

Ice Hockey

Injury Prevention

*Sports Medicine & Athletic Related Trauma
(SMART) Institute*

University of South Florida



© 2010 USF



Objectives

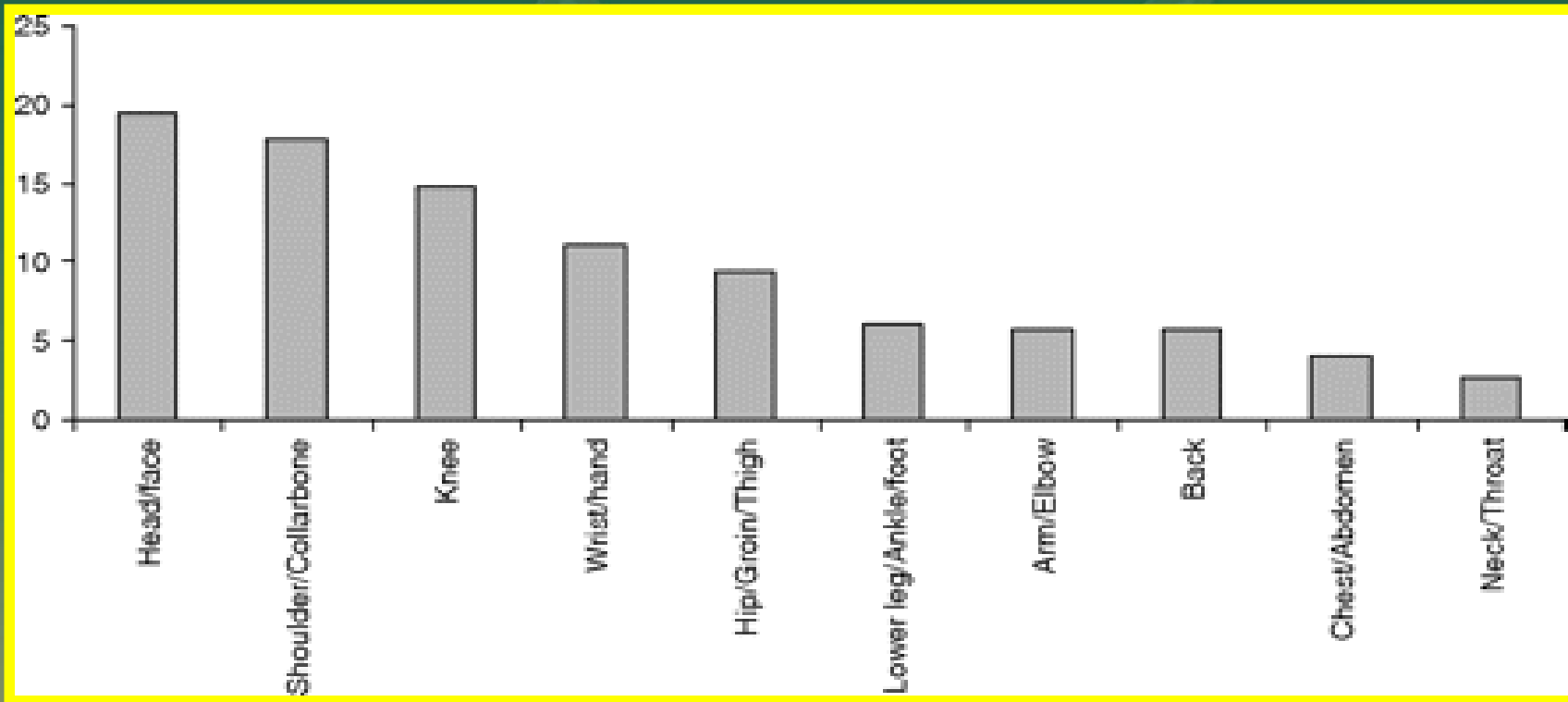
The following topics will be emphasized in this presentation:

