

Risk Analysis Document for Catastrophic Sport-Related Injuries

Note: The objective of the example/template below is to help athletic trainers identify safety considerations for catastrophic injury response. This risk analysis was proposed in the NATA Position Statement: Emergency Action Plan Development and Implementation (2024). However, the outcome of this risk analysis may also inform AT staffing needs, policy and procedure development/revision, standing orders development/revision, amongst many other potential outcomes.

Project Title: Risk Analysis for Catastrophic Sport-Related Injuries

Prepared By: [Your Name/Organization]

Date: [Current Date]

Introduction

The purpose of this document is to identify, assess, and propose mitigation strategies for catastrophic sport-related injuries. These injuries, while rare, can have severe consequences, including permanent disability or death. This risk analysis focuses on understanding the potential causes, likelihood, and impact of such injuries in various sports.

Using the Plan, Do, Study, Act framework, we can conceptualize how to guide our risk analysis.

PLAN

Scope

This analysis covers the following:

- Sports considered **(list all potential sports being considered & corresponding levels (Freshmen, JV, Varsity, etc))**: [example] Football, Rugby, Ice Hockey, Soccer, Gymnastics, and Boxing.
- Types of catastrophic injuries **(list all catastrophic injuries being included)**: [example] Spinal cord injuries, traumatic brain injuries, severe fractures, and cardiac events.
- Participants **(list all potential individuals who might be impacted)**: [example] athletes, coaches, parents, etc.

Risk Identification

Potential Catastrophic Injuries (list catastrophic injuries being considered): [example]

- Spinal Cord Injuries (SCI): Often result from high-impact collisions or falls.
- Traumatic Brain Injuries (TBI): Can occur due to direct blows to the head.
- Severe Fractures: Particularly in the neck, spine, and limbs.
- Cardiac Events: Sudden cardiac arrest due to undiagnosed heart conditions.

Causes (consider the various etiologies for the injuries listed above): [example]

- Physical Contact: High-impact collisions, falls, tackles.
- Equipment Failure: Defective protective gear, playing surface issues.
- Undiagnosed Medical Conditions: Heart anomalies, blood disorders.
- Environmental Factors: Extreme weather conditions, unsafe playing environments.
- Inadequate Training: Lack of proper technique, insufficient physical conditioning.

Risk Assessment

Venue Assessment

Risk	Crowd Size (small/medium/large)							Radius of Care (minutes)			
	MBB Game	MBB Practice	MSOC Game	MSOC practice	TF	TF Meet	VB	AT Facility	AED	CWI	EMS resp
Stadium											
Gym											
Weight Room											
AT Facility											

Risk Analysis Matrix:

Crowd Size (determine based on recent review of attendance):

- Small: Not many people.
- Medium: A fair amount of people.
- Large: A lot of people.

Radius Care (determine based on brisk walk, denote* if calculated driven instead):

- Minutes: Document how many minutes between venue and item listed

Condition Assessment

Risk	Likelihood (Low/Medium/Severe)							Impact (High/Severe/Catastrophic)	Risk Level (High)
	MBB	WBB	WSOC	MSOC	TF	XC	VB		
Spinal Cord Injury									
Traumatic Brain Injury									
Severe Fractures									
Cardiac Events									

Risk Analysis Matrix:

Likelihood (determine based on recent epidemiology, consider NCCSIR and published research to guide this):

- High: Expected to occur in many circumstances.
- Medium: Might occur at some time.
- Low: Could occur at some time.

Impact (determine based on recent epidemiology, consider published research to guide this):

- Catastrophic: Results in permanent disability or death.
- Severe: Results in long-term injury and significant medical treatment.
- High: Requires immediate medical attention and may result in long-term absence from sport.

Risk Mitigation Strategies

General Strategies: (reviewing the analysis above, determine general strategies to address the risk analysis)

[example]

- Access to AT services & resources: Sport overlap considerations.
- Education and Training: Provide training on proper techniques and safety protocols.

- Improved Protective Gear: Invest in and maintain high-quality protective equipment.
- Emergency Action Plan: Have trained medical personnel and equipment on-site during events.
- Equipment Needs: Ensure an AED is within 3 minutes of every venue, access to a cold-water immersion tub within 5 minutes of each venue.

Sport-Specific Strategies: (reviewing the analysis above, determine sport-specific strategies to address the risk analysis)

- Football (American): Implement strict concussion protocols, limit high-impact drills during practice.
- Rugby: Enforce rules to reduce high tackles, ensure players are educated on safe tackling techniques.
- Ice Hockey: Use of properly fitted helmets and mouthguards, strict penalties for dangerous play.
- Soccer: Limit heading drills for youth players, promote neck muscle strengthening exercises.
- Gymnastics: Ensure proper matting and spotter presence, regulate difficulty levels of routines.
- Boxing: Mandatory use of headgear during training, regular neurological evaluations.

Venue-Specific Strategies: (reviewing the analysis above, determine venue-specific strategies to address the risk analysis)

- Football stadium: Ensure lock on south end of field is unlocked or make sure we have a key.
- Soccer stadium: No ambulance entry, ensure parking lot has cones to protect a designated area for EMS access.
- Gym: Front doors are likely to be impacted by crowds, ensure side door is unlocked and accessible for each game.

DO

Development of Documents: (reviewing the PLAN information above, develop and implement the information into healthcare administration documents)

Emergency Action Plan: (consider the various aspects that need to be integrated into the EAP) [example]

- Needed specific plans: stadium football game, stadium men's soccer practice, stadium track and field meet.
- Considerations within each venue
 - Stadium football game – EMS access south end (due to high attendance); AED on site as unable to get to field within 3 minutes during game.
 - Stadium men's soccer practice – EMS access north end (quickest with low crowds); AED can be onsite or at baseball stadium.

Policies & Procedures: (consider the various aspects that need to be integrated into the P&P) [example]

- Healthcare administration policy: AT will always provide services to ABC due to high likelihood for catastrophic event, other sports as applicable.
- Heat policy & Note in EAP: Place CWI tub outside AT facility as it is accessible by golf-cart within 5 minutes of each venue.

STUDY

Monitoring and Review

- Incident Tracking: Maintain a database of injuries to monitor trends and effectiveness of mitigation strategies.
- Regular Audits: Conduct periodic reviews of safety protocols and equipment.
- Feedback Loop: Gather feedback from athletes, coaches, and medical staff to continually improve safety measures.

ACT

While the risk of catastrophic injuries in sports cannot be completely eliminated, implementing comprehensive risk identification, assessment, and mitigation strategies can significantly reduce their likelihood and impact. Continuous monitoring and improvement of safety protocols are essential to ensure the well-being of athletes at all levels. All information found in the STUDY phase should be implemented into the ACT phase with the process starting over.

Prepared By:

[Your Name]

[Your Position]

[Your Contact Information]

Reviewed By:

[Reviewer Name]

[Reviewer Position]

[Reviewer Contact Information]

Disclaimer: This document is intended for informational purposes only and does not constitute medical or legal advice. Always consult with relevant professionals when addressing health and safety concerns in sports.