help prevent concussions and other traumatic brain injury, the agency urges “adhering to rules of play with good sportsmanship and strict officiating”).

¹⁵⁷ Koutures & Gregory, *supra* note 79, at 410.

¹⁵⁸ Tator et al., *supra* note 133, at 455.

¹⁵⁹ Abrams, *supra* note 33 at 260-61.

¹⁶⁰ CANTU & HYMAN, *supra* note 26, at 153.

¹⁶¹ Dan Rasmussen, *Referee Shortage Hurting Soccer*, DESERET MORNING NEWS (Utah), Apr. 26, 2005.

¹⁶² JIM THOMPSON, *THE DOUBLE-GOAL COACH* 4 (2003).

¹⁶³ *The Need for Comprehensive Protection*, NAT’L ASSOC. OF SPORTS OFFICIAL, 6, http://www.naso.org/Portals/0/downloads/SOS-Insurance_2012.pdf

II. THE LAW'S ROLE IN YOUTH SPORTS SAFETY

A. Recent State Concussion Legislation

"Between 2009 and July 2012, at least thirty-four states have enacted statutes concerning traumatic brain injury. In 2012, at least fourteen states have introduced some type of traumatic brain injury legislation."¹⁶⁴ By targeting concussions in youth sports in such unison,¹⁶⁵ this flurry of nationwide legislative activity demonstrates the persuasive force of both emerging medical research and commentary and the responses and expectations of parents and sports safety advocates.

Nearly all the new statutes require that before each season, state education departments or local boards of education provide parents, coaches, administrators and players with information and education about the nature and dangers of concussions, how to recognize symptoms of potential brain trauma, and how to help insure healthy recovery.¹⁶⁶ Some of the statutes contemplate provision of written materials, and others specify face-to-face group presentations.¹⁶⁷

Most of the new statutes also require that coaches immediately remove from a practice session or game any player suspected to have suffered a concussion.¹⁶⁸ Most also specify that the player may not return to action until a physician or other licensed medical professional clears the player and affirms that return is medically appropriate.¹⁶⁹

The new concussion statutes take giant steps in the right direction, but they do not displace safety-based review and enforcement of playing rules. The statutes merely establish prudent protocols for preventing and reacting to actual and suspected concussions that players suffer in practice sessions and games.

Nor do the statutes' protocols appear to protect all young athletes who need the law's protection. For example, many of the statutes do not appear to reach private youth sports associations, even ones that enroll millions of children and use public fields and other facilities under permits or licenses granted by local government bodies.¹⁷⁰ The legislature surely "may take one step at a time, addressing itself to the phase of the problem which seems most acute to the legislative mind,"¹⁷¹ but child safety advises extending the statutory mandates to these associations. Government agencies have long held discretionary authority to regulate private use of public property that charters, statutes, or ordinances commit to agency management.¹⁷²

¹⁶⁴ *Traumatic Brain Injury Legislation*, NAT'L CONF. OF STATE LEGIS., (July 2012) <http://www.ncsl.org/issues-research/health/traumatic-brain-injury-legislation.aspx> .

¹⁶⁵ *Id.* (presenting state-by-state summary).

¹⁶⁶ *See, e.g.*, 2011 ALASKA SESS. L., ch. 12; 2011 IND. ACTS, P.L. 144; 2011 KAN. SESS. L., ch. 45.

¹⁶⁷ *See, e.g.*, CONN. ACTS, P.S. 1062 (Reg. Sess.) (requiring that coaches complete annual training and review, and complete refresher courses once every five years); 2011 IND. ACTS, P.L. 144 (Dep't of Educ. must develop and disseminate guidelines, information sheets and forms).

¹⁶⁸ *See, e.g.*, TRAUMATIC BRAIN INJURY LEGISLATION, *supra* note 164 (presenting state-by-state summary).

¹⁶⁹ *Id.*

¹⁷⁰ *See, e.g.*, 2011 ARIZ. SESS. L., ch. 167 (school boards); 2011 COLO. SESS. L., ch. 67 (youth athletic interscholastic activity in public and private middle, junior and high schools); 2011 MINN. L., ch. 90 (organizations that charge a fee for a youth athletic activity).

¹⁷¹ *Williamson v. Lee Optical of Okla., Inc.*, 348 U.S. 483, 489 (1955).

¹⁷² EUGENE MCQUILLIN, *THE LAW OF MUNICIPAL CORPORATIONS* §§ 28.68, 28.69 (2009 rev.); *see also* CHARLES J. RUSSO, *REUTTER'S THE LAW OF PUBLIC EDUCATION* 376-80 (7th ed. 2009) ("uses of school property").

The new statutes' implementation remain challenging because most coaches and game officials, who are not medical professionals, may lack first-aid training and typically must make immediate on-the-spot decisions without medical advice.¹⁷³ Less than half of high schools have certified athletic trainers on staff, and many high schools do not enlist local volunteer physicians to play formal roles at practices and games.¹⁷⁴ In community youth leagues, certified trainers are rare indeed.

Youth sports programs should perceive the new statutes as invitations to take proactive measures not explicitly mandated in the legislation, including the hiring of certified trainers.¹⁷⁵ In the absence of certified trainers, youth leagues and high school teams alike should enlist medically trained volunteers to serve on the staff at practices and games, with the authority to overrule the coaches' decision not to remove an apparently injured player from the lineup.¹⁷⁶ When I was president, our youth hockey program had a medical committee of parents who were physicians, nurses or emergency medical technicians. At least one such volunteer was assigned to each practice and game, frequently when their own children were playing so that the volunteer would be on the premises anyway.

The youth hockey program instructed coaches to err on the side of caution when a player took a hit and came to the bench disoriented. "You can play with a big bruise or hip flexor," explains Dr. Cantu, but "[t]here is never a scenario in which playing with a head or spinal injury, or a suspicion of such an injury, should be condoned."¹⁷⁷ Our hockey program's bywords were, "When in doubt, sit them out." Feelings of disorientation can be "after-shocks of brain trauma"¹⁷⁸ and, as the National Institutes of Health recognizes, children "have many decades of life ahead."¹⁷⁹

B. Litigation

The law's prescriptions frequently help shape personal behavior, but we should not exaggerate the current role of tort litigation in preventing concussions and other avoidable youth sports injuries. The specter of lawsuits by injured players might accelerate safety initiatives by stimulating the sensibilities of rule makers and other concerned adults, by jeopardizing the availability of insurance at favorable rates, or by leaving individual parents

¹⁷³ See, e.g., Shubha Singh et al., *Gymnastics-Related Injuries to Children Treated in Emergency Departments in the United States, 1990-2005*, 121 PEDIATRICS e954-e958-59 (2008) ("Prevention of gymnastics-related injuries depends on the establishment and universal enforcement of uniform rules and regulations for gymnasts, coaches, and spotters. . . . [A] set of uniform rules and regulations has not been developed or implemented. Whereas some high school gymnastics programs and private gyms require safety training for their gymnasts and coaches, many fail to implement such training programs").

