A Fresh Look at Youth Sports Concussion Policy in Minnesota

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Minnesota Brain Injury Alliance
34th Annual Conference for Professionals in Brain Injury

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Disclosure Information

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34th Annual Conference for Professionals in Brain Injury

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Disclosure of Relevant Financial Relationships

I have no financial relationships to disclose.

Disclosure of Off-Label and/or investigative Uses

I will not discuss off label use and/or investigational use in my presentation.
Introduction:
How our Lab is studying youth sports concussions

Policy challenges:
What obstacles do need to be overcome to address youth sports concussion?

Problem Definition:
What’s wrong (and right) with current legal and policy responses to youth sports concussion?

The Future:
How can youth sports concussion policy be improved?
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The Future:
How can youth sports concussion policy be improved?
What do we do?

Empirical Neurolaw Research

Education & Outreach; Policy
DRIVING TOMORROW
Our ten-year plan to lead and innovate

Grand Challenges Research Grants
Awarded

Toward a Minnesota Model for Brain Health in Youth Sports
SENATE
STATE OF MINNESOTA
EIGHTY-NINTH SESSION

S.F. No. 3144

(SENATE AUTHORS HAYDEN and Dniejacz)

DATE       DRC     OFFICIAL STATUS
03/29/2016  5294    Introduction and first reading
             Referred to Health, Human Services and Housing

1.1 A bill for an act
1.2 relating to health; requiring the commissioner of health to study and
1.3 evaluate the implementation of youth sports concussions protocols and make
1.4 recommendations on best practices for reducing and preventing concussions;
1.5 appropriating money.

1.6 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

1.7 Section 1. YOUTH SPORTS CONCUSSIONS STUDY.
1.8 (a) The commissioner of health shall study the incidence of brain injury in Minnesota
1.9 youth sports, evaluate the implementation of Minnesota Statutes, sections 121A.37 and
1.10 121A.38, regarding concussions in youth athletic activity, and identify best practices for
1.11 identifying, evaluating, and treating youth sports concussions.
SPORTS CONCUSSIONS AND THE LAW: NEUROSCIENCE AND LIABILITY – 6948

Spring 2018

Francis Shen

As scientific knowledge about the effects of trauma on the brain has increased, the legal context surrounding brain injury in professional and youth sports has changed dramatically over the past decade. Legal action includes multiple federal class action lawsuits, new sports concussion statutes in all fifty states, new regulations in college and high school, new insurance markets, and a myriad of tort law suits in state and federal court. Many policy recommendations have been proposed, and many reforms have been enacted by sports leagues. The evolving legal landscape for sports concussions thus provides an exciting opportunity to see how law responds in response to scientific advances. This seminar—the first in the country to focus specifically on legal liability and sports concussions—will examine the emerging science, law, and policy of sports concussions. The seminar will feature a number of guest speakers, and will place an emphasis on developing students’ legal research and writing skills. Students will be required to complete a 20 page research paper, and no prior knowledge of brain science or sports is required or presumed.

CREDITS
2

COURSE
Sports Concussions and the Law: Neuroscience and Liability 6948

GRAD. REQUIREMENTS
Upper Division Legal Writing

SUBJECT AREA
Administrative & Regulatory Law
Family Law *
Public Law

STUDENT YEAR
Upper Division

GRADE BASE
A - F
Are Youth Sports Concussion Statutes Working?

How Dangerous are Youth Sports for the Brain? A Review of the Evidence

The Failure of Youth Sports Concussion Laws and the Limits of Legislating Health Education

Communicating Risk and Benefit in Youth Sports

The Benefits of Contact Sports

The Shifting Science Of Sports Concussion: How Has the Reasonable Standard of Concussion Care Changed for Youth Athletes?
Partners on Youth Sports Concussions
Our focus in this study is on YOUTH sports.
There are 36 million athletes younger than high school age, and 8 million high school age athletes.

Yet there are 62 studies of sports concussion in high school age populations and only 17 in younger populations.
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The Future:
How can youth sports concussion policy be improved?
Five
(of the many)
policy challenges:
1. Youth athletes are the priority ....