***Injury Prevention
Recognizing a Concussion
Equipment Safety***

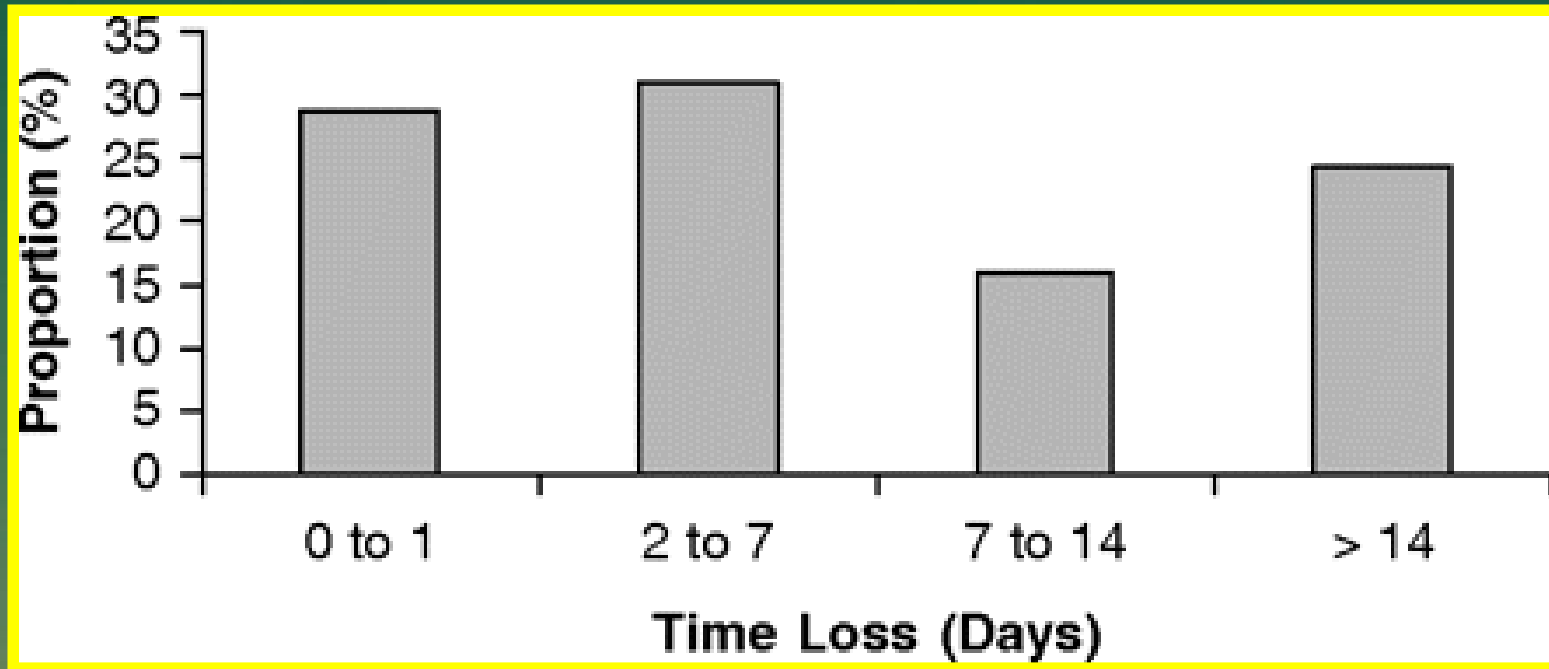
Ice Hockey Injury Facts.....

- Ice Hockey injuries rank 3rd (behind basketball and soccer) for ER visits of children in sports & recreation
- Injuries occur more often in games than practices
- Preseason games have more injuries than regular and post-season for kids
- Injuries occur in later periods (42% in 3rd), and later minutes in each period (47% last 5)
- NHL study – players with less conditioning were 3x more likely to sustain injuries

Body Part



Source: Canadian Youth Hockey 2006



Source: Canadian Youth Hockey 2006

What does this mean????