¹⁷⁴ See, e.g., CANTU & HYMAN, *supra* note 26, at 125 ("Every high school in America should have a full-time athletic trainer"); Brooke de Lench, *Athletic Trainers: Every High School Should Have One*, MOMSTEAM (May 23, 2012), <http://www.momsteam.com/team-of-experts/athletic-trainer-AT-every-school-should-have-one>.

¹⁷⁵ CANTU & HYMAN, *supra* note 26.

¹⁷⁶ Brooke de Lench, *Coaches: Part of Concussion Solution or Problem?*, MOMSTEAM (May 21, 2012), <http://www.momsteam.com/team-of-experts/coaches-part-of-concussion-problem-or-solution> (reporting 2012 survey in which "fully half of parents with children age 12 to 17 playing school sports admitted knowing of a coach who would have a player return to sports too soon after a concussion") (emphasis in original).

¹⁷⁷ CANTU & HYMAN, *supra* note 26, at 146.

¹⁷⁸ CULVERHOUSE, *supra* note 78, at 62.

¹⁷⁹ NIH CONSENSUS DEV. PROGRAM, *supra* note 25, at 9.

reluctant to enroll their children. Any such potential long-term influence on prevention efforts has only residual effects on a player injured today.

Regardless of whether lax rules enforcement may have contributed to the underlying injury, a negligence suit against governing bodies, leagues, or coaches can only compensate a youth leaguer for injuries that have already occurred. A third or more of the recovery after settlement or trial may go to the plaintiff's lawyer under the contingent-fee retainers common in personal injury suits.¹⁸⁰ Compensation can react to damage and is no small matter to a family facing medical expenses, but compensation does nothing to reverse the player's immediate and sometimes permanent injury.

With the sufficiency of USA Hockey's national safety standards not in issue,¹⁸¹ tort law reacted to Chicago-area hockey player's Neal Goss' quadriplegia as best it could. Facing lifetime costs for medical and around-the-clock personal care, the Goss family filed a multimillion-dollar civil damage action alleging that five defendants negligently failed to control the game – the Glenbrook North opponent; the Glenbrook North coach; the Illinois Hockey Officials Association; the Northbrook Hockey League, which sponsored the Glenbrook North team; and the Amateur Hockey Association of Illinois.¹⁸² The parties reached private settlements in some of the civil suits, and USA Hockey's insurance helped meet the bedridden Neal Goss' expenses for lifelong care.¹⁸³

CONCLUSION

Discussion about the serious consequences of sports-related concussions “can no longer really be called a debate,” because seriousness has become “a widely accepted fact.”¹⁸⁴ Former Montreal Canadiens' hockey goaltender Ken Dryden writes, “[h]ead injuries have become an overwhelming fact of life in sports” because of “[t]he immensity of the number, the prominence of the names, the life-altering impact on their lives, and, more disturbingly, if that's possible, the now sheer *routineness* of their occurrence.”¹⁸⁵ Evidently, from swelling youth sports enrollments and greater willingness to report traumatic brain injury, reported concussions in high school sports have been rising at a fifteen percent annual rate.¹⁸⁶ Experts predict even higher pediatric sports-related concussion rates in the foreseeable future.¹⁸⁷

“[T]he concussion problem in football and other contact sports is far more serious than any of us want to believe, and it is time to do something about it,” says former football

¹⁸⁰ See ABA MODEL RULES OF PROFESSIONAL CONDUCT, Rule 1.5(c), (d) (2011).

¹⁸¹ Abrams, *supra* note 137, at 10.

¹⁸² O'Matz, *supra* note 135.

¹⁸³ Lisa Black & Susan Berger, *Turning Tragedy Into Victory*, CHI. TRIB., Jan. 4, 2007, at 1.

¹⁸⁴ Simpson, *supra* note 65.

¹⁸⁵ Ken Dryden, *Time for the NHL to Get Head Smart*, GRANTLAND (Sept 30, 2011),

http://www.grantland.com/story/_id/7036426/time-nhl-get-head-smart (emphasis in original); see also, Rosemarie S. Moser et al., *Neuropsychological Evaluation in the Diagnosis and Management of Sports-Related Concussions*, 22 ARCHS. CLIN. NEUROPSYCHOLOGY 909, 910 (2007) (“Concussions are common injuries in athletics” at the professional and amateur levels).

¹⁸⁶ Lindsay Barton, *Concussions in High School Sports Rising at 15% Annual Rate, Study Finds*, MOMSTEAM (Aug. 22, 2011), <http://www.momsteam.com/softball/concussion-in-high-school-sports-rising-fifteen-percent-new-study-finds#ixzz22VP80y8B>.

¹⁸⁷ Halstead & Walter, *supra* note 75, at 599.

player, professional wrestler and Minnesota Governor Jesse Ventura.¹⁸⁸ Two researchers report that, “[e]ven 10 years ago, a young athlete with a ‘ding’ or low-grade concussion would have been allowed to return to sports as soon as 15 minutes after his or her symptoms had cleared.”¹⁸⁹ Former Tampa Bay Buccaneers president Gay Culverhouse reports that as late as 2006, rushing a player back from a concussion was “standard operating procedure in the NFL. Concussions were not taken seriously. . . . This was the culture of the time. Your teammates expected you to play, and your coaches expected you on the field on game day.”¹⁹⁰

Today, more adults and children¹⁹¹ are coming to respect concussions for what they are – traumatic brain injuries that can leave their young victims less able to learn in school, perform functions of everyday life, and perhaps enjoy adulthood free from chronic pain, cognitive dysfunction and possible mental deterioration.¹⁹²

“Unlike other anatomical areas such as our bones, muscles, ligaments, and tendons, our brain tissue has relatively little ability to heal and repair itself.”¹⁹³ “While today many parts of the body can be replaced either by artificial hardware or transplantation, the brain cannot be replaced.”¹⁹⁴ With the stakes so high, says CNN chief medical correspondent and neurosurgeon Sanjay Gupta, “we owe it to our . . . kids . . . to make them as safe as we know how to do, and we can do a lot better than we have been doing.”¹⁹⁵

The primary focus belongs on prevention, which begins with parents, medical professionals, journalists, and legislators who influence national youth sports governing bodies and state high school activities associations to continue evaluating playing rules to maintain the essence of particular sports while also making play as safe as possible.¹⁹⁶ Proposals for further safety-based rules changes warrant careful attention.¹⁹⁷ Reacting favorably to Pop Warner’s recent changes, for example, the *Boston Globe* urged the organization to “consider further limits, including those that affect games, not just practices. Wisely, the organization hasn’t ruled out a ban on the three-point stance, which puts linemen in the position of starting plays with heads out front.”¹⁹⁸

Prominent neurosurgeon Robert Cantu would go even further. He recommends postponement of tackling in football, body checking in hockey and heading the ball in soccer

¹⁸⁸ Jesse Ventura, Introduction, in NOWINSKI, *supra* note 57, at ix.

