

Change, Challenge and Opportunity

An interdisciplinary symposium on injury prevention in sport and recreation

Summary Report



TABLE OF CONTENTS

TABLE OF CONTENTS	2
EXECUTIVE SUMMARY	3
INTRODUCTION	3
REPORT OUTLINE	3
GOALS OF THE SYMPOSIUM	4
Summary of Symposium Proceedings	5
THE STRUCTURE OF THE SYMPOSIUM	5
SUMMARY CONTENT OF SYMPOSIUM SPEAKERS	6
Panel Presentation	17
Defining Safety in Sport and Recreation	19
Social Media	29
Evaluation	30
Next Steps	32
APPENDIX A: PROGRAM	33
APPENDIX B: ABSTRACTS	34
APPENDIX C: SYMPOSIUM PARTICIPATING ORGANIZATIONS	41
APPENDIX D: ORGANIZERS, STAFF AND VOLUNTEERS	42

Suggested citation: Sunnybrook RBC First Office for Injury Prevention. (2015). Change, Challenge and Opportunity: An interdisciplinary symposium on injury prevention in sport and recreation - Final Report. Toronto: Sunnybrook RBC First Office for Injury Prevention.

EXECUTIVE SUMMARY

On February 4, 2015, over 90 delegates attended Change, Challenge and Opportunity: An interdisciplinary symposium on injury prevention in sport and recreation, at Sunnybrook Health Sciences Centre in Toronto, Canada. This event brought experts from sport, recreation, health and education from across Canada to share innovative research, programs and experiences that are advancing injury prevention in physical activities. This event marks a culmination of work undertaken by Play Safe, a collaborative effort to reduce injury in sport and recreation led by Sunnybrook Health Sciences Centre and Lakehead University. The event was funded in part by the Ontario Trillium Foundation.

Introduction

Injury in sport and recreation is responsible for 40% of child and youth hospitalizations in Canada (PHAC, 2011). Sport-related injuries account for \$187M in annual direct and indirect healthcare costs (Parachute, 2015). So often these activities are seen as “high risk”, where injury is inevitable, yet we know much more today about preventing injury than ever before. There is much work to be done in reducing the economic and personal burden related to injury from sport and recreation activities. Over the past 5 years Play Safe has endeavoured to bring together different stakeholders to share, learn and develop injury prevention strategies. At this event in particular, experts from various disciplines were able to present new programs, research and innovations to an audience representing the four primary sectors of the Play Safe mandate: sport, recreation, health and education.

Report Outline

The report is not intended to capture the symposium in its entirety. This report presents highlights from the symposium in terms of key ideas, promising practices, research, programming, and partnerships. Gaps identified in research and practice are also presented.

In addition to highlighting symposium content, this report includes details about social media engagement and evaluation results for the day. It closes with next steps Play Safe has identified to move the work of the symposium forward.

The final symposium agenda is included in Appendix A. Full abstracts for each oral presentation and poster presentation are presented in Appendix B.

At the time of this report’s writing, the video recorded speaker presentations are available for viewing at: www.playsafeinitiative.ca/outcomes. It is hoped that those readers interested in a more in-depth description of a given presentation than allowed for by this

document can follow up with the original authors of the presentations in question.

Appendix C provides a list of the participating organizations. Appendix D lists the individuals who gave generously of their time to make the symposium possible.

Goals of the Symposium

The theme of the event was “Change, Challenge and Opportunity” in the hopes of driving conversation about the many aspects of injury prevention. On multiple fronts there have been changes in perception of injury; new challenges have presented themselves as the agenda begins to move forward, and as the conversation grows across the sectors there are opportunities not seen before. It was important to the organizers that all aspects be touched upon in this day to represent the complexities of the overall movement.

The symposium was intended as an extension of the Play Safe objectives of collaboration, capacity and change (yes, we like three’s and c’s). Bringing organizations from sport, recreation, health and education has been a focus since the beginning. There is no single sector that can address injury across the spheres of activities where people participate in sport and recreation activities (organized, non-organized, school,

community, etc.). Solving the puzzle requires many hands, fresh ideas and innovation. Ensuring that leaders are provided with information, new knowledge, skills and tools will ensure the necessary capacity to enhance prevention strategies. Change was the element used to bridge the theme of the symposium with the objectives of Play Safe. Change - in behaviours, attitudes, policies and procedures - is the only way to achieve the goal of reducing injury risk in the most enjoyable activities we have the privilege in Canada to partake in. Generally speaking, the safety aspects in many sport and recreation programs today are mostly unpredictable, haphazard, inconsistent and unintentional. While there are good examples of organizations that have implemented some excellent strategies for reducing injury risk these are not seen widespread across many organizations outside of their own specific discipline.

A very real goal of this symposium is a call for change in the way we view injuries in sport and recreation activities, that we begin to see them for what they truly are - barriers to Canadians of all ages achieving and maintaining health, resilience, and independence. That we know them as things that can be predicted and prevented, and are equipped with the necessary tools to do both.

SUMMARY OF SYMPOSIUM PROCEEDINGS

The structure of the symposium

The event was opened in the morning by a series of speakers. Master of Ceremonies, Joanne Banfield, Manager of the RBC First Office for Injury Prevention at Sunnybrook Health Sciences Centre, welcomed the delegates to the symposium and provided an overview of the day and update on Play Safe. Pamela Fuselli, VP, Government & Stakeholder Relations of Parachute followed with remarks on behalf of the national injury prevention organization.

The event was centred around the theme of change, challenge and opportunities. Each presentation connected in some way to this theme in order to share broadly around different methods and application of prevention in sport and recreation environments.

The agenda for the day included two facilitated sessions led by Sarah Gallsworthy, Program Coordinator, RBC First Office for Injury Prevention. The objective of these sessions was to answer the question: “What does safe mean?” and build towards a unified understanding of and definition for safe and safety in sport and recreation.

Summary content of symposium speakers

Keynote Sessions

From Playground to Podium: Where does prevention have impact?

Dr. Julia Alleyne, 2015 Pan and Para Pan American Games

Objective:

- ▶ Promoting physically activity and the importance of community for health.
- ▶ To understand the journey to the playground and to the podium.
- ▶ To estimate impact of prevention in physical activity and health strategies.

Key points:

- ▶ The playground is the foundation for sport and physical activity.
- ▶ What is predictable is preventable.
- ▶ Physical activity is our most evidence-based strategy for preventing injuries.
- ▶ Community playgrounds have become safer with the advancement of playground technology, however back yard playgrounds have not.
- ▶ There is a need for better understanding between physical development and injuries.
- ▶ Children's participation in sport is affected by income, parents and knowledge (physically literacy).
- ▶ Elite athletes and their development is important for inspiring and helping with injury prevention and health promotion.
- ▶ The size of equipment should be appropriate for the size of the athlete.
- ▶ Athletes mental health is important in preventing injuries.

