

*Sports Specific Safety*

# *Lacrosse*



*Sports **M**edicine & **A**thletic **R**elated **T**rauma  
**SMART** Institute*

# Objectives of Presentation

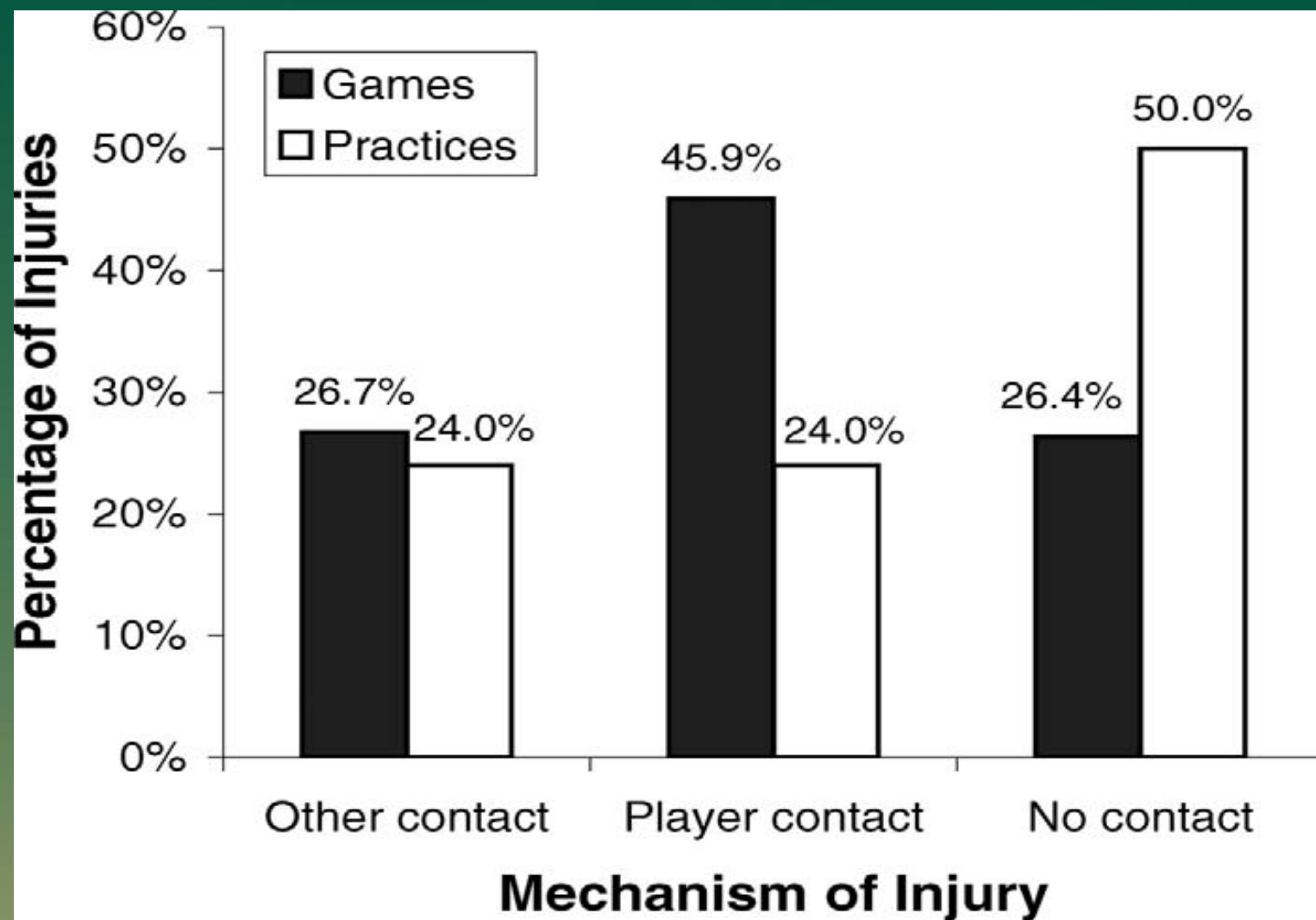
1. Identify the prevalence of injuries.
2. Discuss commonly seen injuries.
3. Provide information regarding the management of injuries.
4. Provide examples of venue and equipment safety measures.
5. Provide conditioning tips to reduce potential injuries.

