

Sports Specific Safety

Gymnastics

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

Objectives of Presentation

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


Injury Statistics

- Practices:
 - 20.0% Knee
 - 16.4% Ankle
 - 3.2% Lower Back
 - 1.4% Shoulder Pathologies
- Competitions:
 - 15.2% Ankle
 - 8.7% Knee
 - 6.1% Lower Back
 - 2.5% Shoulder Pathologies

Descriptive epidemiology of collegiate women's gymnastics injuries: National Collegiate Athletic Association Injury Surveillance System, 1988-1989, 2003-2004.

Risks

Causes of injury in child gymnastics



42.3%	Handsprings and flips
30.7%	Cartwheels
8.9%	Handstands
5.8%	Dismounts and landings
4.9%	Somersaults
3.5%	Backbends or walkovers
2.1%	Splits
1.7%	Headstands

Source: Nationwide Children's Hospital, Columbus, Ohio

Commonly Seen Injuries

- Lower Back Injuries
- Ankle Sprains
- Shoulder Pathology
- Knee Injuries



Lower Back Injuries

- MOI:
 - Repetitive Hyperflexion, rotation, and compressive forces
- Acute Management:
 - Activity modification, Rest
- Prevention Techniques:
 - Core strengthening, Technique enforcement, Minimizing hard landings

Ankle Sprains

- MOI:
 - Severe Inversion/Plantar Flexion
- Acute Management:
 - RICE, Activity modification
- Prevention Techniques:
 - Ankle strengthening, Proprioception training, Minimizing hard landings, Taping or Bracing

Shoulder Pathology

- MOI:
 - Overuse, Falling
- Acute Management:
 - Rest, Ice, Activity modification
- Prevention Techniques:
 - RTC Maintenance, Technique enforcement, Proprioception training, Minimize hard tumbling and bar work that utilizes swings with the arms supinated.

Knee Injuries

- MOI:
 - Poor landings or dismounts including extreme compression, and rotation
- Acute Management:
 - RICE, Activity Modification
- Prevention Techniques:
 - Total lower leg strengthening, Proprioception training, Minimizing hard landings, Dismount training, Bracing

Gym Area Safety

- Adequate Distance between events
- Adequate Padding around equipment
- Proper Spotting performed
- Communication between athletes especially on the floor exercise during tumbling passes

Equipment Safety

- Padding around bars, beams, and along walls
- Adequate amount of depth and foam in tumbling/vault pits
- Use of pads on equipment for training tools

Conditioning Tips to Avoid Injury

- Strength training of all major muscle groups
- Proprioceptive training for ankles, knees, shoulders
- Balancing muscle tone (example- Quad/Ham)
- Core strength

If you remember nothing else....

- Total body conditioning and strength training including proprioception is important for all events in gymnastics.
- Promoting total body awareness and encouraging smart training techniques including dismounts and the minimization of hard landings is imperative for success in gymnastics.

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

- Proprioception training is essential in gymnastics.
- Gym safety is important to prevent equipment-related injuries.
- Activity modification is key to ensure physical de-conditioning does not occur, but it is also important that the necessary measures are taken to prevent re-injury.

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