Gaps in research and/ or programming:

- ▶ Mental health of athletes and in sport
- ▶ There is a high number of physical inactivity due to income gaps, creating a barrier to physical activity
- ▶ Non-approved safety equipment is available in toy stores.
- ▶ Sports are classified by age not stage of growth, which can lead to injury as many are at different stages of growth

Additional Notes:

- ▶ The higher you go in elite sports, the lower rates of injury
- ▶ Elite child athlete, increase risk of injury
- ▶ Physical activity starts at 1 month
- ▶ Across all age groups we are less active across organized sports
- ▶ Fear of injury is a barrier to participation
- ▶ By doing a risk stratification and risk analysis we can have a better idea of prevention.
- ▶ Dynamic warm up instead of stretching

Shifting the paradigm: Getting the horse back in front of the cart

Dr. Susan L. Forbes, Lakehead University

Objective:

- ▶ To gain an understanding of the need of a paradigm shift from management of injuries to prevention.

Key Points:

- ▶ It's time for a paradigm shift with regards to injury prevention
- ▶ Make safety and injury prevention our new paradigm
- ▶ Increasing rules and regulations in sports its not sufficient, injury prevention needs to be implemented and enforced
- ▶ There must be a shift in the emphasis - focusing on prevention while being active. Supporting continued participation and increasing education, literacy, fitness, policy evaluation, rules, and equipment.
- ▶ Communication between organizations is imperative.

Gaps in Research and or programming:

- ▶ Challenge: Society wants quick fix but we have to be ready to do the heavy work

Additional Notes:

- ▶ It is challenging to find a balance between legislation and prevention. Education is imperative to prevention because you can't legislate everything.

Presentation Sessions

The Online Concussion Training Toolkit

Dr. Shelina Babul, BC Injury Research and Prevention Unit

Key points:

- ▶ A concussion is a brain injury, symptom latency varies, and should be handled per case.
- ▶ This key did help and change the attitudes and practices of physicians and nurses.
- ▶ Return to learn and return to play tool. Also has a parent/ coach training in addition to an education tool.
- ▶ Astute detection, accurate diagnosis, and management.

Additional Notes:

- ▶ Based on learner-centred model
- ▶ Free of charge
- ▶ Updated and reviewed every 2 weeks
- ▶ Nurses - Change in attitude and practice
- ▶ Parent + coaches - Change in knowledge
- ▶ Further enhancements to come:
 - ▶ Mental health
 - ▶ Service/province
 - ▶ Translation into other languages

A Multi-Modal Approach to Assessing, Managing and Educating Youth Following a Concussion

Dr. Nick Reed, Holland Bloorview Kids Rehabilitation Hospital

Key Points:

- ▶ Concussion can happen while doing any activity. Children with a concussion take a longer time to heal.
- ▶ One of the big problems is returning to play too early which can lead to more serious injuries, therefore its important to validate current tests that would make it easy to identify for kids and parents, understand it, and know what their limitations should be.
- ▶ It is important to have the right resources, education and support for parents and youth.
- ▶ Returning early to activity after a concussion can lead to:
 1. Delayed recovery
 2. Impaired abilities
 3. More serious brain injury

Gaps In Research and/or Programming:

- ▶ Need for development and validation of measures for concussion

Partnership Opportunities in research and/ or programming:

- ▶ Holland Bloorview Concussion Research Centre

The Convergence of the Developing Teen Brain, Risk Taking and Swim to Survive+

Barbara Byers, Lifesaving Society

Key Points:

- ▶ Using science to understand teens is important especially when developing programs and developing strategies to reduce drowning.
- ▶ According to research 97% of parents are confident about their teens, that is why when it comes to water safety, we can not fully rely on parents.

Relevant Other Programs and/or Contacts:

- ▶ “Swim to survive” is a program for children in Grade 3 to learn swimming and survival skills to keep them and their friends safe.
- ▶ Teaching them to call 911, tossing or reaching an item to help someone that is drowning.
- ▶ Participants are dressed (swim in clothing)
- ▶ Are teens at greater risk for drowning? (Infographics)
- ▶ WHO global report on drowning

Partnership opportunities in research and/ or programming:

- ▶ Research with teen brain and drowning, risk taking knowledge
- ▶ Research on risk taking knowledge on teens new to Canada.
- ▶ Ontario Trillium Foundation funding to explore teen risk taking and correlation between ethnicity
- ▶ World conference on drowning 2015 in Malaysia

Advancing Safety Together: Strengthening Safety in Sport, Recreation and After School Programs

Chris Markham, Ophea

Key Points:

- ▶ Ophea safety guidelines outline safe practices for school physical activities. This guideline includes concussion protocol, equipment, environment, physical facilities.
- ▶ 50% of municipalities did not have a sport recreation risk management protocol(s).
- ▶ There was an inconsistency approach in safety from school to outside school guideline
- ▶ PPM 158 school board policies on concussion minimum standard

Gaps in Research and or Programming:

- ▶ Support for provincial guidelines
- ▶ Common needs
- ▶ Custom needs
- ▶ Next steps creative partnerships

Movement preparation: a physical literacy approach to reduction in musculoskeletal injuries relate to lower body movements.

Dr. Dean Kriellaars, University of Manitoba and Canadian Sport for Life

Key Points:

- ▶ Why do circus people have fewer injuries than gymnasts? Answer: They don't just have a specialty, they have literacy.
- ▶ Physical literacy: movement vocabulary, sequences, tasks; It's the gateway to activity. Being physically literate and fitness provides durability. Gender mistreatment has created greater motor skills for males than females, greater competence, confidence for males than females, and less injuries in males.

- ▶ Physical literacy is not just an approach for training but also an approach for prevention.

Relevant Other Programs and/or Contacts:

- ▶ Movement preparation guide needs to be developed for all other sports.
- ▶ June 2015 International Physical Literacy Conference
- ▶ PLAY-Physical Literacy Assessment for Youth

Additional Notes

- ▶ Childhood is a time of tremendous brain development
- ▶ Teen brain is a racing car without a driver
- ▶ Caring and wanting to be with friends
- ▶ Can't rely on parents to ensure they're teens are trained

The FIFA 11+ neuromuscular training warm- up program: from evidence to implementation

Rhona McGlasson, Bone and Joint Canada

Key points:

- ▶ How do we take research and implement it?
- ▶ How do we take our knowledge and sell it to soccer?
- ▶ Soccer- 2nd highest sport for injuries
- ▶ Other leg twisting + turning (planting + turning)
- ▶ Most lower extremity injuries occur in soccer, 1/5 females vs. males. 70% non – contact injuries.
- ▶ An ACL injury can lead to osteoporosis, and it's due to planting and turning.
- ▶ FIFA 11+ exercises is a program put together to decrease injury, includes warm up, running, strength, plyometric, and balance. This program reduces injury v13- v18 by 29-46%.
- ▶ In order to be successful with the prevention program it is necessary that there is awareness, that clubs have the protocols, hospitals and coaches.

Relevant other programs and/ or contacts:

- ▶ FIFA MARC (Medical Assessment and Research Centre) has been shown to reduce injury in soccer within youth.
- ▶ Ontario project: Stakeholders soccer + healthcare providers facilitate ongoing interaction between injured players and health care providers Grassroots strategy

Gaps in research and/ programming:

- ▶ Need to have infrastructure
- ▶ Provincial network to facilitate and network
- ▶ Engage parts on health care - Physicians, hospital, rehab.
- ▶ Messaging - it's everyone's responsibility

Coaches, The National Coaching Certification Program, and Injury Prevention

Mercedes Watson, Coaches Association of Ontario

Key Points:

- ▶ NCCP has gone through many changes to its modules to address issues that arise, such as ethics, conflict, management and psychology prevention and recovery.
- ▶ It is important to have properly trained coaches at all levels of recreation to prevent injury.