¹⁸⁹ Halstead & Walter, *supra* note 75, at 597; see also DAVE MEGGYESY, OUT OF THEIR LEAGUE 125 (1970) (writing that a former NFL outside linebacker; “Getting ‘dinged’ means getting hit in the head so hard that your memory is affected, although you can still walk around, and sometimes even continue playing. You don’t feel pain, and the only way other players or the coaches know you’ve been ‘dinged’ is when they realize you can’t remember plays.”).

¹⁹⁰ CULVERHOUSE, *supra* note 78, at 64.

¹⁹¹ Roy McGregor, *The Crosby Effect*, GLOBE AND MAIL (Canada), Feb 28, 2011, at S1.

¹⁹² McCrory et al., *supra* note 87, at 517; MEEHAN III, *supra* note 28, at 11-28.

¹⁹³ Lyle J. Micheli, *Foreword*, in MEEHAN III, *supra* note 24, at xi.

¹⁹⁴ Robert C. Cantu, *Foreword*, in NOWINSKI, *supra* note 57, at vii.

¹⁹⁵ *Tackling the Dangers of Concussions*, DAILY NEWS OF L.A., Jan. 26, 2012, at L1 (quoting Dr. Gupta).

¹⁹⁶ NOWINSKI, *supra* note 57, at 168-69 (“change will be difficult without pressure from the grassroots level”).

¹⁹⁷ See, e.g., *Policy Statement: Baseball and Softball*, 129 PEDIATRICS e842, e852-53 (2012) (making recommendations for further safety measures); Charles Randazzo et al., *Basketball-Related Injuries in School-Aged Children and Adolescents in 1997-2007*, 126 PEDIATRICS 727, 732 (2010) (“For young children, age-appropriate basketballs should be used, which may decrease the rates of concussions . . . , and rough play should be discouraged, to minimize collisions.”).

¹⁹⁸ *Football Must Limit Hits*, BOSTON GLOBE, July 1, 2012, at K8 (editorial).

until players have turned fourteen.¹⁹⁹ Other voices support Dr. Cantu's well-articulated position.²⁰⁰

"Consistent and diligent enforcement of the rules and regulations of the game," says Dr. William P. Meehan, "may be one of the most effective ways of reducing the risk of sport-related concussions."²⁰¹ Ultimate responsibility for enforcement resides at the local level with coaches, league administrators, game officials and parents, even ones whose children play clean and cause no trouble. The player lying prone on the ice at the end of the 1999 Chicago junior varsity hockey game could have been any parent's child. Neal Goss happened to be in the wrong place at the wrong time, the victim of impulsive violence outside the rules of the game. If the adults had maintained their self-control from the start, he would likely have walked out of the rink because players trained and supervised by responsible adults do not race several yards to drive opponents' faces into the ground at the end of a game.

As our nation confronts an epidemic of pediatric obesity,²⁰² we serve children best when we encourage participation in sports by reassuring them and their families that they can be play vigorously yet safely. As the law continues responding to the youth sports concussion crisis, the response does not displace need for ongoing review and responsible local enforcement of playing rules. The recent preventive rule changes made by USA Hockey and Pop Warner football demonstrate how medical research and advocacy for greater safety can prevail over charges that rule changes seek to "sissify" collision and contact sports. Speaking in support of Pop Warner's rules changes, University of Alabama football coach Nick Saban explained, "Anytime you change something, people will say no, they've done it this way for a long time. But there's always a better way."²⁰³

Two years after the 1905 White House intercollegiate football summit that opened this Article, President Theodore Roosevelt addressed youth sports in a message to the Washington Playground Association:

City streets are unsatisfactory playgrounds for children because of the danger, because most good games are against the law, because they are too hot in summer, and because in crowded sections of the city they are apt to be schools of crime. Neither do small back yards nor ornamental grass plots meet the needs of any but the very small children. Older children who would play vigorous games must have places especially set aside for them; and, since play is a fundamental need, playgrounds should be provided for every child as much as schools. This means that they must be distributed over the cities in

¹⁹⁹ CANTU & HYMAN, *supra* note 26, at 144-49, 152-53.

²⁰⁰ See, e.g., Joe Nocera, *supra* note 102, at A21 (quoting former Dallas Cowboy tight end Jean Fugett, now a Baltimore lawyer living in constant pain from his playing days, who says that youngsters should not play tackle football before high school because their bodies are not ready).

²⁰¹ MEEHAN III, *supra* note 28, at 121.

²⁰² See, e.g., *Obesity Rates Among All Children in the United States*, CTRS. FOR DISEASE CONTROL & PREVENTION (Aug. 28, 2012), <http://www.cdc.gov/obesity/data/childhood.html>; The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity, U.S. DEPT. OF HEALTH & HUMAN SERVS., at xiii, 19 (2001).

²⁰³ Farrey, *supra* note 108 (quoting Saban).

such a way as to be within walking distance of every boy and girl, as most children can not afford to pay carfare.²⁰⁴

The face of youth sports has changed dramatically since Roosevelt's time. Until a few decades ago, American children generally conducted many of their own games on local playgrounds or sandlots without adult involvement.²⁰⁵ Today adults conduct most youth sports in private associations, public agencies such as parks and recreation departments and high school activities associations.²⁰⁶ Roosevelt's message to the Washington Playground Association suggests that he would applaud efforts to provide children the safe competition and personal growth that remain the promises of youth sports.

²⁰⁴ Letter to Cuno H. Rudolph, Washington Playground Association, Presidential Addresses and State Papers VI, 1163, THEODORE ROOSEVELT ASS'N, <http://www.theodoreroosevelt.org/life/quotes.htm>.

²⁰⁵ Abrams, *supra* note 33, at 264.

²⁰⁶ Am. Acad. of Pediatrics, *Organized Sports for Children and Adolescents*, 107 PEDIATRICS 1459 (2001).

Second-Impact Syndrome and a Small Subdural Hematoma: An Uncommon Catastrophic Result of Repetitive Head Injury with a Characteristic Imaging Appearance

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Abstract

There have been a handful of previously published cases of athletes who were still symptomatic from a prior head injury, and then suffered a second injury in which a thin, acute subdural hematoma (SDH) with unilateral hemisphere vascular engorgement was demonstrated on CT scan. In those cases, the cause of the brain swelling/dysautoregulation was ascribed to the presence of the acute SDH rather than to the acceleration/deceleration forces that caused the SDH. We believe that the brain swelling is due to "second-impact dysautoregulation," rather than due to the effect of the SDH on the underlying hemisphere. To support our hypothesis, we present 10 additional cases of acute hemispheric swelling in association with small SDHs in athletes who received a second head injury while still symptomatic from a previous head injury. The clinical history and the unique neuroimaging features of this entity on CT are described and illustrated in detail. The CT findings included an engorged cerebral hemisphere with initial preservation of grey-white matter differentiation, and abnormal mass effect and midline shift that appeared disproportionately greater than the size of the SDH. In addition, the imaging similarities between our patients and those with non-accidental head trauma (shaken-baby syndrome) will be discussed.