# Percentage of Game and Practice Injuries by Major Body Part, Men's Lacrosse 1988–1989 Through 2003–2004

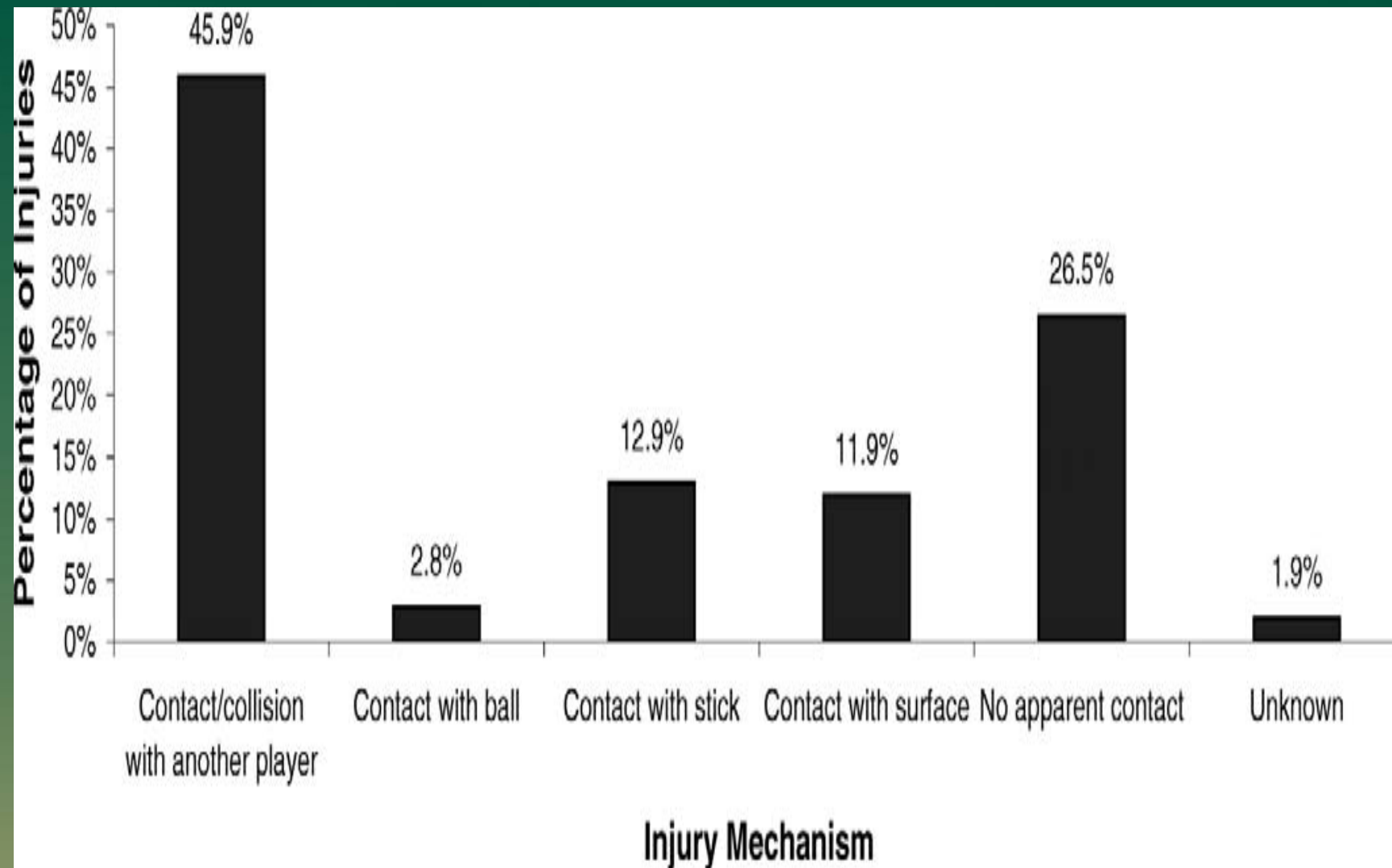


Body Part	Games	Practices
Head/neck	11.7	6.2
Upper extremity	26.2	16.9
Trunk/back	11.9	14.4
Lower extremity	48.1	58.7
Other/system	2.2	3.8