Relevant Others Programs and/ or contacts:

- ▶ Making Headway modules
- ▶ Fundamental Movement Skills

A Manufacturing Approach to Safety in Sport and Recreation

Patti Funaro and Julie Augustine, Town of LaSalle

Key Points:

- ▶ The 5S system is a manufacturing approach to improve safety in the workplace by organizing all equipment in the workplace to make them easily accessible.
- ▶ 5S stands for:
 - ▶ Sort - Keep only what is necessary; move items that are not used often to a remote area.
 - ▶ Set in order - So that anyone can find and return items to proper location.
 - ▶ Shine – Ensure everything is clean; inspection of equipment
 - ▶ Standardize - makes 5S system effective and efficient. Use labels, signs, posters, etc.
 - ▶ Sustain - Training
- ▶ Benefits of 5S system:
 - ▶ Improves attention to safety
 - ▶ Basis of safety
 - ▶ Makes workplace look nice
 - ▶ Easier to spot safety issues

Alberta's Experience with Safety Guidelines for School Physical Activity and Sport

Kathy Belton, Injury Prevention Centre

Key Points:

- ▶ In Alberta they have taken Ontario's Guidelines for Physical Activity and expanded them in hopes to implement them in all schools.
- ▶ There are 120 sports covered under the Physical Activity Guidelines.
- ▶ Schools are ideal for youth to be physically active and to learn about sports.
- ▶ Schools are a prime place to promote health and healthy life styles.
- ▶ With the guidelines in place, the hope is to help avoid injuries in schools which can lead to life long recovery, missed school, and dropping out of physical activities.

- ▶ Schools need the resources and guidelines in order to be aware of how to help students avoid risk and injury in sports.

Partnership Opportunities in Research and/ or Programming:

- ▶ Partner with Alberta sports organizations
- ▶ Alberta school boards and councils
- ▶ Sports coaches in schools and volunteers
- ▶ Insurance companies

Additional Notes:

- ▶ 16% of Alberta's population is young (Kindergarten to grade 12)
- ▶ In-service teaching conventions for schools and school boards are offered on the guidelines
- ▶ The guidelines have become part of teacher education at the University of Alberta
- ▶ There is an online course about the guidelines that is offered
- ▶ Guidelines are used in some Alberta schools in insurance policies as a way to mitigate risk

PANEL PRESENTATION

What does safe mean to you?

Moderator: Dr. Dean Krieellaars, University of Manitoba and Canadian Sport for Life

Panelists:

- ▶ Shannon Kennedy, University Athlete
- ▶ Wayne Parro, Baseball Coach
- ▶ Dr. James Carson, Physician
- ▶ Carol Gall, Recreation Leader
- ▶ Tyson Orlie, Hockey Referee

Objective: To explore different viewpoints of “safe” and “safety” in sport and recreation activities.

Description: The symposium was privileged to have a 5-person panel share their perspectives on safe and safety in their environments. The panelists were selected through the Play Safe network based on their area of focus in their work or volunteer efforts. Each panelists was given 5 minutes to share their main points following which Dr. Kriellaars moderated attendee questions and facilitates further discussion. The following provides an abridged account of the panelists presentations.

Athlete perspective:

- ▶ It is important to change the mentality about performance and results and focus on listening to your body limits, taking care of your body especially at a young age.

Physician perspective:

- ▶ Neuromuscular exercises can prevent injury. Ex. FIFA 11+.
- ▶ It takes a number of experts from different fields to achieve a different level of safety.

Coach perspective:

- ▶ From the national coach’s certification there is: physical safety, equipment, environment and mental safety.
- ▶ However we still need to work of getting athletes to think about their safety. Communication and feedback is very important.

- ▶ Biggest challenge is that most of the coaches are volunteers so it's hard to have them trained and educated. Another challenge it's our culture.
- ▶ Communication b/w athlete and coach
- ▶ Challenges= 90% are volunteer coaches
- ▶ Parent issues

Official perspective:

- ▶ Managing all factors that are under my control: Personal safety, player safety (reactionary) and preventative safety.
- ▶ As the level of athlete's increases the best officials are taken to officiate those games, therefore leaving the most vulnerable populations with least experienced officials, decreasing safety.

Recreation Leader perspective:

- ▶ Ongoing training and development is imperative for safety.
- ▶ Find balance between fun and mitigating risk.
- ▶ Imperative to learn about the child development, know your public so we can create better and safer programs.

Evaluation

The panel was evaluated for the selection of panelists, effectiveness of the moderator, overall rating of the presentations and the quality of the panel discussion. The session was evaluated very high in all areas with the exception of the discussion. The repeated feedback provided was the session was not long enough to allow for more fulsome discussion. While it was a highlight of the day, it has been noted that more discussion would have been a benefit to the attendees.

DEFINING SAFETY IN SPORT AND RECREATION

Facilitated Session

Facilitator: Sarah Gallsworthy, Sunnybrook Health Sciences Centre

Objective: To build a universal definition of safety with key stakeholders.

Description: In the absence of a universally agreed upon definition of safe/safety in sport and recreation, developing consistent prevention strategies becomes a challenge.

The facilitated sessions were intentionally divided to allow time in between the first and second part for thoughtful consideration. Sarah engaged the audience with a description of the session and encouraged full participation in the multi-step process.

Part one: Individuals were directed to write all the words that mean “safe” to them personally, to their community, athletes, organizations in a quick sprint (1-2 minutes). They were then asked to work within their table groups to reduce the number of stickies to the top 5, then top 3 words. Finally, they were asked to divide the words into two columns - process and outcome.

Individual responses:

- ▶ Outdoors, bikes, grass, friends
- ▶ Being able to keep the playing field fair & safe
- ▶ Prevention injuries, prepare equipment & family not doing silly things
- ▶ Helmets, equipment, band aid, sport
- ▶ People, play
- ▶ Organized, watchful
- ▶ Secure, free from harm, able to explore unbothered
- ▶ Safe: A comfortable environment, known environment, surrounded by people you know
- ▶ Community: welcome environment, qualified staff, staff police checks
- ▶ Athlete: equipment, venue, training
- ▶ Equipment
- ▶ Qualified staff, safe facilities, policies/procedures, communication, clean facilities, first aid kits, open facilities, organization & preparation
- ▶ Accident free, no items left to trip on, being prepared, being trained
- ▶ Training
- ▶ Policies/ Procedures
- ▶ Staff training
- ▶ Knowledge
- ▶ Enjoying activity, out of concern or worry if something negative happening
- ▶ The expectation that all will have an enjoyable time without negative consequences occurring
- ▶ People, traffic road safety law, supervision, equipment, program safety
- ▶ Welcoming environment, protective, respect, dialogue, listening/ asking