Key words: acute subdural hematoma; cerebral swelling; dysautoregulation; non-accidental head trauma; second-impact syndrome, shaken-baby syndrome; vascular brain engorgement

Introduction

WHAT SAUNDERS AND HARBAUGH (Saunders and Harbaugh, 1984) called "the second-impact syndrome of catastrophic head injury" was actually first described by Schneider (Schneider 1973). The syndrome occurs when an athlete sustains an initial head injury and then suffers a second head injury before the symptoms associated with the first impact have cleared, (Cantu, 1995; Cantu and Voy, 1995; Schnitker, 1949). Typically, the athlete suffers post-concussion symptoms after the first head injury, which may include headache; labyrinthine dysfunction; visual, motor, or sensory changes; or mental difficulty, especially cognitive and memory problems. Before these symptoms resolve, which may take days or weeks, the athlete returns to competition and receives a second blow to the head. The second blow may be remarkably minor, perhaps involving only a blow to the chest

that indirectly injures the athlete's head by imparting accelerative forces to the brain. The affected athlete may appear stunned, but usually does not experience loss of consciousness (LOC) and in the case of football, he often completes the play. Indeed, the individual usually remains on their feet for 15 sec to 1 min or so, but appears dazed, like someone suffering from a grade 1 concussion without LOC. Frequently the affected athlete remains on the playing field or walks off under their own power. What happens in the next few seconds to several minutes, however, sets this syndrome apart from a concussion. During this period the athlete, who is conscious yet stunned, quite precipitously collapses to the ground, semicomatose with rapidly dilating pupils, loss of eye movement, and respiratory failure. Although the vast majority of the second-impact syndrome (SIS) cases in the literature involve athletes under the age of 18, it can also be seen in college athletes, as our experiences and those of others indicate, (Mori

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et al., 2006). Herein we demonstrate that in addition to this characteristic clinical scenario, the admission and follow-up imaging findings are also remarkably similar in these patients.

Pathophysiology of Second-Impact Syndrome

The pathophysiology of the SIS is controversial, but it is generally believed to be caused by a loss of autoregulation of the cerebrovasculature (Cantu, 2000; Junger et al., 1997; Strebel et al., 1997). This dysautoregulation leads to hyperemic brain swelling within the cranium, which in turn increases intracranial pressure (ICP), and causes subsequent inferomedial herniation of the temporal lobes, herniation of the cerebellar tonsils through the foramen magnum, and brainstem compression. Animal research has shown that vascular engorgement of the brain after mild head injury can be difficult, if not impossible, to control (Langfitt et al., 1965; McQuillen et al., 1988). As mentioned above, the usual time period from the second impact to brainstem failure is rapid, taking 2–5 min. Once brain herniation and brainstem compromise occur, ocular involvement and respiratory failure precipitously ensue. Of note, clinical deterioration occurs far more rapidly than is usually seen with an epidural hematoma (Cantu, 1995). CT and MRI can demonstrate the imaging manifestations and complications of SIS. Specifically, they reveal the initial cerebral hyperemic swelling, brain herniation, post-herniation ischemia, and potential intracranial hemorrhage (Le and Gean, 2009). Although MRI can more precisely characterize the injury, CT is the initial imaging study of choice, because it rapidly and accurately demonstrates intracranial hemorrhage and midline shift that may require immediate neurosurgical intervention (Orrison et al., 1994). Furthermore, CT technology more easily handles the life-support equipment that usually accompanies these patients.

While the SIS may not always occur with intracranial hemorrhage, a number of cases have been reported recently in which acute hemispheric swelling occurred in association with a thin subdural hematoma (SDH) in athletes who received a second injury while still clinically symptomatic from the first impact (Mori et al., 2006). Those authors presented four cases of their own and four cases from the literature. We present 10 additional cases of what is thought to be SIS in association with a thin acute SDH. Further, we carefully scrutinized the imaging characteristics of these patients.

Methods

Eighteen prior published cases of repetitive head injury while the athlete was still symptomatic from a prior head injury, including eight with a thin, acute SDH, have been reported (Mori et al., 2006). Here we add 10 new cases of our own, all of which were characterized by a small acute SDH, associated with impressive cerebrovascular engorgement (brain swelling) on admission CT (Table 1). Our cases were analyzed with regard to gender, age, sport, duration of symptoms before the second injury, and Glasgow Coma Scale score (GCS) after the second injury. CT and MRI examinations, when available, were assessed for the following features: (1) maximal thickness of the SDH, (2) heterogeneity of the SDH, (3) degree of midline shift, (4) effacement of basal cisterns and cerebral sulci, (5) brainstem distortion, (6) the presence of intra-axial hemorrhage (e.g., contusions or traumatic axonal

injury), (7) hemispheric asymmetry (defined as the thickness of the hemisphere measured at the level of the lateral ventricles), (8) preservation of hemispheric gray-white matter differentiation, and (9) post-traumatic ischemic infarction on the follow-up imaging study (when available). All of the studies were reviewed by both a board-certified neuroradiologist with >25 years of experience in interpreting neurotrauma images at a level 1 trauma center (A.D.G.), and a board-certified neurosurgeon with >40 years of experience in reviewing CT images (R.C.C.).

Results

Case 1

A 13-year-old eighth-grade middle school football player was involved in a helmet-to-helmet collision while attempting to recover a fumble of a kick off. He was not rendered unconscious, and he was able to walk back into the huddle where he complained of a headache and dizziness. Despite these post-concussion symptoms he remained in the game. On videotape, he was observed to miss assignments by lining up inappropriately both in the huddle and in the wrong position for the play. Several minutes after a less severe hit, he precipitously became comatose on the field with fixed, dilated pupils, no gag reflex, and labored respirations. He was intubated and emergently transported to the hospital where his GCS score was 7. An emergent head CT scan revealed a small right convexity acute SDH with severe midline shift and mass effect that appeared disproportionate to the size of the collection. An urgent right frontotemporal-parietal craniotomy was performed and the acute SDH was removed. No active bleeding site was found, but massive swelling was observed. Due to a persistent elevation in ICP, a second surgical procedure (left frontotemporo-parietal decompressive craniectomy) was performed several days later. The child survived with severe cognitive, motor, and sensory deficits.