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**Sport-specific game injury mechanisms, men's lacrosse, 1988–1989 through 2003–2004 (n 1921)**

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# Commonly Seen Injuries

- The most common game injuries for women are:
  - Ankle ligament sprains
  - Knee injuries
  - Concussions
  - Upper leg muscle strains

# Commonly Seen Injuries

- The most commonly seen injuries for the men are:
  - Ankle ligament sprains
  - Knee injuries
  - Concussions
  - Upper leg contusions
  - Muscle strains

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# Injuries

- **Ankle Sprains:** lateral ankle injuries are more common than medial, sometimes the result of stepping on another's foot.
- **Acute Management:** Rest, Ice , Compression, Elevation.
- **Prevention:** Stretching (Achilles), strengthening, proprioceptive training, proper footwear, and taping/bracing when appropriate.

# Injuries

- Internal knee injuries: could consist of ligamentous damage or meniscal tears.
- Acute management: Rest, Ice, Compression, Elevation. Crutches could be warranted.
- Prevention programs such as PEP can be instrumental in preventing ACL injuries.

# PEP

- What is the PEP Program?

The PEP (Prevent injury, Enhance Performance) Program is a highly specific 15-minute training session that replaces the traditional warm-up. It was developed by a team of physicians, physical therapists, athletic trainers and coaches, and has funding support from the Amateur Athletic Foundation of Los Angeles (AAF).

# PEP Program

- **The Goals of the Program are to:**
  - 1) Avoid vulnerable positions
  - 2) Increase flexibility
  - 3) Increase strength
  - 4) Include plyometric exercises into the training program
  - 5) Increase proprioception through agilities

# Injuries

- Concussions: it is important that the athlete understand the signs and symptoms of a concussion and the importance of reporting even the slightest incident.
- Acute management: seek medical attention.
- Prevention: reporting of each incident with proper medical care can prevent “Second Impact Syndrome.”

