



**QUEBEC
HOCKEY
SUMMIT**

MONTREAL 2011

SAFETY IN ICE HOCKEY

Mark Aubry M.D.

*Chief Medical Officer Hockey Canada &
International Ice Hockey Federation*



Safety in Ice Hockey

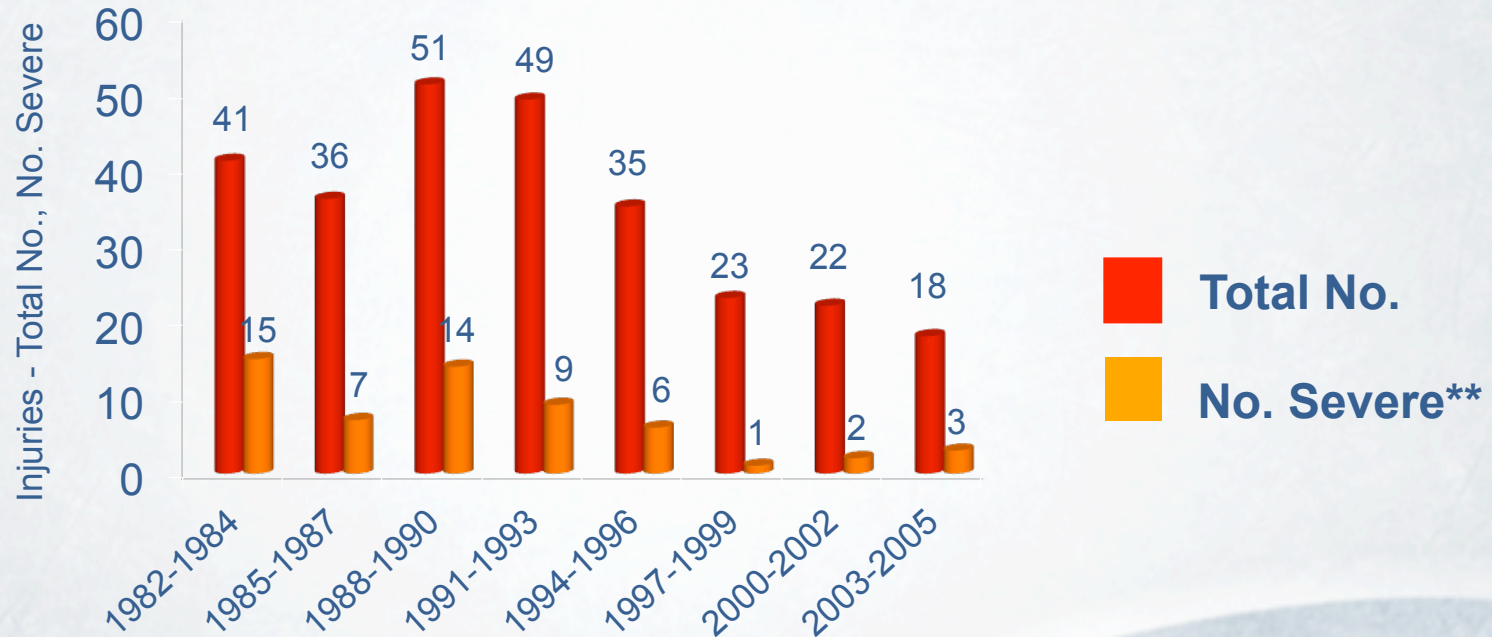
1. Spinal Injuries – The good news story
2. Concussions on the rise
3. Body Checking and Injuries
4. Say No to Doping



A GOOD NEWS STORY:

CANADIAN HOCKEY SPINAL INJURIES 1943 - 2005

Total Number of Injuries and Severe Injuries per Three-Year Period, 1982-2005

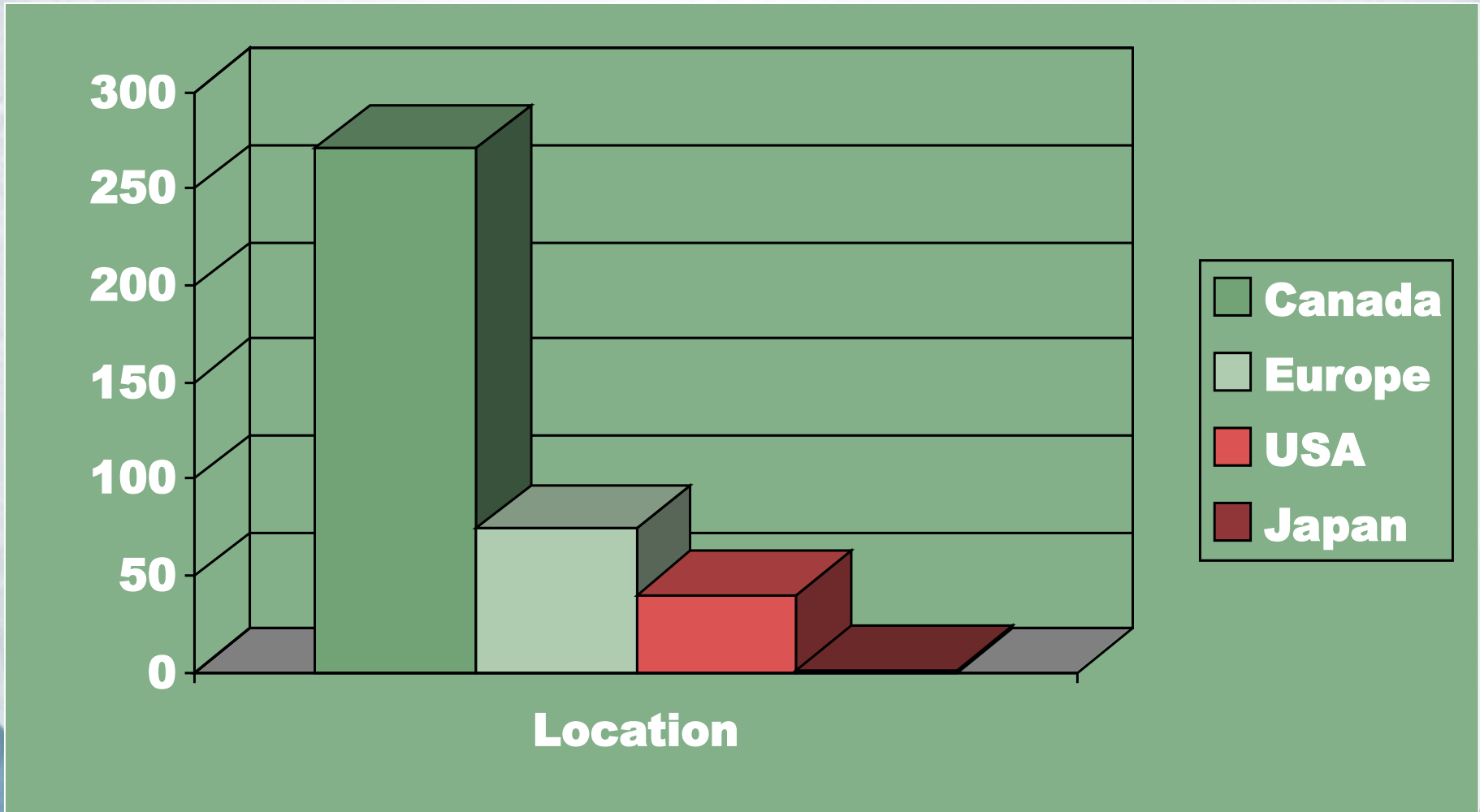


3 - Year Time Interval



** Severe Injuries: CM+CS, CM+IS, CM

Location



THINK FIRST!



DON'T CHECK FROM BEHIND!



Conclusions

- Spinal Injuries are Catastrophic Injuries
 - Problem in Canadian ice hockey since 1980's
 - Causes → • Multifactorial
 - Prevention- Multifactorial →
 - ↑ Knowledge of Safety
 - ↓ Injury
 - ↓ Risk of Injury

These Injuries Are Preventable!