Case 2

A 16-year-old high school football player developed a headache after making a tackle late in the game. The headache persisted over the next week, but he did not tell his coaches. During the next game, he became dazed after he was tackled with a head hit. Several minutes later he lapsed into a coma on the field with agonal respirations. At the hospital his GCS score was 4. The admission head CT scan showed a small left hemispheric acute SDH with severe ipsilateral hemispheric swelling and midline shift. The patient was urgently taken to surgery where the acute SDH was removed and a severely hyperemic brain was observed. Postoperatively, the brain swelling was treated with mannitol and controlled ventilation. The patient survived with severe cognitive and right-sided hemiplegic deficits.

Case 3

A 17-year-old high school quarterback sustained a concussion in a helmet-to-helmet collision. Despite a headache and notably diminished skills, he continued to play and finished the game. Two weeks later, despite still experiencing a headache, he played the entire first half of the game as the starting quarterback and free safety. In the third quarter after scoring his third touchdown, he told his coach that he felt

TABLE 1. TEN CASES OF SECOND-IMPACT SYNDROME AND A SMALL SUBDURAL HEMATOMA

Case	Age/gender	Sport	First injury	Ongoing S/S	Delay to second injury (days)	Second injury	Head CT	GCS score/outcome
1	13/male	AF	-LOC	Headache, dizziness	0	-LOC/RC	ASDH/UHS	7/SND
2	16/male	AF	-LOC	Headache	7	-LOC/RC	ASDH/UHS	4/SND
3	17/male	AF	-LOC	Headache	14	-LOC/RC	ASDH/UHS	3/SND
4	19/male	AF	-LOC	Headache	32	+LOC/RC	ASDH/UHS	5/D
5	15/male	AF	-LOC	Headache	7	-LOC/RC	ASDH/UHS	4/SND
6	15/male	AF	-LOC	Headache	14	-LOC/RC	ASDH/UHS	4/SND
7	17/male	AF	-LOC	Bell rung	0	-LOC/RC	ASDH/UHS	4/SND
8	16/male	AF	-LOC	Headache	3	-LOC/RC	ASDH/UHS	3/D
9	16/male	AF	-LOC	Headache	28	-LOC/RC	ASDH/UHS	3/D
10	10/female	AF	-LOC	Headache	3	-LOC/RC	ASDH/UHS	3/D

AF, American football; -LOC/RC, no loss of consciousness with rapid deterioration to deep coma in minutes; +LOC, loss of consciousness; ASDH/UHS, thin acute subdural hematoma with marked unilateral hemisphere swelling; SND, severe neurological deficit; D, death; S/S, signs and symptoms; GCS, Glasgow Coma Scale; CT, computed tomography.

“weird” and indicated that his vision was “blotchy,” like he was “looking into the sun.” His coach apparently saw no reason for concern and allowed him to remain on the sidelines without seeking medical attention. His fellow players, who were aware that he had a progressively more intense headache, helped him as he lay on the ground seeking relief. The headache progressed to the point where he began crying, and a towel was placed over his head so that friends and family in the stands could not see him crying. Eventually, an electric car was brought to the sidelines and he was driven to the trainer’s locker room area, where he lapsed into coma. He was airlifted to the hospital where he arrived with a GCS score of 3. Head CT showed a small acute SDH with massive unilateral hemisphere swelling. Despite urgent neurosurgical evacuation of the acute SDH he died, with severe uncal and tonsillar herniation noted at post-mortem examination.

“worst headache of my life.” He played nonetheless, not telling coaches or trainers about his headache. He was involved in several significant hits, including one to the back of his head. He came off the field on his own, but within minutes lapsed into a coma with fixed and dilated pupils. At the hospital his GCS score was 4. Admission head CT showed a small acute SDH with disproportionate cerebral hyperemic swelling. An emergency craniotomy and removal of the SDH was performed. He ultimately made a remarkable recovery and was able to return to school, where his grades were B’s and C’s, down from A’s and B’s. He currently has dense right homonymous hemianopia and right hemiparesis.

Case 6

A 15-year-old high school linebacker suffered a concussion in a scrimmage, and a fellow linebacker said that after the hit he was “dazed and confused, out of it.” The trainer documented dizziness and headache, but there was no follow-up of the head injury. In the subsequent days, the patient reported having a headache to his mother, who gave him acetaminophen. In a game 2 weeks later he received a helmet-to-helmet hit and was assisted to the bench. Shortly thereafter he vomited, collapsed, and became unresponsive with decorticate posturing. At the hospital he was comatose with a GCS score of 5. He had a dilated left pupil, inadequate respirations, and he responded only to painful stimulation. The emergent head CT showed a small left SDH, abnormal cerebral hyperemic swelling, complete effacement of the basal cisterns, and brainstem distortion (Fig. 1). An emergency craniotomy with evacuation of the SDH was performed. Postoperative CT and MRI exams revealed multifocal ischemic infarction. He has been able to return to school at a reduced cognitive level, altered personality, and spasticity of the right limbs.

Case 7

A 17-year-old high school football player was involved in several hard tackles and appeared stunned, though he did not leave the game. Later, after a hard hit in which his head

Case 4

A 19-year-old college football player sustained two separate concussions 4 days apart due to helmet-to-helmet hits. He was held out 2 weeks, but he was still symptomatic with headaches when he played 1 month later. In that game he received another helmet-to-helmet hit, briefly lost consciousness, regained consciousness, attempted to stand up, and then lapsed into a coma. He was decerebrate at the hospital, with a fixed 5-mm right pupil and a fixed 1-mm left pupil. His GCS score was 5. An emergency CT showed a small right SDH with abnormal cerebral hyperemic swelling. The patient was rushed to the operating room and the SDH was removed. The neurosurgeon commented that the brain was so swollen that he had to do a hemicraniectomy. One month later the patient was conscious, but could not follow commands. Though there has been neurological improvement, the patient has been left with devastating neurological cognitive, visual, motor, and sensory deficits.

Case 5

A 15-year-old high school football player developed a headache following a game earlier in the week. On the day of the next game, he told his fellow players that he had the