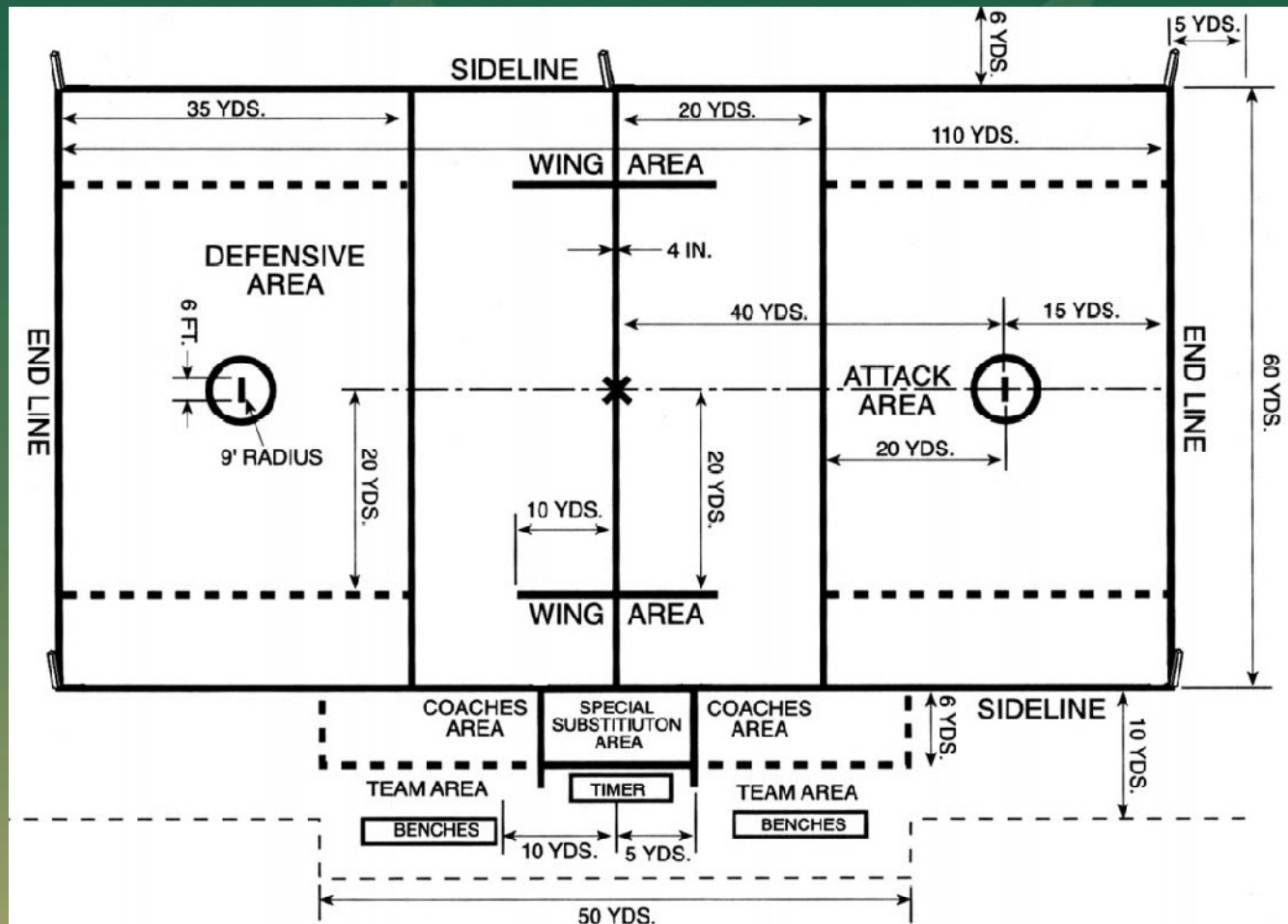
# Injuries

- Upper leg muscle strains: can be result of poor conditioning or improper warm-up.
- Acute management: mild stretching, compression and ice.
- Prevention: proper conditioning and warm up both prior to the game and prior to the second half as well as adequate hydration.

# Injuries

- Upper leg contusions: the quadriceps group is a common place for contusions due to its exposure.
- Acute Management: mild stretching, rest, ice, compression, elevation.
- Prevention: thigh pads?

# Field/Playing Area Safety



# Field Safety

- Uneven playing surfaces
- Surfaces with greater than normal friction
- Slippery playing surfaces, fields with puddles
- Improper illuminated lighting for night events
- Irrigation systems not completely buried
- Fences that surround fields with protruding parts
- Goalposts and other fixed apparatus that are not properly protected with padding

# Field/Playing Area Safety

- Lightning
  - Flash to Bang or 30-30 Rule
    - If there is 30 seconds or less between the time that you see lightening and hear thunder then seek shelter immediately.
    - Wait at least 30 minutes after the last thunder is heard before resuming play. If you see further thunderstorm clouds building, you should wait at least another 30 minutes.
  - Seek shelter in an enclosed vehicle, restroom, or other nearby building. Golf carts, trees, or other “shaded” locations are not safe.
- Sun
  - Don't forget sunscreen.

# Safety Equipment for Girls

- **The Mouthpiece:**  
All players must wear mouthguards.
- **Protective Equipment:**  
Close-fitting gloves, nose guards and soft head gear are optional and may be worn by all players. All field players must properly wear eye protection that meets ASTM specification standard F803 for women's adult/youth lacrosse for the appropriate level of play.

# Safety Equipment Girls

- **The Goalkeeper's Equipment:**  
The goalkeeper must wear a helmet with face mask ([NOCSAE](#) approved), separate throat protector, padded gloves, mouth piece, and chest protector. The goalkeeper may wear padding on arms, legs, and shoulders which does not excessively increase the size of those body parts. High school level and below must wear padding on thighs and shins. Youth level must wear some form of abdominal and pelvic protection.
- Goalies are required to wear padded gloves.

# Safety Equipment for Boys

- **The Helmet:**

A protective helmet, equipped with face mask, chin pad and a cupped four point chin strap fastened to all four hookups, must be worn by all players. All helmets and face masks should be [NOCSAE](#) (National Operating Committee on Standards for Athletic Equipment) approved.

- **The Mouthpiece:**

The mouthpiece must be a highly visible color and is mandatory.

# Safety Equipment Boys

- **The Glove:**  
All players are required to wear protective gloves. The cutting or altering of gloves is prohibited.
- **Other Protective Equipment:**  
All players, with the exception of the goalkeeper, must wear shoulder pads. Arm pads are required and rib pads are strongly recommended, and often required, as are athletic supporters and protective cups for all players.
- The goalkeeper is required to wear a throat protector and chest protector, in addition to a helmet, mouthpiece, gloves and a protective cup.