BUT ... the younger the brain, the less we know about concussion.
2. Basic and clinical research is still developing ...

BUT ... “more research required” is not an option for here-and-now law and policy.
3. All 50 states have passed a youth sport concussion law ...

BUT ... these laws are not sufficiently informed by scientific evidence.
4. In order to make evidence-based policy, we need evidence ...

BUT ... Minnesota has yet to develop an infrastructure for collecting data on incidence, interventions, and implementation.
5. Significant improvement is happening at the college and professional level ...

BUT ... what works in a resource-rich collegiate or professional setting does not always translate well to an all-volunteer, resource-poor context.
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What is (generally) working for youth sports concussion laws?
Are Youth Sports Concussion Statutes Working?

Francis X. Shen*

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Are Youth Sports Concussion Statutes Working?

Francis X. Shen

1. **Buy in:** Although they may not know the specifics of how the law works, there is generally widespread acceptance and appreciation of the concussion laws by key stakeholders, as well as the public.

2. **Protocols in place for high schools:** In general, it appears that most high schools have implemented a concussion protocol (roughly) consistent with the major provisions of the law in its state.

3. **Resistance:** At the same time, parents (and sometimes athletes) may be resistant to concussion protocols when following those protocols is perceived to be at odds with the advancement of an athletic goal, or when necessary monetary and staffing resources are not available.

4. **Increase in reported concussions:** It appears that state concussion laws, as well as rising awareness about sports concussions, have jointly contributed to an increase in the number of reported concussions (and thus, presumably, to overall improvement in concussion care.)

5. **More education needed:** Across multiple states, survey respondents consistently voice a need for more education dissemination. Many parents, athletes, and school / youth sports personnel are not yet adequately informed by the law.
What is (generally) working for Minnesota’s concussion law?
What (if anything) is problematic with our current legal and policy responses to youth sports concussions?
Imagine the following facts:

There is a middle school youth football league with 10 teams.

Each team has 20 players on the team.

All players on each team complete 20 practices and 5 games.

With 10 teams, and 20 players per team participating in 20 practices and 5 games, the result is a total of 5,000 "athlete exposures". One athlete exposure (AE) corresponds to 1 athlete completing 1 practice or 1 competition.

Given these facts, and given whatever you know about sports concussions, how many concussions would you expect to occur in this league (including all 10 teams) during an average season?
~60% of the American public overestimates concussion incidence, and many overestimate incidence by a great magnitude.
You can love the brain and football, too

As a researcher, I know the risks are real. But they may be overestimated by the public. And the game has important benefits.

By Francis Shen | JANUARY 31, 2018 — 6:07PM

Youth football teams in Solon, Ohio, play Rookie Tackle, a small-scale version of the sport piloted by USA Football in 2017, in alignment with the U.S. Olympic Committee's American Development Model for skill development and enjoyment.
How are we educating the appropriate stakeholders about concussion?
Here is what current concussion education material looks like:
CONCUSSION FACT SHEET FOR PARENTS

WHAT IS A CONCUSSION?
A concussion is a type of traumatic brain injury. Concussions are caused by a bump or blow to the head. Even a “ding,” “getting your bell rung,” or what seems to be a mild bump or blow to the head can be serious.

You can’t see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury. If your child reports any symptoms of concussion, or if you notice the symptoms yourself, seek medical attention right away.