Concussions on the Rise

IMPORTANT FACTS:

- Affects all ages
- The young are more vulnerable
- Every concussion adds up (It takes less force for the next one and symptoms last longer)
- Aggressor looking for hit
- Victim's fault (head down)



Concussion Concerns

- An accumulation of small hits to the head may be as significant as the hit that causes a concussion
- Chronic Traumatic Encephalopathy (CTE-early dementia) is being diagnosed in hockey
- A number of concussions may force players and especially kids to give up the game



IIHF Rule Changes and Enforcement

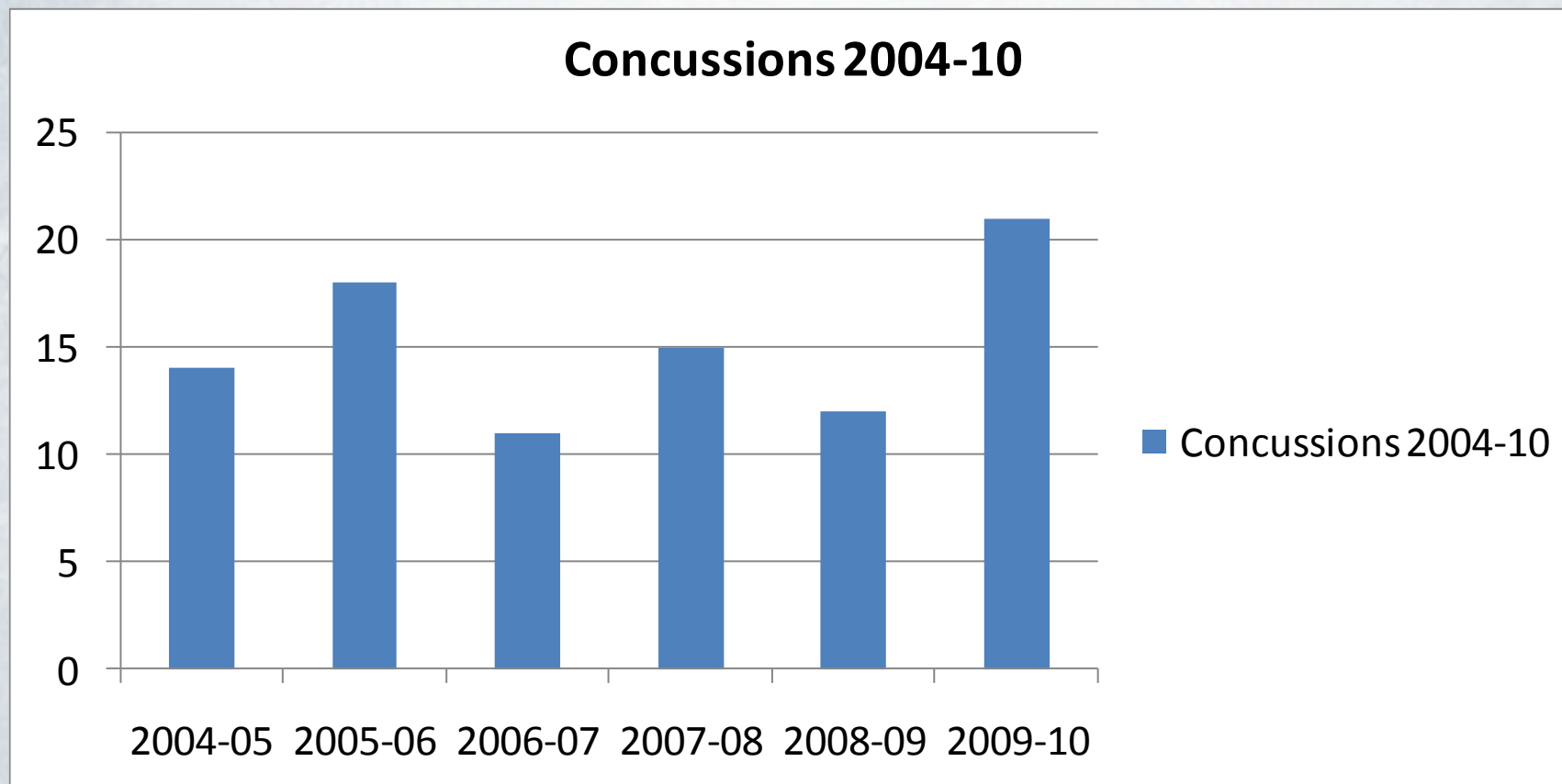
Another key factor in the prevention of concussions

Some of the important milestones in international hockey:

2002-03	No head checking
2005-06	Reinforcement of the rules
2007-08	Two-referee system
2006-08	Rule emphasis



Concussions and IIHF Championships



Prevention

- Helmets do not protect against concussions
- Helmets prevent skull fractures, brain haemorrhages
- No evidence of protection from mouthguards against concussions.