# Conditioning Tips to Avoid Injury

- Proper condition programs including strengthening.
- Proper warm up and cool down including prior to the second half.
- An ACL prevention program.
- Adequate hydration.



# Heat Illness

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# Prevention of Heat Illnesses (NCAA)

- Allow for 7-10 days to acclimatize
  - 80% acclimatization
- 2 months for full acclimatization

# General Information

- White → Reflects 30% of the heat
- Dark → Reflects 18% of the heat  
(skin or clothing)
- Male: Lower % body fat
- Female: Higher % body fat
  - Core temperature must get higher before sweating occurs
- Core temperature: for every one degree of increased core temperature – there is an increase in heart rate (about 10 beats/1 degree)

# General Information

## Body Temperature



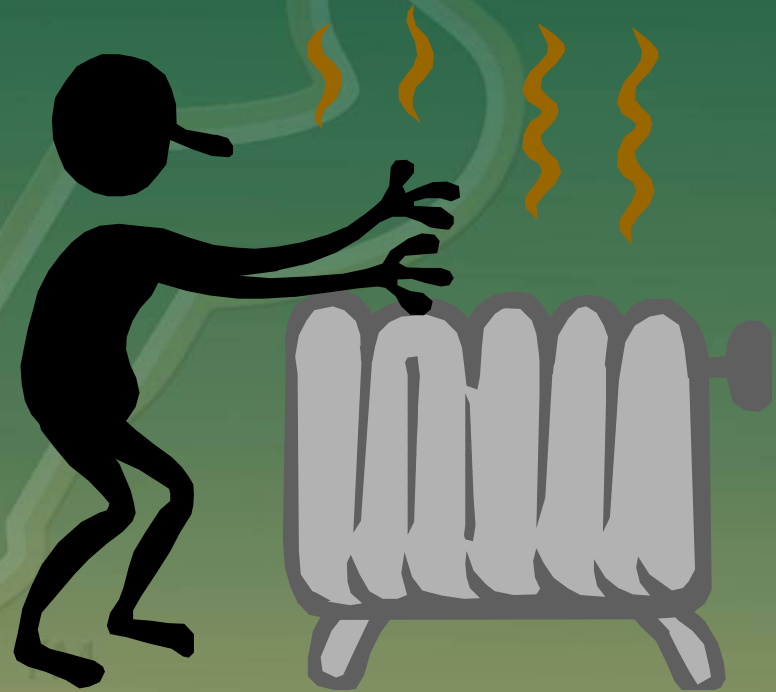
- Sweat increases
- Blood is pushed towards the skin
- Respiration increases
- Desire for food decreases
- Desire for fluids increases
- Desire for salt increases
- Muscle contraction decreases (willingness)

# Heat Illnesses - Causes

- Dehydration
  - 60+ % of total body water
  - Sugar in the stomach prevents rehydration
  - Observe until urination occurs (key)
- Electrolyte Imbalance
  - Depletion occurs over a period of 2-5 days
  - Ion-chemical charge

# Types of Heat Illnesses

- Heat rash
- Heat syncope
- Heat cramps
- Heat exhaustion
- Heatstroke



# Fluid Replacement

- **Before exercise:** drink 17-20 oz. 2-3 hrs prior.
- 17-20 oz 10-20 min. prior to exercise.
- **During exercise:** 7-10 oz. every 10-20 min.
- **After exercise:** within 2 hrs, drink enough to replace weight loss from exercise.

# If you remember nothing else....

- Safe playing environment.
- ACL prevention program.
- Proper conditioning.
- Proper hydration.
- Utilize appropriate safety equipment.
- Rest, Ice, Compression, Elevation.

## **MRSA**

# Methicillin-resistant Staphylococcus aureus

### *The Silent Killer*

#### **Ways to combat MRSA:**

- Keep hands clean
- Shower immediately after exercise
- Keep cuts and scrapes covered
- Wear clean exercise clothes
- Don't share razors or other personal items
- Notify the athletic trainer of any unusual sores

# Summary

- The most common injury to both women and men is ankle sprains.
- Head injuries are more likely to happen in a game than in practice.
- Most head injuries occur from contact with the stick or the ball.
- Strengthening, proprioception and balance activities should be included in workouts.

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