PLAY SAFE

- ▶ Physical literacy, precaution according to growth and development
- ▶ Healthy lifestyle (diet + exercise)
- ▶ Prevention, injury free
- ▶ No incident reports (staff or patrons)
- ▶ Feeling
- ▶ Safe: Activities that are developing children in an appropriate manner
- ▶ Safe: avoiding risk, avoiding physical injury
- ▶ Community: accident free, sense of community
- ▶ Protection
- ▶ Feeling I am comfortable, secure
- ▶ Caring/concern
- ▶ Participating in activities + no worrying about anything
- ▶ Parents: kids come home after school
- ▶ Safe: appropriate supervision
- ▶ Safe: emotionally happy, no bullying
- ▶ Equipment
- ▶ Being able to transfer knowledge to other people
- ▶ Not getting hurt
- ▶ Prepared
- ▶ Adult to child ration
- ▶ No incident reports, no accidents/ injuries
- ▶ Good choices, behaviour, don't take risks
- ▶ Learn approach to overall well being of facility, patrons, staff
- ▶ No broken equipment
- ▶ Program area free from hazards trip + slip
- ▶ Types of activities
- ▶ Fitness classes setup + designed for the participants ex. Previous injury chronic disease
- ▶ Knowing the risks (managing)
- ▶ Considering all factors before starting
- ▶ Education & training, participants, staff, children,
- ▶ Appropriate, ratio, lifeguard to patron, leader to child
- ▶ Knowledge
- ▶ Adhering to all legislation + regulations for health + safety
- ▶ Safety policies
- ▶ Proper training, preparation
- ▶ Clear communication
- ▶ Aware
- ▶ Feeling comfortable in the environment
- ▶ Environment that allows for optimal engagement
- ▶ Organization: policies + procedures, WHIMIS training
- ▶ Policy, first aid
- ▶ Environment, support, policy (program/school/organization), education of awareness, community,
- ▶ Free from harm, injury, have family/ friends with me, not at a strange place alone, security, harmless, companion, knowledge, awareness
- ▶ Not on drugs
- ▶ Staff
- ▶ Protective gear (seat belts, etc)
- ▶ Equipment
- ▶ Not in jail
- ▶ Not getting hurt
- ▶ Protected
- ▶ Cared for
- ▶ Protecting others from themselves
- ▶ Stable
- ▶ Regular maintenance/ inspecting equipment + facilities
- ▶ Regulation, peace of mind, standards, consistency
- ▶ Quality (of space, equipment, instructors, coaches)
- ▶ Loss control
- ▶ Community: health, happy individuals/ Parents: trusting programs with their children/ Athletes: trust in coaches, body awareness, honesty, rules, equipment/ Organization: good statistics
- ▶ Qualified
- ▶ Community: making sure the community is protected, providing safety
- ▶ Don't get hurt
- ▶ Loss prevention
- ▶ Freedom
- ▶ Protected

PLAY SAFE

- ▶ Keeping an eye out for problems
- ▶ Community
- ▶ Mitigating risk
- ▶ Feeling confident of situation + self
- ▶ Comfort security
- ▶ Avoiding chances/ risk of major injury
- ▶ Not being injured, being able to do what I want
- ▶ Peaceful, calm
- ▶ Free from potential harm
- ▶ Able to achieve goals, free from worry/stress
- ▶ Home
- ▶ Comfortable
- ▶ Keeping other from injury
- ▶ Organization: risk management, liability
- ▶ Effective management, challenging, happy medium
- ▶ Controlled environment
- ▶ Rules
- ▶ Participation w/o worry
- ▶ Comfortable
- ▶ Predictable outcomes
- ▶ What parents want
- ▶ I wont get hurt
- ▶ Parents: mind at ease
- ▶ Cared for/loved
- ▶ Feels good
- ▶ Included
- ▶ No violence and peace of mind
- ▶ Healthy environment
- ▶ Parents: their kids are okay when out of their sight
- ▶ Parents: knowledgeable staff working with children, participation without injury
- ▶ No accidents/ injuries
- ▶ Trust in program + people
- ▶ No unreasonable risks
- ▶ Healthy/ happy people
- ▶ Organization: optimal performance without litigation
- ▶ Hazards are identified + addressed, procedures for dealing with...
- ▶ Not vulnerable
- ▶ Organization: we have taken all steps to minimize risk for members, volunteers
- ▶ Protective equipment, safety rules, hazardous material, emergency procedure, first aid
- ▶ Education + resources
- ▶ Policies/procedures
- ▶ Education + awareness preparedness
- ▶ Training
- ▶ Moderate
- ▶ Inclusion, consistency of standards
- ▶ Hazard, awareness
- ▶ Reports/ follow
- ▶ Comfort, support, un-scary, familiar, safe
- ▶ Cost savings
- ▶ Stability
- ▶ Open and accessible to everyone
- ▶ Athletes: support from coaches, teammates, fair officiating
- ▶ Reduced risk
- ▶ Calm and secure
- ▶ Security
- ▶ Health
- ▶ Protected, supported, equality
- ▶ Free from bullying
- ▶ Sense of belonging
- ▶ Protected from harm
- ▶ Community: trust in one another
- ▶ Not being afraid
- ▶ Freedom
- ▶ Traditional
- ▶ Decreased injury
- ▶ Prevention strategies
- ▶ Prevent injury, education re: risks, clean, appropriate space
- ▶ Being celebrated for who you are
- ▶ Inclusive welcoming
- ▶ Meaningful relationship
- ▶ Free from physical harm
- ▶ Supportive
- ▶ Opportunity for healthy development
- ▶ A consistent, inclusive expectation of support+ care to minimize the risk of phy/m/em. Injury through access to knowledge, guidelines, regulations +best practice
- ▶ Trust in coaches
- ▶ Athletes: high performance with care, knowledgeable coaches

PLAY SAFE

- ▶ Athletes: Their field of play is hazard free. Coaches + other leaders are properly trained and certified
- ▶ Always having options or support
- ▶ Not in danger, protected
- ▶ Health
- ▶ Not hurt, protected, secure
- ▶ Feeling comfortable and secure
- ▶ Comfortable
- ▶ Comfortable, non-threatening
- ▶ Protected
- ▶ Free from harm
- ▶ Free of fear
- ▶ No injuries
- ▶ No injury
- ▶ Not severe
- ▶ Emotional/ mental health:
- ▶ Fun, no worry, friends with people who care
- ▶ Security in the future
- ▶ Healthy lifestyle
- ▶ Health lifestyle
- ▶ Prepared, knowing about risks, minimizing risks
- ▶ Approved by recognized organization
- ▶ No visible hazards
- ▶ No sharp edges
- ▶ Follow the rules
- ▶ Looking after mental health
- ▶ Realistic balance of life vs risk
- ▶ Fear of injury of children, anxiety
- ▶ Not too crowded
- ▶ Close supervision
- ▶ Not taking risks
- ▶ Not taking big risks
- ▶ Take precaution

PLAY SAFE

Grouped responses:

PROCESS	OUTCOME
Shielded	Precaution
Non judgmental	Security
Failure without judgment	Low perceived risk
Critical and risk	Supervision
Equitable	Opportunity to try and fail
Accessibility	Ok to lose
Chance to fail without judgment	Secure
“ok” to lose	Supervision liabilities
Quality training	Careful
Healthy	Thoughtful
Trained and certified staff	Calculated risk prevention
Surrounded by support system	Action plan
Conscientious	NCCP
Not being vulnerable	Police record checks
Collaborative	Protected
Not dangerous	Regulated
Well supported	Coach mentorship
Preventing physical emotional, psychological	Coach professional development
Limiting risk	Regulated
Engineered for safety	Observant
Helmets	Predictable outcome
Not having anything to worry about	Prevention
Occupation, environment factors	Controlled
Secure	Planned
Respectful working place	Coach education
Structural safety (place and equipment)	Healthy