Hockey Canada Rule

- Zero tolerance on head contact
- Stiffer penalties for deliberate hits
- Education of administrators, coaches, officials, players, parents
- Respect for players' heads

KNOWING THE RULES

RESPECT

IT ALL LEADS TO INJURY PREVENTION

PLAY SAFE, PLAY SMART
"LEARN MORE ABOUT THE HEAD CONTACT RULE"

We all have a responsibility - lets work together to keep hockey safe!

hockeycanada.ca/headcontactrule

- Resources to understand the head contact rule including great videos
- Coach tools to support pre-season parent and team meetings
- Concussion resources including responsible "return to play guidelines"

READ IT • RESPECT IT • PASS IT ON

HOCKEYCANADA.CA facebook.com/hockeycanada @HockeyCanada youtube.com/hockeycanadavideos



Prevention of Concussions

- Keep your head up
- Know where the players are on the ice
- No hits to the head
- Education – make players aware of the risks and serious consequences of concussions



Concussions – Next Steps

- Continue the awareness campaign for coaches and players
- Stronger rule enforcement and more severe penalties? Rules alone have no effect without enforcement
- NEW HOCKEY CANADA RULE – Head Contact
- Learn from the success story with spinal injuries
- Fair play and respect



1st , 2nd , & 3rd International Symposia on *Concussion in Sport - 2001-08*

PARTNERSHIP

IIHF

IOC

FIFA

IRB



CONSENSUS

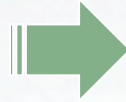


Consensus

- Definition
- SCAT2
- Return to play
- Neuropsychology
- Research



**RETURN TO
PLAY?**



**WHEN IN
DOUBT...**

?

?

SIT

THEM

OUT

QUEBEC
HOCKEY SUMMIT
MONTRÉAL 2011

EXPORT
ALL

Stepwise process to return to play

Agreement Statements on Concussion in Sport



Modifiers

Predictors of Severity

- Child and Adolescence <18
- Previous Concussion
- Behaviour (Aggressive behaviour)
- Women ?



Pediatric

- No return to play in the same game
- Longer recovery
- Slower return to play
- Physical/cognitive rest
- Neuropsychological testing is developmentally sensitive



Safety Issues

SKILL DEVELOPMENT

BODY CHECKING

INJURIES



Distinction between Body Checking and Body Contact

- Hockey Quebec makes the distinction clearly
- Body contact only in pee-wee in Quebec
- Recent adoption of rule change with only body contact at the pee-wee level in USA



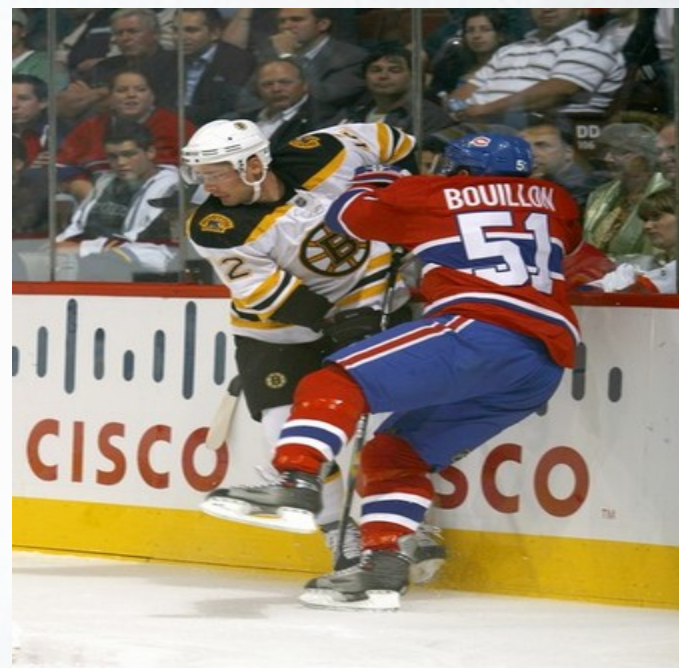
Body Contact

- Defensive tactic
- Restricts movement of player
- Skating
- Angling
- Body position



Body Checking

- Defensive tactic
- Defensive player uses his body to prevent movement of player
- Hips, upper body
- Check is finished above the hips and below the neck



Injuries and Body Checking

22 IMPORTANT STUDIES:

- Risk Factors: Age, Session, Level, Body Checking, Body Weight/Height

Conclusion

- Higher risk of injury in games (4X)
- Higher risk of injuries with body checking (2.5X)
- Increased risk of concussions (1.7X)