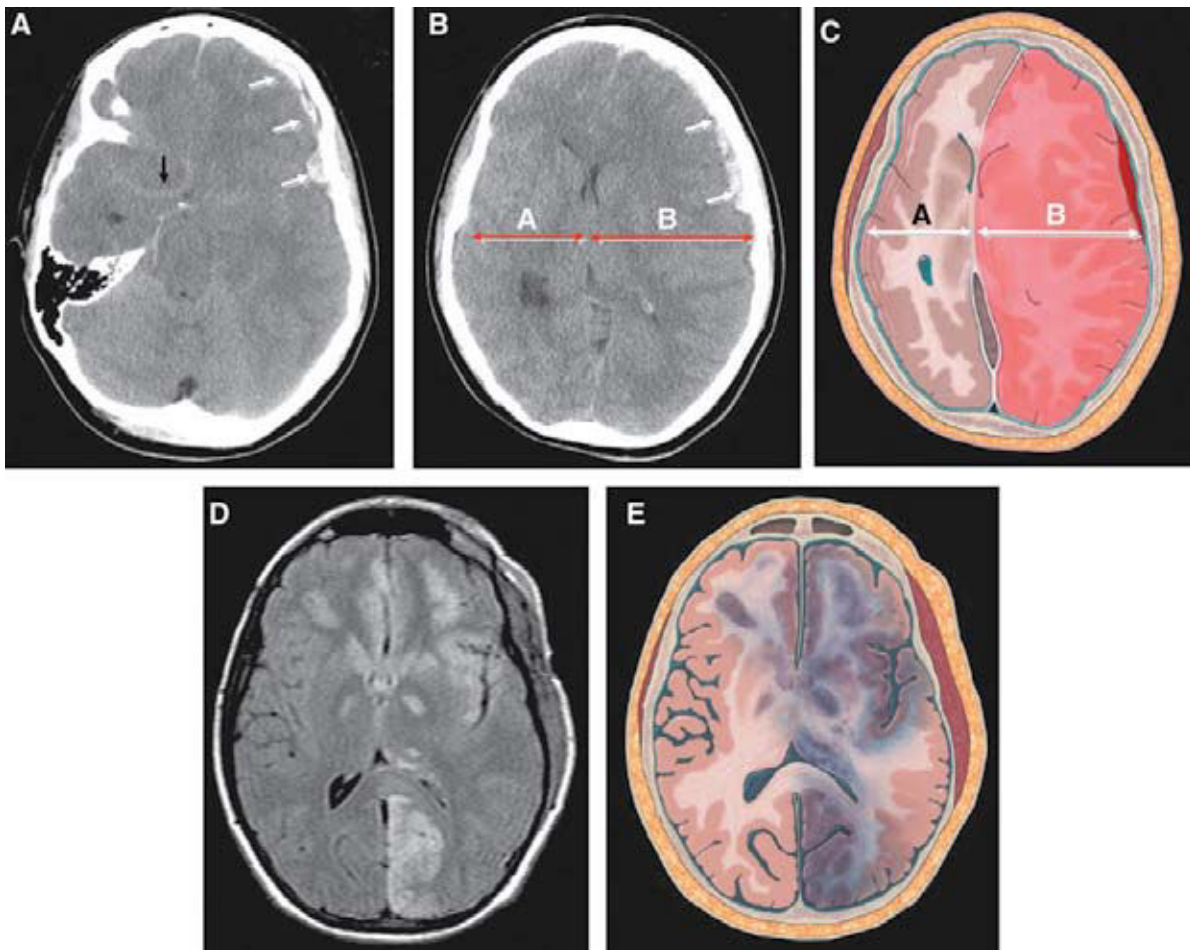


FIG. 1. (Case 6) Typical imaging findings of dysautoregulation/second-impact syndrome (DSIS). (A and B) Admission non-contrast axial CT images, and (C) artist's rendition demonstrate a small heterogeneous left frontal subdural hematoma (SDH; white arrows), that causes complete effacement of the basal cisterns and brainstem distortion. Note the subtle linear increased density in the region of the circle of Willis (black arrow), consistent with "pseudo-subarachnoid hemorrhage," resulting from the marked elevation in intracranial pressure. Although there is preservation of the gray-white matter differentiation, there is asymmetric enlargement of the left hemisphere, consistent with hyperemic cerebral swelling (dysautoregulation). Note how side A is smaller than side B, even though the left hemisphere is mildly compressed by the overlying SDH. The extent of mass effect and midline shift is disproportional to the volume of the SDH (compare with Figs. 3 and 4). This 3-day-postoperative FLAIR MR image (D), and artist's rendition (E), demonstrate bilateral multifocal ischemic lesions involving several vascular territories, including the left posterior cerebral artery, thalamus, insular cortex, basal ganglia, and orbitofrontal cortex. Diffusion-weighted MR images were positive for acute ischemic injury, and the gradient-echo sequence excluded hemorrhage in these areas (not shown).

was violently snapped back, he got up and returned to the huddle, but before the next play could be run he collapsed into a coma. The GCS score at the hospital was 4 and he had a blown right pupil. He was intubated and treated with mannitol. The emergency head CT showed a small right acute SDH with significant right-sided brain swelling and marked midline shift. A right decompressive craniectomy and evacuation of the SDH was performed. His GCS score on the day following the surgery was 6, but it improved to 12 over the next week. He gradually improved over the next few months to the point where he could care for himself, and he ultimately returned to school at a diminished cognitive level.

Case 8

A 16-year-old high school football player sustained a helmet-to-helmet collision during practice. He was briefly unconscious, but the incident was not reported to medical personnel. Thereafter he complained of a severe headache, but played 2 days later. After making and receiving several tackles, he walked off the field and promptly collapsed into a coma. At the hospital his GCS score was 3. The head CT showed a small acute SDH and cerebral hyperemic swelling. Neurosurgery was consulted but it was felt that his was a non-survivable injury and no surgery occurred. He was declared brain dead the following day.

Case 9

A 16-year-old high school football player was “hit hard during scrimmage” and subsequently complained of headaches. He was seen by a physician 4 days later and was advised not to play. A CT scan was obtained at that time but was incorrectly read as negative. Later, a tiny SDH was found to be present. The patient sought a “second-opinion physician” who cleared him to play. He then participated in non-contact practice complaining only of minimal visual difficulty but no headache. During a game 4 weeks later he was “hit from all sides,” and immediately felt tingling and dizzy. He was removed from the game but the team physician failed to examine him. Twelve plays later, he re-entered the game, but then voluntarily walked off the field four plays later feeling nauseated. He became unresponsive within minutes and was life-flighted with a GCS score of 3. The emergent CT exam revealed a holohemispheric heterogeneous left SDH with marked mass effect and midline shift that was disproportionate to the size of the collection (Fig. 2). Emergency evacuation of the SDH and a decompressive hemicraniectomy was performed. Postoperative CT exams revealed post-herniation ischemic infarction involving the anterior and posterior cerebral artery territories. He died several days postoperatively.

Case 10

A 10-year-old girl was playing in the pee-wee football league. She was hit during a scrimmage and voluntarily went to the sideline complaining of dizziness and a headache. During practice 3 days later, she started to cry and said that her head hurt. She took off her helmet and began to vomit. Within minutes she collapsed, lost consciousness, and her pupils became fixed and dilated. Her admission GCS score was 3. An emergent CT scan demonstrated a small heterogeneous SDH and hyperemic swelling of the subjacent

hemisphere. An emergency decompressive hemicraniectomy was performed and the SDH was removed. Marked cerebral swelling was noted at surgery. A follow-up CT study demonstrated severe hypoxic-ischemic injury and external herniation. She died of refractory intracranial hypertension 3 days later.