PROCESS	OUTCOME
Proactivity, planning	No injury
Choice	Avoid liability
Knowing boundaries	Healthy return to play
Expand scope of research	Free from violence
Planned activities. Safe=boring	Good health and happiness
Risk: maximize enjoyment, minimize risk	Protecting the community
Expectation of support and care	Safe: able to participate in the activities I want to
Access to knowledge	Safe: fun to do
Accessibility	Loved
Best practice	Keep people happy
Protocol	Holistic balance
Leadership	Taken care of
Managing risks	Protected
Reducing risk of injury/death	Risk managed
Considering risks	Minimizing risk of physical/mental/emotional/injury
Risk management	Protecting yourselves and others
Training	Doing things the right/correct way
Prevention and Promotion	Awareness
Prevention	Consequences
Able to participate without any negative consequences	Guidelines/regulations for promoting safety
Surrounded by people	Be smart thinker
Keeping risk, removing harm	Increase physical activities because of safe practices
Doing things to prevent problems	Peak performance to decrease risk
Developmentally appropriate	Able to participate/play
Preparing for what it is	Decrease rate of injury
Helmets	Feeling protected
Stability	Not scared

PROCESS	OUTCOME
Money	No injury
Child protection	Physical and mental
Emergency preparedness	Participate in a worry-free environment
Parent education	Do a good job
Minimizing risk	Having the full enjoyment of an activity
First aid	Qualifications and training
	Environment e.g. equipment, toys, facility
	Mental health
	Paying attention/being aware
	Rules, regulations policy, law
	Preventing injuries
	Making smart descisions
	Training
	Skills acquisition
	<u>Organization</u> : proactive,looking ahead, avoiding
	Safety checks
	Financial security
	Don't have to go to hospital
	Comfort
	Support
	Cared for
	Love
	Enjoyment
	Fun
	Familiar
	PHCD (Principles of Healthy Child Development)
	Protection

PROCESS	OUTCOME
	Smart choices
	A right
	A personal right
	Aware
	No harm
	A standard expectation
	Without harm
	Living without worry
	Consistent and predicatable outcomes
	Friends/family
	No consequences
	Knowing what will hurt
	Not getting physically injured
	No risk
	Organized, safe, clean environment
	Support family, friends and staff
	Whole person (mental, physical, emotional)
	Having opportunity to live life to the fullest
	Free of injury
	Protected
	Home
	A place of comfort and familiarity

Part two: In the second part, table groups were asked to merge together forming 4 medium-sized groups of participants. During this time, the groups were asked to look at their process elements and begin to develop an active definition of safety that considered the outcome elements. There was time for share back to the whole group following which the groups were shuffled again to form 2 final groups tasked with developing their best definition of safety. As a final effort to narrow down the large groups’

preference for one definition over the other everyone was given a sticker and asked to vote for their favourite definition as they left the venue at the conclusion of the day.

The first definitions are as follows:

1. Safety is maximizing fun, while managing risk to physical mental and emotional health, for example, at all times, in all environments.
2. Safety: Being aware, trained, and prepared to access, identify and reduce risk. Collaboratively, determine effective policies, procedures and strategies to ensure wellbeing of all. Communicate effective strategies to all users. (Parents, staff, students, participants)
3. A consistent, inclusive expectation of support and care to minimize the risk of physical, mental or/ and emotional injury through access to knowledge, guidelines, regulations and best practices.
4. Safety is feeling comfortable + secure while participating in P.A. in a fun + enjoyable environment. This can be achieved through a positive support system (e.g.. Parents, coaches, teachers) includes risk management policies + procedures as well as prevention + promotion strategies.

The final definitions developed are as follows:

DEFINITION	VOTE COUNT
1. Safety is a holistic approach to the management/reduction of risk by using policy and procedures, tools, training, communication thereby creating an environment to maximize wellbeing of all users.	32
2. Safety is, maximizing fun, while managing risk to physical, mental, and emotional health, for everyone, at all times, in all environments.	6

SOCIAL MEDIA

The event used a social media strategy ahead of the symposium to drive online sharing and to provide the opportunity for those not attending to follow along with content of the day. The strategy included the development of a hashtag (**#PlaySafeSymposium**), setting up a one-day event contract with **TweetWall** and contracting the AV services on site to provide an additional presentation screen to stream the TweetWall in realtime throughout the day.

The results were positive and many of the delegates engaged in sharing photos and quick highlights which promoted non-attending followers to retweet and broaden the audience for the day. A study of the twitter impact is currently underway and will be published later 2015-16.

TweetWall statistics:

Total tweet count - 456

Total reach - 543,671

Unique reach - 63,153

EVALUATION

The symposium emailed an online evaluation to the attendees the day on February 5, 2015. In total, 40 responses were received.

Evaluation Criteria	% Selecting Good, Very Good or Excellent
Registration process	95
Quality of information	90
Appropriateness of event space (McLaughlin Auditorium)	97.5
Location of event (Sunnybrook Health Sciences Centre)	90
Quality of food	97.5
Overall experience	97.5
Overall organization of event	100

The evaluation included one open question to allow respondents the opportunity to articulate concrete actions that could be implemented within 30-days of the symposium within their organization as a result of their attending the event. The responses are as follows:

- ▶ *“The concussion material was very valuable and will be implemented into my personal practice.”*
- ▶ *“I have already sent all of the links for physical literacy, online concussion training to discuss for staff training starting with our summer staff.”*
- ▶ *“I am sharing the information with an injury prevention network that I am involved with.”*
- ▶ *“Already followed up with some ideas that came out of the day.”*
- ▶ *“I am going to follow up with Brandy and Chris Markham (OPHEA) regarding outreach to sporting organizations in Toronto around concussion.”*
- ▶ *“I will explore potential partnerships that arose as a result of meeting individuals/groups at the symposium in order to best promote safety across at risk groups.”*
- ▶ *“Will communicate learnings to other colleagues, especially re: concussion, mental health/physical activity.”*
- ▶ *“Audit off season training program for youth to ensure all components of FIFA 11+.”*
- ▶ *“Partner with at least one other organization in the Toronto area that I met yesterday or... ask*

one of the presenters (e.g.. Julia Alleyne) to speak at an event we will have or even to our staff --- obviously, after the Pan Am Games.”

- ▶ “Work with my team to see how we can integrate the FIFA 11+ warm messages and practices into the safety guidelines in Alberta.”
- ▶ “Work with one of the presenters on a collaborative project.”
- ▶ “Reach out to a number of speakers to discuss their work.”
- ▶ “We have concussion posters from a previous seminar that I will frame in the vicinity of our arenas for coaches in our facility to recognize key signs and symptoms that could exist if an individual has experienced a head injury. “
- ▶ “I represent a municipal recreation department, and am really excited to share a lot of the resources I learned about with sport organizations in my area.”
- ▶ “Once I receive the summary report from the symposium, I plan to host a lunch and learn to help get the word out to key stake holders in my organization, so they continue to get these resources out into our community.”
- ▶ “I have already spoken with our Aquatics Supervisor regarding incorporation the Swim

to Survive+ into our camps. Additionally, I plan to investigate the CATT for helping to inform our staff better about return to play concussion protocols.”