Warsh et al., Clin. J. Sport Med., 2009:134-44

Emery et al., Injury Prevention, April 2010



Injuries and Body Checking

Results - Comparative studies - SAME AGE

- 4 studies comparing groups of same age
- Risk of injury higher among teams that allowed checking
- Alberta/Quebec study (N=2054) in one season of pee-wee teams (11-12)
- Risk of injury 3.26X higher in Alberta
- Risk of concussion 3.88x higher in Alberta

Warsh et al., Clin. J. Sport Med., 2009:134-44

Emery et al., Injury Prevention, April 2010



New Study

- Risk of injury in older age group may be lower when body checking introduced at a younger age
- Risk of concussion is higher in the 13-14 year old group if previous concussion

• Emery et al. CMAJ, June 2011



Contact in Women's' Hockey

**NO BODY CHECKING
BUT
BODY CONTACT IS ALLOWED**

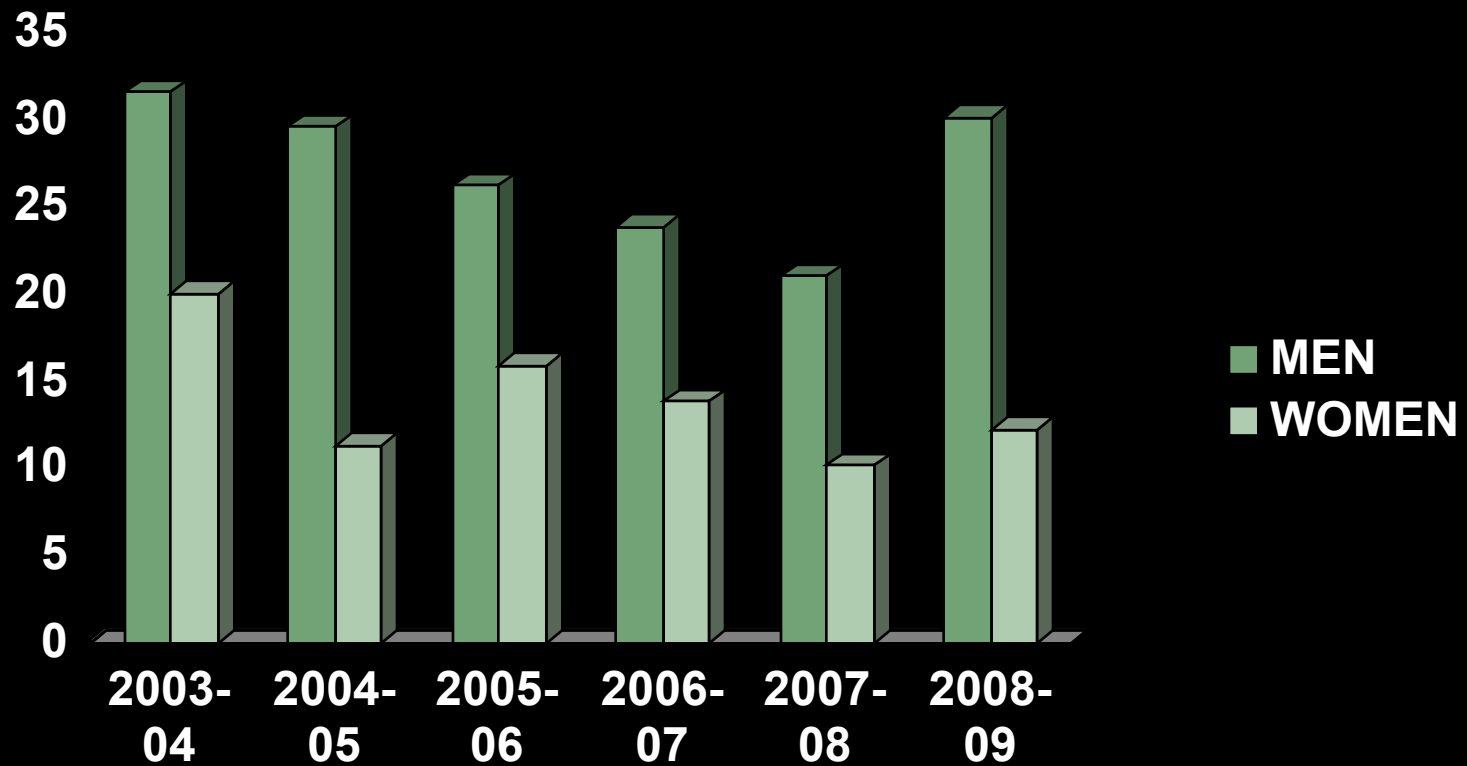
INTERESTING FACTS:

- Rate of injury is much lower in all years of reporting
- Most injuries are from incidental contact or no contact

IIHF Injury Reporting System



RATE OF INJURY – Male vs. Female



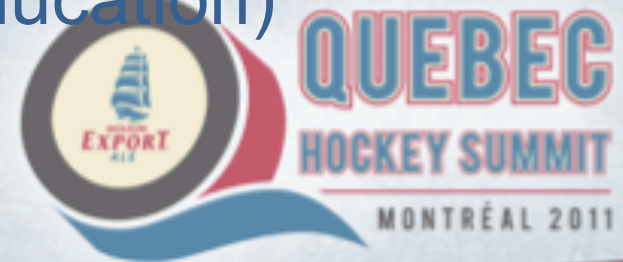
Body Checking Concerns

- ***Concussions add up***
- ***Attrition rates of kids in checking/non-checking leagues***

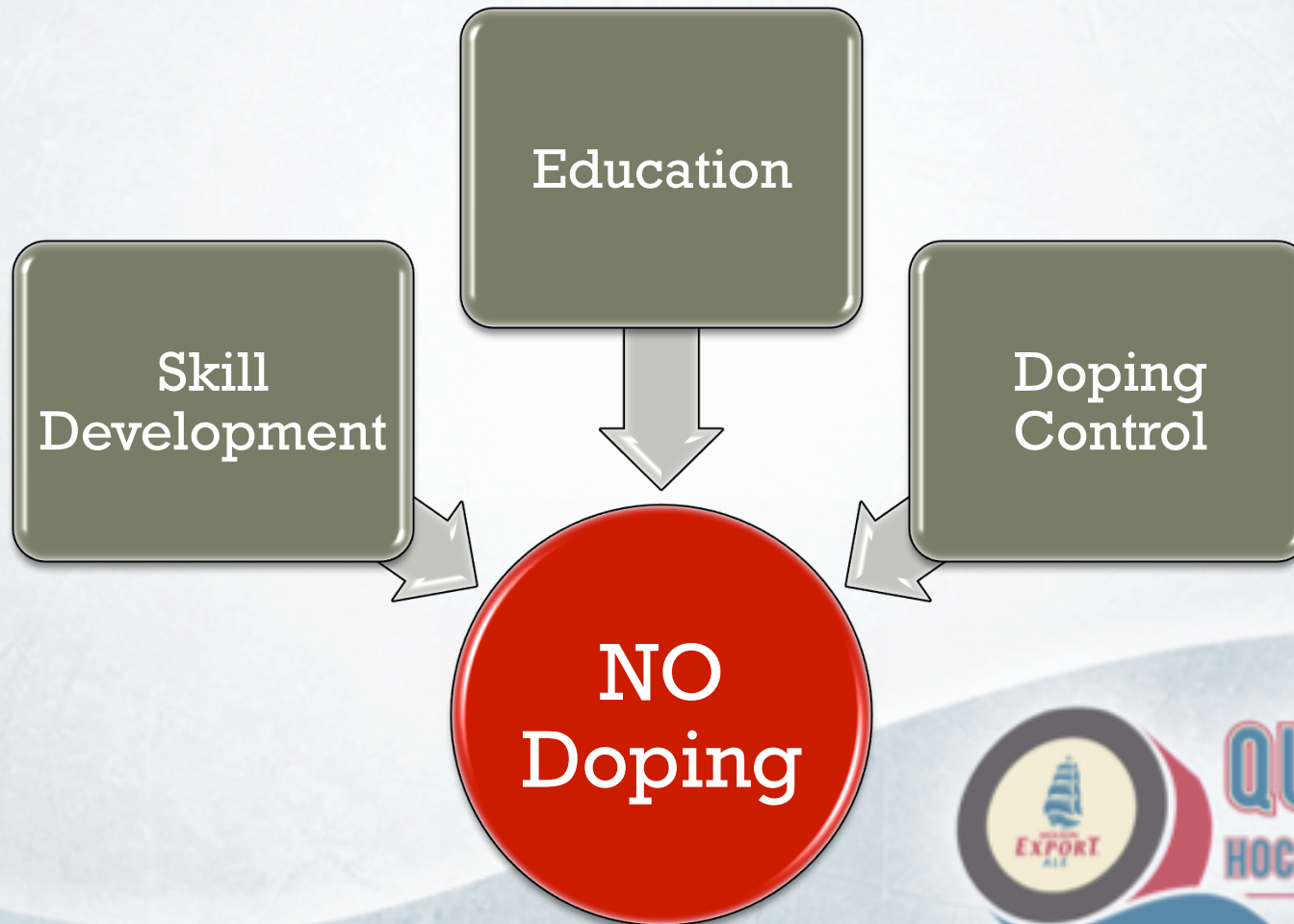


Things to Consider in Safety and Skill Development

- Teach one skill at a time
- Body checking is a skill not a “licence to kill”