Discussion

According to the records at the National Center for Catastrophic Sports Injury Research, (Mueller and Cantu, 2009), an acute SDH is the most common cause of death due to head injury in sports. In our own research involving American football, we found that 38% of athletes receiving such an injury were playing while still symptomatic from a prior head injury sustained during that season (Boden et al., 2000). We also found that a number of those athletes experienced dramatic and immediate brain swelling consistent with dysautoregulation and SIS (Boden et al., 2000; Mueller and Cantu, 2009). A recent publication reviewed 18 patients with repetitive head injury who were still symptomatic from a prior head injury (Mori et al., 2006). All of the athletes showed immediate SIS on emergent head CT imaging. The authors also reviewed eight cases of repetitive head injury with a thin acute SDH in combination with “more impressive” brain swelling. The authors were likely correct in their belief that SIS occurs because of the loss of autoregulation of cerebral blood flow, with resultant vascular engorgement, increased ICP, and eventual brain herniation. We believe that they may be incorrect in ascribing the cause of the loss of autoregulation and brain swelling to the thin SDH. Rather, we believe that the cause of the brain swelling in these repetitive head injury cases is the acceleration/deceleration forces that caused both the SDH and SIS. The acceleration forces required to produce an SDH are greater than those required to produce a concussion or SIS

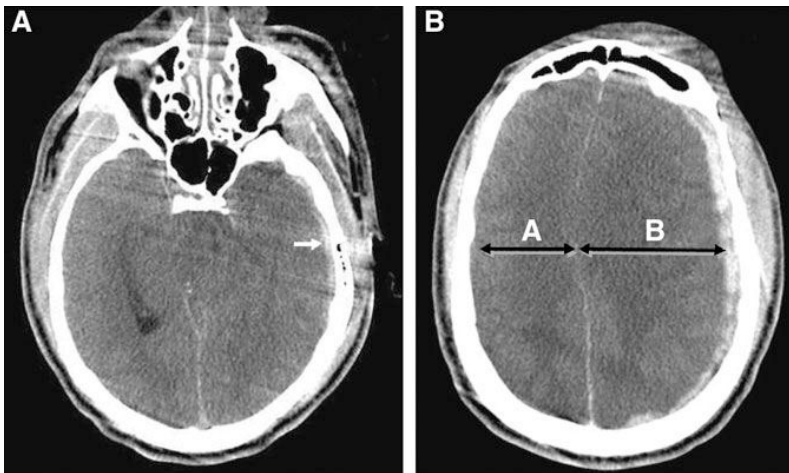


FIG. 2. (Case 9). Typical imaging findings of dysautoregulation/second-impact syndrome (DSIS). (A) Admission non-contrast axial CT image demonstrates a small mildly heterogeneous holohemispheric left temporal subdural hematoma (SDH; arrow), with complete effacement of the perimesencephalic cisterns and convexity sulci, and severe brainstem distortion. (B) An image at the level of the centrum semiovale shows a 9-mm SDH with asymmetrical enlargement of the left hemisphere, and relative preservation of gray-white matter differentiation, consistent with hyperemic cerebral swelling (dysautoregulation). Note how side A is smaller than side B, despite the mild compression from the overlying SDH. The extent of mass effect and midline shift is disproportionate to the volume of the SDH (compare with Figs. 3 and 4).

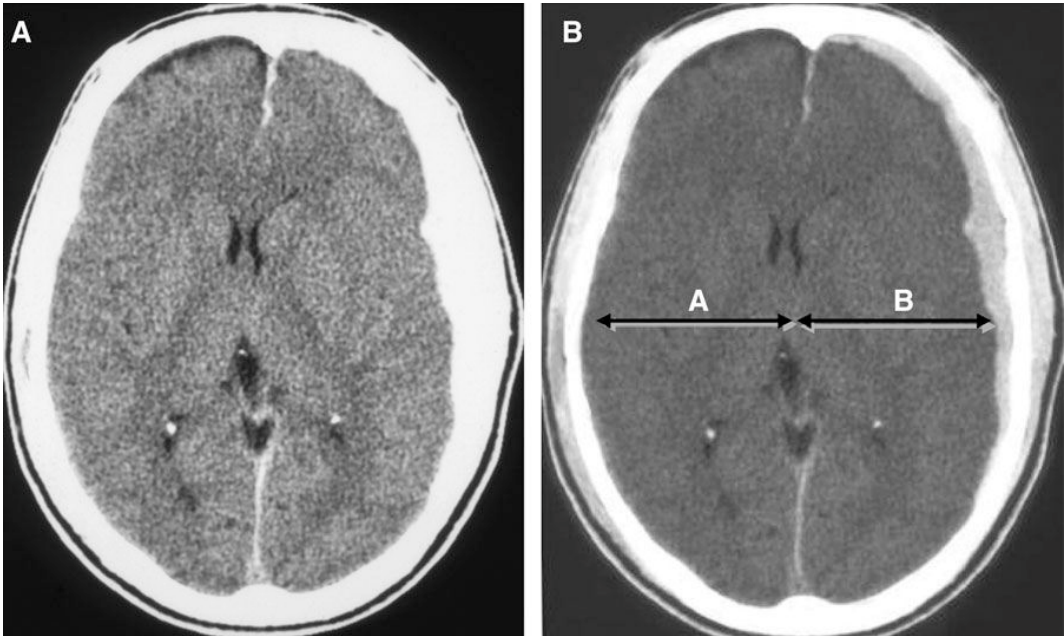


FIG. 3. Typical acute subdural hematoma (SDH) without dysautoregulation/second-impact syndrome (DSIS) in a 17-year-old male following a motor vehicle accident (compare with Figs. 1 and 2). Admission non-contrast axial CT images at narrow (A) and wide (B) window widths demonstrate a small homogeneous left frontal SDH with minimal midline shift. Note how the volumes of the cerebral hemispheres are relatively symmetrical, and that the extent of mass effect and midline shift are proportional to the volume of the SDH.

(Cantu, 2000). Thus, in those athletes receiving a second head injury while still symptomatic from the first impact, and with forces being severe enough to produce a thin SDH, the forces are more than severe enough to produce the SIS. We believe, therefore, that it is the acceleration forces, not the SDH, that produces the vascular engorgement (i.e., SIS), with resultant increased ICP and brain herniation.

Vascular engorgement can definitely be seen following a single injury that results in an SDH. However, in those cases the forces are usually far greater than with SIS, and there is usually instantaneous and prolonged coma secondary to direct reticular activating tract injury, not secondary to brain herniation. The lucid interval, or brief LOC followed by several minutes of being lucid that is characteristic of SIS, is not observed in those cases.

In many acute SDHs, the volume of the extra-axial collection is proportional to the extent of mass effect and midline shift (Fig. 3). In this situation, there is no hyperemic swelling, and no hemispheric asymmetry. In the chronic SDH, depending on the compliance of the underlying brain parenchyma, the collection compresses a non-hyperemic hemisphere (Fig. 4). In this setting, the volume of the hemisphere beneath the SDH is smaller than the contralateral hemisphere.