WHAT ARE THE SIGNS AND SYMPTOMS OF CONCUSSION?
If your child has experienced a bump or blow to the head during a game or practice, look for any of the following signs of a concussion:

SYMPTOMS REPORTED BY ATHLETE:
• Headache or “pressure” in head
• Nausea or vomiting
• Balance problems or dizziness
• Double or blurry vision
• Sensitivity to light
• Sensitivity to noise
• Feeling sluggish, hazy, foggy, or groggy
• Concentration or memory problems
• Confusion

SIGNS OBSERVED BY PARENTS/GUARDIANS:
• Appears dazed or stunned
• Is confused about assignment or position
• Forgets an instruction
• Is unsure of game, score, or opponent
• Moves clumsily
• Answers questions slowly
• Loses consciousness (even briefly)
• Shows mood, behavior, or personality changes
DANGER SIGNS

Be alert for symptoms that worsen over time. Your child or teen should be seen in an emergency department right away if s/he has:

- One pupil (the black part in the middle of the eye) larger than the other
- Drowsiness or cannot be awakened
- A headache that gets worse and does not go away
- Weakness, numbness, or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Difficulty recognizing people or places
- Increasing confusion, restlessness, or agitation
- Unusual behavior
- Loss of consciousness (even a brief loss of consciousness should be taken seriously)

WHAT SHOULD YOU DO IF YOU THINK YOUR CHILD HAS A CONCUSSION?

1. SEEK MEDICAL ATTENTION RIGHT AWAY
   A health care professional will be able to decide how serious the concussion is and when it is safe for your child to return to regular activities, including sports.

2. KEEP YOUR CHILD OUT OF PLAY.
   Concussions take time to heal. Don’t let your child return to play the day of the injury and until a health care professional says it’s OK. Children who return to play too soon - while the brain is still healing - risk a greater chance of having a second concussion. Repeat or later concussions can be very serious. They can cause permanent brain damage, affecting your child for a lifetime.

HOW CAN YOU HELP YOUR CHILD PREVENT A CONCUSSION OR OTHER SERIOUS BRAIN INJURY?

- Ensure that they follow their coach’s rules for safety and the rules of the sport.
- Encourage them to practice good sportsmanship at all times.
- Make sure they wear the right protective equipment for their activity. Protective equipment should fit properly and be well maintained.
- Wearing a helmet is a must to reduce the risk of a serious brain injury or skull fracture.
- However, helmets are not designed to prevent concussions. There is no “concussion-proof” helmet. So, even with a helmet, it is important for kids and teens to avoid hits to the head.

HOW CAN I HELP MY CHILD RETURN TO SCHOOL SAFELY AFTER A CONCUSSION?

Children and teens who return to school after a concussion may need to:

- Take rest breaks as needed
- Spend fewer hours at school
- Be given more time to take tests or complete assignments
- Receive help with schoolwork
- Reduce time spent reading, writing, or on the computer

Talk with your child’s teachers, school nurse, coach, speech-language pathologist, or counselor about your
How do we communicate risks when we know something—but maybe not enough—about those risks?
Does communicating concussion risk actually reduce incidence?

Probably not.
THE FAILURE OF YOUTH SPORTS CONCUSSION LAWS AND THE LIMITS OF LEGISLATING HEALTH EDUCATION

Sydney Diekmann a, Christine Egan b, Carly Rasmussen γ, Francis X. Shen δ

ABSTRACT: Legislatures have increasingly turned to education-based strategies to address significant public health challenges. Yet the efficacy of statutory mandated education is unclear. In this Article, we examine the recent and rapid adoption of youth sports concussion laws as a lens to explore the profound limits of education-based intervention models. In less than 10 years, all 50 states have adopted a youth sports concussion statute—and each law mandates concussion education for coaches and/or student-athletes. This expansive, expensive intervention was designed to reduce concussion incidence and improve concussion care. But based on a review of 50 peer-reviewed studies, we argue that concussion education has not, and likely will not, produce the desired public health outcomes. The data largely demonstrate that, at most, concussion education can produce short-term changes in knowledge, and that these gains are unlikely to translate into measurable behavior changes that reduce the incidence and risk of concussion in sport. The Article uses public health perspectives to explore the reasons why top-down education interventions from legislatures may fail to have their intended effect and, given these limitations, the Article argues that increased emphasis should be placed on changing the concussion incentive structure and promoting bottom-up culture change to reduce the incidence and severity of concussions in youth sports. We propose a new vision of concussion education that has the potential to bring about these changes, with a focus on addressing the win-at-all-costs component of competitive sport that often fails to align with athlete health and safety.
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The bottom line:
We should review and reimagine how we communicate concussion policy, risk, and management to athletes, coaches, and key stakeholders.
Are there other barriers to implementing Minnesota’s concussion law?