<u>Level</u>	<u>Game Injuries per 1,000 hours</u>
Mite	0.0
Squirt	2.7
Peewee	12.1
Bantam	11.8
High School	31.1
Junior A	96.1

1 injury every 66 practice/games for a Mite

1 injury every 24 practice/games for a Squirt

1 injury every 5.5 practice/games for a Peewee

1 injury every 5.6 practice/games for a Bantam

1 injury every 2 practice/games in High School

1.5 injuries every practice/game for Junior A

Of Interest.....

- 86% of injuries occur from contact
- 95% of injuries with checking – being hit
- Difference in body wt/size
- Younger ages with contact,
 - 4x higher rate of injury
 - 12x more likely to sustain a fracture
- 16% contact injuries occur illegal/penalty
 - Elbow, cross-check, slash, trip, roughing



More Injury Facts

- Risk of injury increases by age
- Risk of injury greater in games vs practice regardless of age
- Majority of injuries from checking
- Most common injuries include head & face, shoulder, hip/groin, and knee
- Types of injuries includes bruises, lacerations, muscle strains, ligament sprains concussions

Injury Prevention

- *Razor sharp skates*
- *Frozen rubber pucks*
- *5-6' long sticks*
- *Unyielding boards*
- *Slippery surface*

Injuries will happen!

Who gets injured?

Goalie 4%

Defense 33%

Forwards 63%

Stretch Muscles that
will be used regularly



Back

Hip

Groin

Proprioception



This is combining strength and balance!

SAFE Sports

Any of these signs may indicate a concussion:

- Headache
- Dizziness
- Loss of balance
- Confusion
- Ringing in ears
- Vision disturbance
- Personality changes
- Slurred speech
- Memory loss
- Nausea

Do not wait for more serious symptoms to occur!

Call (813) 396-9422 for a physician consultation or visit your local emergency department for immediate attention

USF
HEALTH

SAFE SPORTS

Save A Friend Early

Recognize the early signs of a
concussion

usfortho.com

© 2010 USF



BENCH EVALUATION

All coaches should familiarize themselves with this simple evaluation technique:

Mental Status Testing:

Orientation:

Time, place, person and situation (circumstances of injury)

Concentration:

Digits backward

10 - 9 - 8 - 7 - 6

Months of year in reverse order

Memory:

Names of teams in prior contest, President, Governor, Mayor, Recent newsworthy events, 3 words and 3 objects at 0 and 5 minutes Details of contest (plays, moves, strategies etc.)

Symptoms:

Any appearance of associated symptoms is abnormal, e.g., headache, dizziness, nausea, unsteadiness, impaired orientation, blurred or double vision, mental status changes, and confusion with or without amnesia.

Neurological Tests:

Finger to Nose

Finger to Nose with eyes closed.

© 2010 USF

People working with younger athletes should be aware that *recovery may take longer than in older athletes.*

***National Athletic Trainers' Association
Position Statement***

© 2010 USF



Because damage to the maturing brain of a young athlete can be catastrophic (ie, *almost all reported cases of second-impact syndrome are in young athletes*), athletes under age 18 years should be managed more conservatively, using stricter RTP guidelines than those used to manage concussion in the more mature athlete.

***National Athletic Trainers' Association
Position Statement***

© 2010 USF



What is 2nd Impact Syndrome?

Sustaining a second concussion before the first one has completely healed!

Brain injury is likely to be more severe

Concussion Facts

- Increased number of concussions despite advances in equipment design
- Repeated concussions occurring over months or years can have cumulative effects
 - Learning disabilities
 - Neurological disorders
 - Psychiatric problems
 - May never develop social & cognitive skills
- HS athletes with a history of 3 concussions are 9x more likely than those with no history to have permanent mental status changes

Keep Your Head Up!