In the 18 cases reported by Mori (Mori et al., 2006), of male adolescents and young adults who returned to play before symptoms of a prior head injury had resolved, there were 8 patients who had a thin acute SDH in association with unilateral acute hemispheric swelling on brain CT (Mori et al., 2006). In 6 of the 8 cases, there was no LOC with the initial

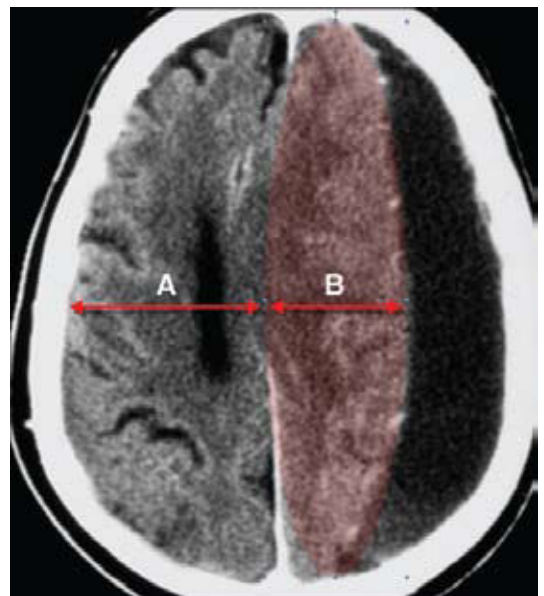


FIG. 4. Typical chronic subdural hematoma (SDH) without dysautoregulation/second-impact syndrome (DSIS) in a 65-year-old male (compare with Figs. 1 and 2). In contrast to DSIS patients, note how the volume of the left hemisphere (highlighted in red) is smaller than the right hemisphere. This is likely due to the absence of cerebral hyperemic swelling (i.e., intact autoregulation), combined with compression by the overlying SDH.

head injury, and all 8 cases had persistent symptoms. After the second head insult, there was no immediate LOC, but within minutes the athlete precipitously lapsed into coma with signs of brain herniation (i.e., the typical SIS scenario).

Similarly, 9 of the 10 patients in our study were young males playing American football, and the 10th patient was a 10-year-old girl playing pee-wee football. There was no LOC with the initial concussion, and they all had persistent post-concussion symptoms. Following the second impact, there was no immediate LOC in 9 patients, and for only seconds in 1 patient, but within minutes of the subsequent hit, all of the athletes rapidly lapsed into a coma with blown pupil, respiratory arrest, and signs of brain herniation; again, the typical SIS scenario.

Nine of our 10 patients were under the age of 18, whereas in Mori's study group 6 out of 8 patients were over the age of 18, including 2 in American football, 2 in boxing, and 1 each from karate and skiing (Mori et al., 2006). This clearly raises the question of whether the recent Zurich guidelines recommending that athletes under the age of 18 should not return to the same contest after a concussion should also be extended to those over the age of 18. While the period between the first injury and the second injury ranged from 0–32 days, the fact that in two instances it was during the same contest supports the concept of not returning an athlete with a concussion to the same contest. Our data also emphasize that many mild concussions, especially in American football, are missed when the athlete does not report symptoms to medical personnel. In the work of Delaney, they found this underreporting rate to be as high as 70% (Delaney et al., 2002).

The above characteristic clinical scenario is also associated with a characteristic imaging scenario. In all of our patients: (1) the maximal thickness of the SDH was <0.5 cm, (2) the SDH was heterogeneous, (3) the basal (perimesencephalic) cisterns and cerebral sulci were completely effaced, (4) the brainstem was morphologically distorted due to uncal and diencephalic herniation, (5) there was no evidence of intra-axial hemorrhage (e.g., contusions or white matter shearing injury), (6) the gray-white matter differentiation was preserved within the cerebral hemispheres on the admission CT, (7) there was "hemispheric asymmetry" (defined as the thickness of the hemisphere measured at the level of the mid-lateral ventricles), and (8) multifocal post-traumatic ischemic infarction was noted on the follow-up imaging study (if the patient survived).

It is tempting to speculate about the imaging similarities between our cohort of adolescent football players and the typical victims of non-accidental trauma (NAT), and their clinical implications. In both instances, the mechanisms responsible for the brain injury are controversial, but they appear to have several things in common. First, both types of victims have likely suffered repetitive head injury. Second, it has been shown that there is an increased incidence of hypoxic-ischemic injury (HIE) in infants and children who are victims of NAT in comparison to accidental head trauma (Ichor et al., 2007). Our cases also show a clear predilection for HIE, with all of our surviving patients showing imaging evidence of multifocal bilateral ischemic injury in the absence of white matter shearing lesions and intracerebral hemorrhage. Third, victims of NAT, like our patients, frequently have a small SDH that seems to be more of an "innocent

bystander" than the cause of the massive elevation in ICP. Fourth, the unusual vulnerability to dysautoregulation seen in NAT also appears to be occurring in our patients. The engorged cerebrovasculature, defined in our study as an increase in volume of the cerebral hemisphere with preservation of the gray-white matter differentiation on CT, was noted in all of our athletes. Complete effacement of the convexity and basal cisterns was noted in all patients. The dysautoregulation contributed more to the elevation in ICP than the SDH. Fifth, it is known that the outcome among survivors of NAT is poor, with the majority of victims suffering permanent morbidity (Duhaime et al., 1998). This is also the case with survivors of SIS. There is also animal study evidence of the increased vulnerability of the younger brain to repeated mild traumatic brain injury. (Raghupathi et al., 2004).

Conclusion

Ten additional cases of acute hemispheric swelling in association with a small acute SDH in athletes receiving a second head injury while still symptomatic from a prior head injury were described. Parallels between victims of NAT and our cohort of patients are theoretically presented. The pathophysiology of the swelling is thought to be due to the dysautoregulation/second-impact syndrome with rapid cerebrovascular congestion leading to increased ICP and subsequent brain herniation, all occurring within minutes of the second head injury. The impressive imaging findings are inconsistent with the often mild nature of the second impact, but they are consistent with the catastrophic clinical scenario of SIS. The most impressive acute CT finding in these patients is the engorged hemisphere, which appears as hemispheric enlargement despite mild compression by the overlying SDH. There is initial preservation of gray-white matter differentiation, but there is abnormal mass effect and midline shift (i.e., the imaging definition of "cerebral hyperemia"). The basal cisterns and cerebral sulci are completely effaced and the brainstem is distorted. A heterogeneous thin SDH (<1 cm) may be seen, but its contribution to the overall mass effect is less than that of the swollen hyperemic hemisphere. None of these patients had concomitant intra-axial injury (e.g., contusion or traumatic axonal injury). If the patient survives the initial episode of intracranial hypertension, multifocal bilateral non-hemorrhagic ischemic infarction ensues.

Author Disclosure Statement

No competing financial interests exist.

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