Yes.
What (if anything) is problematic with our current legal and policy responses to youth sports concussions?

1. Law / policy may not be well-matched to the actual scope of the issue (and this is in part due to a lack of understanding of concussion policy, incidence, and management).

2. It’s likely that knowledge and implementation of concussion laws is uneven and significantly limited (especially for activity outside of high schools).

3. An appropriate cost-benefit analysis framework remains undertheorized and is rarely communicated effectively to athletes and parents.
How do we assess the benefits of participating in sports?
What do we know about the benefits of youth participation in FOOTBALL specifically?

The research is limited, but one informative study comes from research on female football players.
Teamwork, Trust, and Family:
• Players expressed that football required an unprecedented level of team cooperation in which each player’s role is critical to the success of the entire team.
• Players also expressed an unmatched sense of accomplishment within tackle football.
• Some players noted that the threat of bodily injury increased the level of trust they bestowed onto their teammates which in turn leads to a closer community experience.
• Players on both teams used the word *family* to describe their team dynamic.
Meeting a Diverse Array of Women:

- Several players expressed that engaging in tackle football has allowed them to interact with women whom they would not have met in other contexts. Interacting with a diverse array of ages, classes, ethnicities, and sexualities enhanced the experience of the players.
- Though these types of diversity are apparent in other women’s sports, diversity of age and body size emerged as benefits specific to tackle football.
- Football creates space for players of all different body sizes, which allows for women with larger builds who do not conform to standard beauty or athletic standards to succeed in football.
Physical Nature of the Game:
• Physically aggressive contact creates a sense of empowerment for a number of players.
• Players’ love of physical contact was often consistent with their own perceptions of themselves or led way to more aggressive personas.
• Players appreciated the opportunity for strong physical contact which was previously unavailable to them due to gender barriers.
Concussion expert Dr. Jeffrey Kutcher, MD:

*By exposing ourselves to some intrinsic health risks of playing sports, we are also opening ourselves up to incredible opportunities for personal growth and accomplishment.*

What do we know about the benefits of youth participation in FOOTBALL specifically?

At this Summit, we are conducting qualitative research on the question: In your view, what are the BENEFITS of tackle football?
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The Future:
How can youth sports concussion policy be improved?
Will the future of concussion policy in sports be reactive or proactive?
Will the future of concussion policy in sports be **reactive** or **proactive**?
We need collaborative, comprehensive, and cost-effective policy design.

And we are moving in that direction.
Our Mission

The CARE Consortium endeavors to provide necessary infrastructure and scientific expertise to study concussion. Together, we are united in our goal to gain a better understanding of the neurobiopsychosocial nature of concussive injury and recovery in order to ultimately enhance the safety and health of our student-athletes, service members, youth sports participants and the broader public.
Traumatic Brain Injury Research Collaboration

The Big Ten/Ivy League Traumatic Brain Injury Research Collaboration is a multi-institutional research effort whose mission is to better understand the causes and effects of sport-related concussion and head injuries.

The Big Ten/Ivy League Traumatic Brain Injury Research Collaboration draws on the intersection of great medicine, great athletics, and great academics to bring together world-class coaches, athletic trainers, scientists, and team physicians to study the effects of traumatic brain injury in sports. Researchers and athletic clinicians within the Big Ten, the Big Ten Academic Alliance, and the Ivy League have a unique opportunity to be at the forefront of TBI/sports concussion research to better inform biomedical and behavioral science, enhance clinical practice, and benefit the nation’s citizens and soldiers through innovative research that enhances the prevention, detection, and treatment of TBI.

2017 TBI Summit

July 19-20, 2017
Big Ten Conference Center
Rosemont, Illinois

Map of Participating Universities
Shen Neurolaw Lab

Every story is a brain story

www.fxshen.com