- ▶ “To quote one of the presenters, ‘Learn stuff and be responsible’”
- ▶ “Will pursue more literature on physical literacy to consider integrating a tool into our clinical programs”
- ▶ “Reinforce in patient education not only the importance of movement but how to move.”
- ▶ “Share information with colleagues”
- ▶ “Sharing back notes from the speakers with my colleagues to look at our work on physical literacy and determine areas for improvement.”
- ▶ “This was a wonderful networking opportunity for me. I now know who is working on what and where I can contact them. I also learned more about the term Physical Literacy.”
- ▶ “Sharing info with the people I work with.”
- ▶ “Reaching out to some of the speakers to work on projects.”
- ▶ “Better understanding of how a concussion can have an adverse effect on a child and tried to assist a parent who child suffered a serious concussion.”

NEXT STEPS

Despite recent efforts to address specific injuries in sport and recreation (such as concussion) there remains a strong need to develop a comprehensive and national approach. The following opportunities represent best practices seen in other health and injury strategies.

1. **Consensus statement** - A common and consistent statement will help organizations and decision makers galvanize around a shared definition of safety in sport and recreation. In the absence of a common definition, we are left with confusion and disorder.
2. **Call to action** - A distinct call to action will encourage organizations, leaders and funders to join the movement towards safer sport and recreation experiences. This type of action, while divisive, can distinguish between the groups who are willing and able to adopt safety within their jurisdiction and those that are not.
3. **National framework** - Reducing sport and recreation injury requires a well-designed plan based on national and international best practices and evidence. A national framework is imperative for communicating goals, process and measuring impact.

Play Safe will continue to promote these steps as we collectively aim to reduce injury in sport and recreation, and promote lifelong health through physical activity.

We extend our sincere gratitude to the speakers, volunteers and staff that helped to create a strong first step towards the accomplishment of all the above at the 2015 Interdisciplinary Symposium on Injury Prevention in Sport and Recreation.

Play Safe gratefully acknowledges the support of:



APPENDIX A: PROGRAM

Please use: #PlaySafeSymposium and tag @_playsafe



Play Safe Symposium: Change, Challenge & Opportunity
Feb 4, 2015

Time	Item	Speakers
8:00-8:30	Breakfast and Registration	
8:30-9:00	Opening remarks	Joanne Banfield, Sunnybrook Health Sciences Centre Pam Fuselli, Parachute
9:00-10:00	Keynote: <i>From Playground to Podium: Where does prevention have impact?</i>	Dr. Julia Alleyne, 2015 Toronto Pan and Para Pan American Games
Bio Break		
10:15-10:45	Think Tank #1	
10:45-12:00pm	<ol style="list-style-type: none"> 1. Online Concussion Training Toolkit 2. A Multi-Modal Approach to Assessing Recovery in Youth Athletes Following Concussion 3. The Convergence of the Developing Teen Brain, Risk Taking and Swim to Survive+ 4. Alberta's Experience with Safety Guidelines for School Physical Activity and Sport 5. Advancing Safety Together: Strengthening Safety in Sport, Recreation and After School Programs 	<ol style="list-style-type: none"> 1. Dr. Shelina Babul, BC Injury Research and Prevention Unit 2. Dr. Nick Reed, Holland Bloorview Kids Rehabilitation Hospital 3. Barbara Byers, Lifesaving Society 4. Kathy Belton, Injury Prevention Centre 5. Chris Markham, Ophea
Networking Lunch		
12:45-1:30	Panel presentation: "What does safe mean to you?"	Moderator: Dr. Dean Kriellaars • Shannon Kennedy • Dr. James Carson • Wayne Parro • Tyler Orlie • Carol Gall
1:30-2:30	<ol style="list-style-type: none"> 1. Movement preparation: a physical literacy approach to reduction in musculoskeletal injuries relate to lower body movements 2. The FIFA 11+ neuromuscular training warm-up program: from evidence to implementation 3. Coaches, The National Coaching Certification Program, and Injury Prevention 4. A Manufacturing Approach to Safety in Sport and Recreation 	<ol style="list-style-type: none"> 1. Dr. Dean Kriellaars, University of Manitoba 2. Rhona McGlasson, Bone and Joint Canada 3. Mercedes Watson, Coaches Association of Ontario 4. Patti Funaro and Julie Augustine, Town of LaSalle
Bio Break		
2:45-3:15	Think Tank #2	
3:30-4:00	Keynote: <i>Shifting the Paradigm – Getting the horse back in front of the cart</i>	Dr. Susan Forbes and Dr. Lori Livingston, Lakehead University
4:00-4:15	Closing Remarks	Joanne Banfield

APPENDIX B: ABSTRACTS

Abstracts are included with permission of the author.

The Online Concussion Training Toolkit

Objectives: The prevention, recognition, treatment of concussion, particularly in sport, is important nationally and internationally. The online Concussion Awareness Training Toolkit (CATT) was developed to standardize concussion diagnosis, treatment and management among health care practitioners; raise concussion awareness among parents, players and coaches; and support educators in return-to-learn protocol.

Approach: Based upon established international principles, this online toolkit includes learner-directed training for three distinct audiences. CATT for health practitioners includes diagnostic tools; links to clinical resources, patient handouts, journal articles, related websites, concussion videos and study cases; and the Zurich Consensus Statement. CATT for parents, players and coaches includes how to identify a concussion, how to appropriately manage a child with a concussion, including a concussion response tool. Currently in development, CATT for educators will include a return-to-learn protocol and related-resources. The first phase of CATT has undergone evaluation, with the second phase currently being evaluated.

Results: From April 2013 to August 2014, CATT for health practitioners has received over 25,000 hits to the website, by over 18,000 unique

visitors. Physicians demonstrated a statistically significant positive change in concussion practices ($p=0.001$). Positive change in physician knowledge was detected for those who typically see more than 10 concussions per year ($p=0.039$). Nurses demonstrated statistically significant positive change in practices ($p=0.005$) and attitudes ($p=0.035$). From June to August 2014, CATT for parents, players and coaches has received nearly 3,000 visits from over 2,000 unique visitors.

Conclusion: Concussion continues to be an under-recognized, under-diagnosed and under-treated medical condition, requiring both physical and mental rest. Good concussion management will potentially reduce related health problems and may decrease the risk of long-term brain damage, potentially lowering total health care costs among these patients. CATT is currently being rolled out across Canada.

Alberta's Experience with Safety Guidelines for School Physical Activity and Sport

Objectives: To provide teachers, coaches and school administrators with concise, up-to-date information on conducting a wide variety of physical activities and competitive sports in a manner that reduces the inherent risks to students and student athletes. Information on over 120 activities is useful for on-site instructional use and policy development.

Approach: The Safety Guidelines for Physical Activity in Alberta Schools (SGPA) and its companion document, the Safety Guidelines for Secondary Interscholar Athletic in Alberta (SGIA) began in 1998 with the acquisition of rights from the Ontario Physical and Health Education Association (OPHEA) to use their template to create the Alberta documents. Under the guidance of an interdisciplinary steering committee with input gathered from nearly 100 experts in various activities and sports, versions of the documents that align with the Alberta physical education curriculum and the Alberta context of school athletics programs were created, distributed and in-serviced as well as regularly updated.