When you skate with your head down, you can't see an opponent coming toward you, and you are more likely to get hit, possibly leading to a concussion or other serious injuries

Follow Up Guidelines After a Concussion

- Avoid medications unless provided by MD
- Rest is good, but complete bed rest is not recommended/necessary
- An athlete should be awakened during the night to check on deteriorating signs and symptoms only if he or she experienced LOC, had prolonged periods of amnesia, or was still experiencing significant symptoms at bedtime

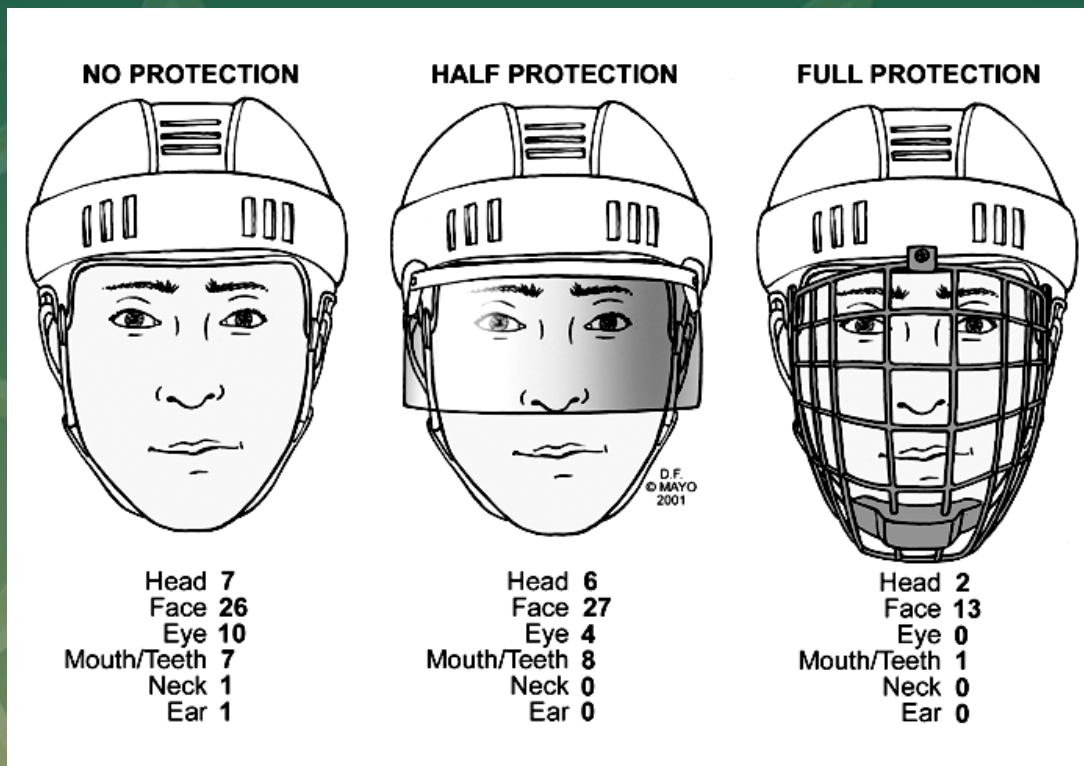
National Athletic Trainers' Association
Position Statement

© 2010 USF



Equipment Safety

Location of injuries based upon type of helmet protection



Source: USA Hockey

© 2010 USF

Certified Helmets

HECC (Hockey Equipment Certification Council)

ASTM (American Society for Testing & Materials)

CSA (Canadian Standards Assoc)

These are the main agencies that certify hockey helmets

These agencies don't make the helmets, they merely test them for safety standards and protection

Mouthpieces

Major piece of protective equipment!

Prices range significantly – from a few dollars to \$40!

Keep the mouthpiece in good shape

The more it molds, the better it protects

The key is to use it!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Nutrition for Performance

What Fuels a Hockey Player?