- Introduce body checking in a stepwise fashion starting with body contact at the appropriate age
- Emphasize body contact at all ages
- Body checking in practices not games
- Prevention of Injury is a skill (Education)



Link Between Doping and Skill Development



“GREEN PUCK” PROJECT



PLAYER SUPPORT

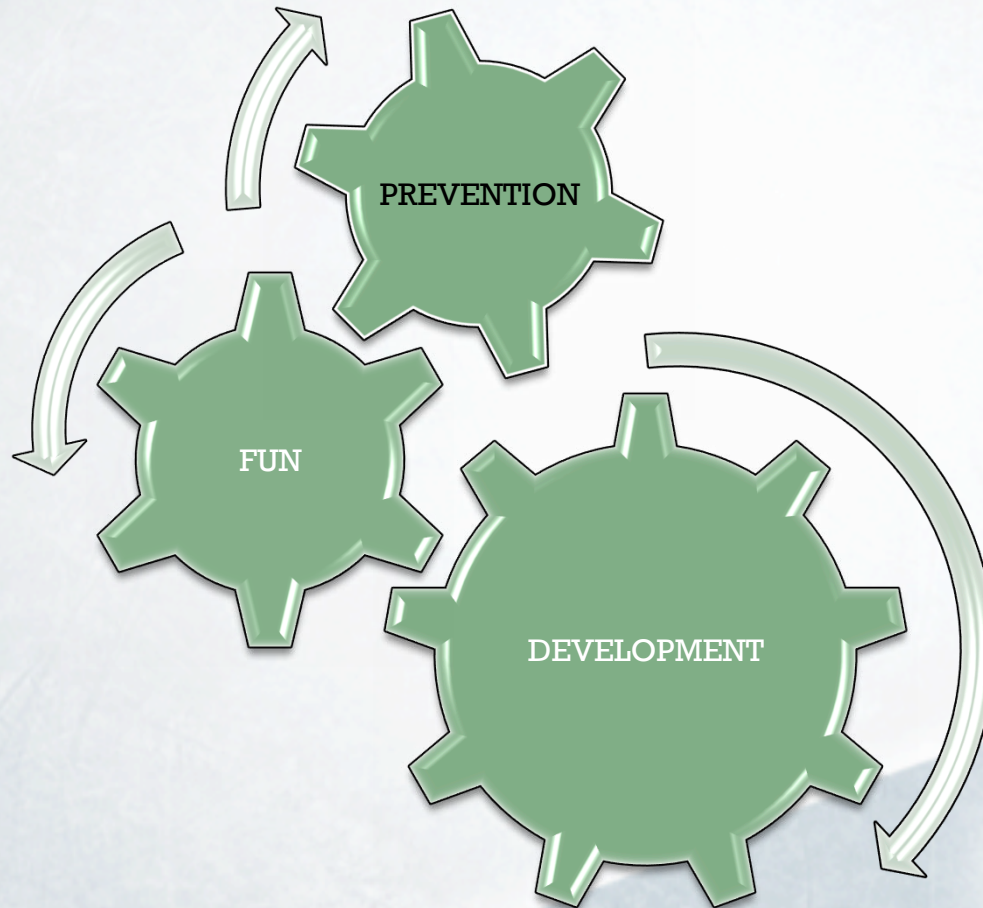


Development

- Nutrition
- Training
- Supplements
- Stimulants



Remember the Goals



Thank You

Mark Aubry M.D.

*Chief Medical Officer Hockey Canada,
IIHF*