Results: The SGPA and SGIA are used extensively in Alberta schools, creating a focus on safe physical activity in physical education classes, daily physical activity (DPA), interschool competition and practice, intramural sport, and field trips. The SGPA have become imbedded in the administrative procedures of the majority of school jurisdictions in Alberta making the SGPA an integral part of safety policy in schools. The SGPA has grown from 80 to cover over 120 physical activities and sports, reflecting the expanding interests and opportunities offered by schools. SGPA are now used by university education professors for teaching physical education generalists and specialists. French and English hard-copy and on-line documents and on-line courses teaching the use of the

guidelines have been made available through partnerships with other organizations.

Conclusion: Schools are an important setting for exposing students to physical activities that will shape their health for the rest of their lives. The SGPA and SGIA have reached the majority of Alberta schools, improving the safety of the physical education and activity environment for the majority of our 657,000 students.

The FIFA 11+ neuromuscular training warm-up program: from evidence to implementation

Objectives: Soccer has been identified as one of the top three sports contributing to injury rates in Canadian youth (ages 11-18), The objective of the project is to implement the FIFA 11+ injury prevention program to reduce injury rates for youth soccer player in Ontario.

Approach: The FIFA 11+ is a 20-minute neuromuscular training warm-up program designed to reduce the risk of injury in soccer. Studies have shown that participating in the program at least 1.5x per week results in a 29-43% injury reduction over the course of one season. The program consists of 15 exercises, including running, strength, plyometrics, and balance. The project has increased awareness of the FIFA 11+ program through a communication strategy and implementation has taken place through training health care professionals across the province to work with clubs and train coaches in the exercise program.

Results: A baseline survey of coaches across the province found that 52% of coaches were unaware of the FIFA 11+ program. The strategy that has included communications and training has introduced the FIFA 11+ to the technical directors of clubs across the province. The first training event in the Greater Toronto Area resulted in 42 health care professionals being trained on how to work with soccer clubs in injury prevention including the use of the FIFA 11+ program. By August 2014 coaches training had been provided in 7 clubs and the program has been set as a requirement of the Ontario Player Development League which will result in further coaching sessions which are being scheduled throughout the winter season.

Conclusion: A coordinated approach, including a communication strategy and training has resulted in interest in learning about the FIFA 11+ program. Clubs that participated in workshops have learned more and there is an ongoing effort to further this knowledge and evaluate whether it is transferrable to the 150 clubs in Ontario.

Coaches, The National Coaching Certification Program, and Injury Prevention

Objectives: The leaders of sport and physical activity play a pivotal role in reducing the risk of injury. The objective of the National Coaching Certification Program is to educate coaches in Canada to be competent leaders in these fields.

Approach: The NCCP educates coaches to reduce injury in sport in recreation in 3 specific

ways: enhancements to the content of all the NCCP's multi-sport modules in regards to brain injury and concussion education; the Competition Development module Prevention and Recovery, a 9 hour workshop dedicated to train coaches on the how to prevent injury; and finally, the Fundamental Movement Skills workshop, a workshop for anyone working with children, teaches individuals how to create safe and fun games that develop physical literacy.

Results: In 2013, over 50 changes were made to the pre-existing content of 8 of the multi-sport modules, in order to better educate coaches on brain injuries and concussion. These changes included adding concussion guidelines to the reference materials and activities/scenarios for coaches to work through in the workshop setting related to managing brain injuries. The Prevention and Recovery module reviews background information on injuries and how to prevent them, which guides coaches in designing an individualized Prevention Action Plan. The module also outlines key training methods for performance and prevention, and recovery and regeneration techniques. A full unit of the FMS workshop is dedicated to help coaches design safe games where children can practice their skills.

Conclusion: The Coaches Association of Ontario believes strongly in the investment in coaches as a method for reducing the rates of injury in sport and recreation. Specifically, the content provided by the NCCP should be used to educate these leaders.

Movement preparation: a physical literacy approach to reduction in musculoskeletal injuries relate to lower body movements

Objectives: To assess the impact of a physical literacy injury prevention program in provincial soccer players

Approach: This was a four year clustered field trial comparing the injury rates of teams (10 teams) with movement preparation to those using standard warm-up approaches. Participants fitness, agility, bilateral symmetry in cutting, were measured every 8 weeks. Injury surveys were completed at the end of each year using audience response systems.

Results: Fitness, agility, dynamic balance and bilateral symmetry in cutting were substantially and statistically better in the movement preparation group than control. The ACL injury rates reduced to less than 1.9% in the movement preparation group (>6.7% control), and the male to female ratio reduced to 1.6:1 (6.5:1 control).

Conclusion: Movement preparation appears to be a readily implementable approach for the overall reduction of ACL injuries, as well as being effective for closing the gender gap in injury rates.

The Convergence of the Developing Teen Brain, Risk Taking and Swim to Survive+

Objectives: To understand if parents are aware that their teens are at an increased risk of drowning because of their impulsive risk taking due to the teen brain development and their new

found freedom away from adult supervision and if they are aware of the need for them to learn swimming skills.

Approach: It is not uncommon for parents to be perplexed at times about their teen's behaviour and a growing body of research on the teen brain is helping experts understand that the physiology of the teen brain actually leads them to participate in thrill seeking activities and risky behaviour. This research reinforces the need to ensure that teens have swimming survival skills and knowledge to keep themselves and their friends safe when their brain physiology puts them at risk in the water. Moreover in a recent study commissioned by the Lifesaving Society that parents are overconfident about their teen's swimming skills.

Results: Teens have to take risks- but they need to take safer risks especially as their brain develops and they spend more time with friends. An Angus Reid Poll commissioned by the Lifesaving Society reinforces the need for teens to learn survival swimming skills. 97% of parents are confident about their teens ability to stay safe around water however 47% of the teens have either never taken lessons or took them more than 5 years ago. 46% say they worry very little or not at all about their teens safety around the water despite the fact that 19% say their teens will participate in water activities unsupervised in the summer and 48% say their teens will participate in both supervised and unsupervised water activities in the summer.

Conclusion: Teens need to learn survival swimming skills during school time, as many parents are unaware of the importance of teens needing these skills, when they have increased freedom and independence combined with an acceleration in the development of the thrill seeking pleasure seeking part of their brain.

A Multi-Modal Approach to Assessing Recovery in Youth Athletes Following Concussion

Objectives: The goal of this research is to gain a more objective and accurate understanding of recovery following concussion in youth athletes (ages 10-18 years). Findings from this research can help to inform the development and use of improved approaches to concussion management and rehabilitation specific to the youth sport community.

Approach: The presented approach involves the use of both pre-injury/baseline testing and post-injury/follow-up testing following a concussion to assess performance across a wide variety of domains including post-concussion symptoms, cognition, balance, strength, agility/motor skills and heart rate variability.