Carbohydrates, not fats!
Muscle Sugar – not blood & guts sugar
Fluid!
Protein

Standard routines – knowledge as opposed to
peaks and valleys

Pre-Game Considerations

- Salad bar – w/o heaps of dressing
- Chicken – roasted or grilled
- Carbohydrate drinks
- Fluids – with sugar 2 hours prior, water within 2 hours of play (12-20 ounces)

Pre-Game No-No's

- Burgers & fries – value meals
- Sugars less than 2 hours pre-game (exception if medical disorder)

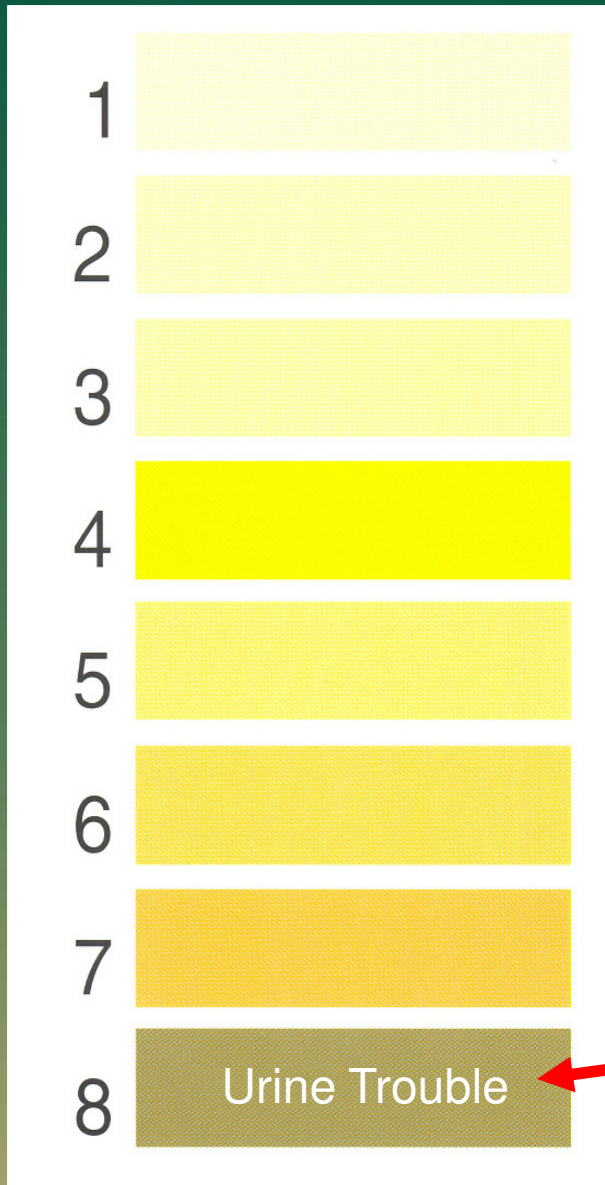
Game Tricks

- Hydration – children have poorly developed thirst mechanisms
 - Dehydration = irritability = poor performance
 - Take a sip each shift break
 - Goalies MUST have bottle and use it!
- Energy Bars
 - Bench bites



Between Game Tips

- Post game drink – ASAP
 - 24 hours to rehydrate
- Get out of clothes, go dry
- Fast foods inadequately fuel muscles
- Carry Carbs
 - bagels, crackers, fig bars, breakfast cereals, dry fruits, trail mix, popcorn, pretzels, muffins, fruits (watermelon, cantaloupe, orange)
- Pizza Pizza Pizza



16 ounces = 16 ounces

Drink what you like

Temperature of your choice

Consider how much you need

Dehydrated with metabolic waste

Item	Calories	Fat
Candy Bar	230	13
Energy Bar	230	2
Corn Chips	160	10
Pretzel	110	1
Ice Cream	540	36
Yogurt	210	2

Travel Tips

- Pick your favorite snacks – seek sponsorships!
- Pre-pack healthy snack fuels
- Pre-plan restaurant choices
- Expect travel headaches
- Assign someone this responsibility!



<http://www.usfortho.com>

Thanks!

© 2010 USF