Sports Specific Safety

Cheerleading

Sports Medicine & Athletic Related Trauma
SMART Institute

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Objectives of Presentation

1. Identify the prevalence of injuries to cheerleaders
2. Discuss commonly seen injuries in cheerleading
3. Provide information regarding the management of injuries seen in cheerleading
4. Provide examples of venue and equipment safety measure
5. Provide conditioning tips for cheerleading to reduce potential injuries
Injury Statistics

Consumer Product Safety Commission:
• Emergency room visits for cheerleading injuries jumped from 15,700 in 1994 to 28,400 in 2004

National Center for Catastrophic Sports Injury Research (NCCSI):
• Between 1983-2004, there were 101 catastrophic injuries (those involving severe skull or spinal damage) occurring among high school and college athletes, with 55% resulting from cheerleading


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Injury Statistics

National Center for Catastrophic Sports Injury Research (NCCSI):

- For the period of 1982-2002, the majority of catastrophic injuries to female athletes were from cheerleading.
- At the high school level, of 60 direct injuries in all activities, 28 were from cheerleading (46.7%).
- At the college level, of 28 direct injuries, 18 were from cheerleading (64.3%).
- The rate of injury is five times higher for college cheerleaders compared to high school.

Injury Statistics

Cheerleading-related injuries in 5-18 year olds at ER’s increased by 110% between 1990 and 2002, while number of participants age 6 and older grew by 18% to 3.5 million

- 85% of those injured are aged 12-17
- 37% of injuries are to the lower extremity (more common in 12-18 year olds)
- 26% of injuries are to the upper extremity (more common in 5-11 year olds)
- 19% of injuries are to the trunk

Injury Statistics

- 52% Strains and sprains (most common among ages 12-18)
- 18% Soft tissue injuries (contusions/abrasions)
- 16% Fractures and dislocations (most common among ages 5-11)
- 12% Other

- The majority of injuries occur during gymnastic moves and partner stunts
- Age affects the way children are hurt due to level of training (i.e. — younger cheerleaders haven’t been taught the right way to fall and are more likely to injure their arms when they fall during a stunt)

Commonly Seen Injuries

• Most common injury site is the ankle followed by the knee
• Shin splints are also a common problem
• Head and neck injuries are less common but often more severe
Commonly Seen Injuries

Injuries are attributed to:

- Lack of experience
- Inadequate conditioning
- Difficult stunts
- Risk taking attitudes
- Attempting difficult stunts before being ready
- Inappropriate Surfaces and equipment (non-cushioned surfaces; improper shoes)
Commonly Seen Injuries

Continued:

- Insufficient supervision
- Untrained coaches and instructors
- Poor decision-making by instructors or participants
- Poor nutrition
Ankle Sprains

Mechanism:
• Inversion of the talocrural joint, often resulting from a fall or misstep during tumbling

Acute management:
• RICE, NSAID’s, Bracing, Crutches if necessary

Prevention techniques:
• Appropriate footwear
• Ankle Taping
• Balance and Proprioception Exercises
• Proper spotting techniques

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Knee Sprains

Mechanism:
- Varus or Valgus or rotational stress to the knee joint
- Often results from a fall or other joint overload

Acute management:
- RICE, NSAID’s, physician referral

Prevention techniques:
- Appropriate footwear
- Lower Extremity strengthening and conditioning
- Balance and Proprioception Exercises
- Proper spotting techniques
Contusions

Mechanism:
- Direct contact with surface or participants

Acute management:
- Ice, NSAID’s

Prevention techniques:
- Proper spotting techniques
- Allowing appropriate distance between participants during complex stunts and skills
Concussions

Mechanism:

- Direct blow to the head
- Often results from a fall

Acute management:

- Physician referral (EMS transport if involving LOC)

Prevention techniques:

- Proper spotting techniques
- Use cushioned surfaces
- Making sure that coaches and participants recognize the signs and symptoms

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Field/Playing Area Safety

Injury Prevention:
- Always use mats for complex stunts
- Require and use proper techniques
- Require proper spotting
- Increase training of spotters
- Limit the number of cheerleaders involved in pyramid formations
- Adhere to rules and regulations

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Field/Playing Area Safety

Injury Prevention:

- Have an emergency plan in place and practice it
- Increase training of coaches
- Coaches should become educated and certified in safety, first aid, and CPR
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.

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Equipment Safety

- Wear well fitting shoes with proper support
- Practice on mats or pads
- Mats can become slippery and hazardous if there is moisture when the mats are used outside; stunts should not be performed in this instance
Conditioning Tips to Avoid Injury

- Strengthen lower back, abdomen, and shoulders
- Increase flexibility
- Gradually increase intensity of practice
- Gradually progress to difficult stunts and skills
- Treat all injuries as soon as they happen
- Learn how to identify eating disorders

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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)
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.
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

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If you remember nothing else....

- The greatest amount of injury prevention can be achieved through mandatory safety training and certification for cheerleading coaches.
Summary

• Cheerleading injuries account for the greatest number of catastrophic injuries among female athletes at the high school and college levels.
• Cheerleading coaches’ education is the key to providing a safe atmosphere.
• Cheerleaders should adhere to safety rules and regulations.
• Know that cheerleading carries some unavoidable risks and no amount of prevention can stop every injury, but with the proper information and knowledge the severity and frequency of injuries can be greatly reduced.

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