Results: This is an ongoing investigation. To date, 600 youth athletes have participated in the study with 24 of these returning for follow-up assessments after sustaining a concussion. Baseline/pre-injury to post-concussion performance for symptoms scores, cognition, and balance in some participants showed deficits

immediately following a concussion followed by a gradual improvement in performance up to 4 weeks post-concussion. The data collected will inform which measures are most sensitive to concussion amongst children and youth and in turn, which measures, alone or in combination with one another, can provide the most accurate index of post-concussion recovery.

Conclusion: The goal of this research is to determine the best methods that can be used most effectively during the clinical management and rehabilitation of concussion in children and youth in order to promote improved outcomes and the safe participation in meaningful daily activities (e.g., school, sports, family/social life).

Advancing Safety Together: Strengthening Safety in Sport, Recreation and After School Programs

Objectives: The objective of this session is to shed light on some of the challenges, gaps, and opportunities within the sport, recreation and after school sectors as it related to Safety, as well as concussions.

Approach: Ophea will share findings of a recent study it conducted (July 2013) within these sectors to better understand the landscape, as well as current safety practices, approaches and needs. Online surveys were completed by providers from more than 400 municipalities, 89 PSOs, and 143 clubs and leagues.

Results: The majority of respondents supported the need for a standard set of provincial

guidelines to be used by all sports and municipalities. A limited number of participants currently had policies and protocols in place specifically as it relates to safety and concussions.

Conclusion: Ophea would like to work in partnership with organizations from across the province to bring greater consistency to Safety practices across sectors. Through this presentation, Ophea hopes to shed light on potential opportunities and next steps we could collectively take, to better support children and youth across all of these sectors.

A Manufacturing Approach to Safety in Sport and Recreation

Objectives: Explain the 5S system of cleanliness, organization, and arrangement in manufacturing and how it relates to sport and recreation -the benefits of the 5S system in sport and recreation. For example, improved safety and diligence in sport and recreation programs, improved self discipline from coaches/leaders and improved culture amongst participants and leaders -how to implement in your own programs/facility

Approach: Through a power point presentation including before and after pictures, delegates will see real life examples of how this system can be implemented in the sport and recreation sector to improve safety .

Results: Adopting this system will set a standard for safety in sport and recreation. Delegates will

leave with the knowledge and tools to implement this system in their own programs.

Conclusion: This system is not just for manufacturing. It provides a solid foundation for achieving excellence in terms of safety in sport and recreation programs.

Poster Presentations:

Return to Learn: The Impact of Concussion on High Level Thinking Skills in Youth Athletes

Objectives: 1. To explore the how age, gender and concussion impact high level thinking skills (i.e. executive function, verbal fluency and verbal learning and memory) in youth athletes 2. Present findings in the context of graduated safe "return to learn" steps

Approach: This four-year prospective, repeated measures study examined data obtained from youth hockey players between 8-15 years of age. A convenience sample of 211 youth hockey players was recruited from hockey teams across the Greater Toronto Area. Post-Concussive Scale Revised (PCS) and neuropsychological assessments were administered to each participant annually as part of a pre-hockey season baseline assessment and following concussion. Data was analyzed using a mixed-effects modelling approach.

Results: Baseline results revealed significant age and gender effects on measures of high level thinking skills (i.e. executive function [EF], verbal

fluency [VF] and verbal learning and memory [VLM]). Multiple effects of concussion history on measures of EF, VF and VLM were also found. These results were found after youth reported a return to baseline following concussion.

Conclusion: These results factors must be considered in the clinical management of concussion, specifically in facilitating graduated return to learn. Findings have functional implications for returning to daily activity as undetected neurocognitive impairments put youth hockey players at increased risk for re-injury.

Coaches and concussion: What is the current knowledge base in youth sport?

Objectives: 1. Assess coaches knowledge of concussion and concussion management, in regards to symptom recognition, mechanism(s) of injury and safe return to play following injury 2. To determine information sources that coaches currently utilize in their management of concussion

Approach: A cross sectional 40-question survey was used to collect information on coaches awareness of concussion management in youth

sport. Domains of the survey included: concussion symptoms, concussion management, and barriers to concussion management. Recruitment of coaches was focused on female and non-contact sports across Canada which included: Paralympic sport, Special Olympic sports, cheerleading, gymnastics and synchronized swimming.

Results: Preliminary results showed that the majority of coaches accurately identify physical symptoms (i.e. headache, nausea). However, symptoms of concussion commonly overlooked were emotional/psychosocial in nature (i.e. irritability, sadness, feeling more emotional). Coaches identified several modes of desired education to improve their management of concussion. Coaches also identified several personal and environmental barriers to their current management of concussion.

Conclusion: Results from this study will help inform educational interventions to improve concussion management. This study fills a novel gap in examining previously understudied populations and sports which will ultimately broaden the scope of knowledge that the sport community has on the diversity of concussion management.

APPENDIX C: SYMPOSIUM PARTICIPATING ORGANIZATIONS

2015 Pan and Para Pan American Games	Parachute
Abilities Centre	Parks and Recreation Ontario
Ajax FC	PIVOT Sport Medicine & Orthopedics
Alberta Centre For Injury Control & Research	Progressive Calisthenics Ltd.
BC Injury Research and Prevention Unit	Region of Waterloo Public Health and Emergency Services
BFL Canada	Regional Municipality of York
Bone and Joint Canada	Rugby Ontario
Boxing Ontario	Saskatchewan Prevention Institute
Canadian Sport for Life	Seneca Summer Camps
City of Markham, Markham Recreation	Squash Ontario
City of Vaughan	Sunnybrook Health Sciences Centre
City of Windsor - Recreation and Culture	Sunnybrook Holland Orthopaedic & Arthritic Centre
Coaches Association of Ontario	The 519 Church Street Community Centre
Coaches of Canada/Coaching Association of Canada	The Sandbox Project
CSA Group	The Toronto Lawn Tennis Club
Dr. Tom Pashby Sports Safety Fund	Toronto Leaside Girls Hockey Association and CWHL
East Toronto Orthopaedic & Sports Injury Clinic	Toronto Public Health
Hamilton Health Sciences	Toronto Soccer Association
Holland Bloorview Kids Rehabilitation Hospital	Toronto Sports Council
Kelsey School Division	Town of Halton Hills
Lakehead University	Town of LaSalle
Lambton Public Health	Town of Milton
Lifesaving Society	Town of Newmarket
Markham Recreation	Town of Oakville
Ministry of Culture, Tourism and Sport	University of Manitoba
Ontario Government -Safe Schools	University of Prince Edward Island
Ontario Injury Prevention Resource Centre	University of Toronto
Ontario Soccer Association	West Rouge Soccer Club
Ophea	

APPENDIX D: ORGANIZERS, STAFF AND VOLUNTEERS

Conference Advisory Committee

Stephanie Cowle, *Ontario Injury Prevention Resource Centre*

Emina Secerbegovic, *HIGH FIVE*

Patricia Silva, *Sunnybrook Health Sciences Centre*

Brandy Tanenbaum, *Sunnybrook Health Sciences Centre*

Mercedes Watson, *Coaches Association of Ontario*

Facilitator

Sarah Gallsworthy, *Sunnybrook Health Sciences Centre*

Symposium Master of Ceremonies

Joanne Banfield, *Sunnybrook Health Sciences Centre*

Volunteers

Daman Dhillon

Carmen Barrientos

Patrick Olupot, *Ryerson University*

Chloe Chan, *Ryerson University*

