SIXTH INTERNATIONAL SYMPOSIUM ON SAFETY IN ICE HOCKEY

Sponsored by ASTM Committee F08 on Sports Equipment, Playing Surfaces and Facilities, in cooperation with the Hockey Equipment Certification Council (HECC) and USA Hockey.

May 13, 2019
Sheraton Denver Downtown Hotel
Denver, Colorado

Symposium Chairs:  Terry Smith, Ph.D.
Dynamic Research Inc.
Torrance, California

Alan Ashare, M.D.
Steward St. Elizabeth Medical Center
Brighton, Massachusetts

ABOUT THE SYMPOSIUM
This symposium is the sixth in a series, the first being held in 1987 in Montreal, the second in 1992 in Pittsburgh, the third in 1997 in St. Louis, the fourth in 2002 in Pittsburgh, and the fifth in 2008 in Denver. The objective of the symposium is to present new research and review the current state of the art and science of prevention of ice hockey injuries. Keynote presentations will be given by doctors and scientists currently working in ice hockey safety research. Additional presentations will be made by researchers working in areas of other contact sports so that those of us in ice hockey can learn from their experiences.
MONDAY, MAY 13, 2019

8:00 AM
**Opening Remarks**
Terry Smith and Alan Ashare, Symposium Co-Chairs

8:10 AM
**Opening Address**
50 years of Safety in Ice Hockey – What Have We Learned and Where Do We Need to Go?
Patrick Bishop, Ph.D.
Professor (retired), University of Waterloo, Waterloo, Ontario, Canada

**SESSION 1: SCOPE OF THE PROBLEM**

Session Chair: Len Clement
President – Hockey Equipment Certification Council
Cooperstown, New York, USA

8:35 AM
**Keynote Session Address**
Mike Stuart, MD.
Chief Medical Officer, USA Hockey, Colorado Springs, Colorado, USA

8:55 AM
**Estimated Annual Ice Hockey Injuries, 2008-2017 Report**
T. Yang, Consumer Product Safety Commission, Rockville, Maryland, USA

9:15 AM
**Brain Trauma Profile Comparison of Midget and Junior Hockey Players to Inform Safety and Policy**
L. McMunn\(^1\), T. B. Hoshizaki\(^2\), M. Gilchrist\(^3\), C. Karton\(^2\), A. Post\(^2,3\)
\(^1\) Department of Chemistry and Biomolecular Sciences, University of Ottawa, Ottawa, Ontario, Canada
\(^2\) School of Human Kinetics, Neurotrauma Impact Science Laboratory, University of Ottawa, Ottawa, Ontario, Canada
\(^3\) School of Mechanical and Materials Engineering, University College Dublin, Dublin, Ireland

9:35 AM
**Pressure, Aggression, and Fighting: The Role of Psychosocial Factors in Acute Concussions during Junior A Hockey**
M. Caputi, A. Smith, K. Erredge, M. Stuart, Mayo Clinic, Rochester, MN, USA

10:00 AM  BREAK
SESSION 2: BIOMECHANICAL STUDIES

Session Chair:   Terry Smith  
Dynamic Research Inc.  
Torrance, California, USA

10:30 AM  
**Keynote Session Address**  
S. Duma and S. Rowson, Virginia Tech, Blacksburg, Virginia, USA

10:50 AM  
The Evolution of Head Impact Monitoring and its Practical Application in Sports  
R. Greenwald, Simbex, Lebanon, New Hampshire, USA

11:10 AM  
Summary of Accurate Head Impacts Collected On-Ice in Hockey Players, and How These Data will be used to Improve Equipment and Rules for Safer Play  
A.J. Bartsch, R. Dama, V. Miele, E. Benzel, S. Samorezov  
1Prevent Biometrics, Minneapolis, Minnesota, USA  
2University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania, USA  
3Cleveland Clinic, Cleveland, Ohio, USA

11:30 AM  
Developing a Linear Impactor Test Method for Ice Hockey  
C. Withnall, M. Wonnacott, J. Searle  
1Biokinetics and Associates, Ottawa, Ontario, Canada  
2Warrior Sports Inc., Montreal, Quebec, Canada

12:00 PM   LUNCH

SESSION 3: CLINICAL OBSERVATIONS

Session Chair:   Alan Ashare  
Steward St. Elizabeth Medical Center  
Brighton, Massachusetts, USA

1:30 PM  
**Keynote Session Address**  
S. Delaney, McGill University, Montreal, Quebec, Canada

1:50 PM  
Outlining our from Ice to Axon and Astrocyte Model Related to Concussions in Hockey  
A. Smith, M. Stuart, D. Krause, C. Eickhoff, J. Lamb, M. Caputi, Mayo Clinic, Rochester, Minnesota, USA
2:10 PM
Are there Gender Differences in Concussion Symptomatology Associated with History of Concussion in Young Adult Ice Hockey Players?
R.S. Moser¹, P. Schatz¹,²
¹Sports Concussion Center of New Jersey, Princeton, New Jersey, USA
²St. Joseph’s University, Philadelphia, Pennsylvania

2:40 PM  BREAK

SESSION 4: COUNTERMEASURES

Session Chair: Kevin Margarucci
Manager, Player Safety
USA Hockey

3:00 PM
Keynote Session Address
Jeff Crandall, BioCore LLC, Charlottesville, Virginia, USA

3:20 PM
Heads Up, Don’t Duck: A Program to Decrease the Risk for Cervical Spine Injury
A. Ashare, Steward St. Elizabeth Medical Center, Brighton, Massachusetts, USA

3:40 PM
Fair Play in Minnesota Hockey
M. Moris, M. Stuart, D. Krause, K. Farrell, M. Caputi, A. Smith, Mayo Clinic, Rochester, MN, USA

4:00 PM
How to Use Social Media to Improve Safety in Ice Hockey
D. Kasprowicz, GoalieParts.com, Chicago, Illinois, USA

SESSION 5: WRAP-UP

Session Chair: Terry Smith
Dynamic Research Inc, Torrance, California, USA

4:20 PM  Q&A Round Table Panel of Keynote Speakers

4:50 PM
Closing Remarks
Terry Smith and Alan Ashare, Symposium Co-Chairs

5:00 PM  SYMPOSIUM ADJOURNS