

# SPORTS INJURIES AND RISK MANAGEMENT



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Know how common sports injuries can be prevented by the correct identification of risk factors (extrinsic and intrinsic)

# Extrinsic Risk Factors



# Extrinsic Risk Factors

**“Injury or harm caused to yourself that is out of your control”**

- Inappropriate training / poor coaching
- Improper equipment
- Inappropriate clothing / protective gear
- Poor technique
- Weather conditions
- Footwear
- Type of sport
- Ensuring adherence to rules
- Think of examples during training



## Examples of Extrinsic Risk Factors

### Environmental Factors

- **Weather effects** on surfaces: wet grass → uneven & slippery turf → foot gives way → ankle sprain / fracture / head injury.  
Eg: French football player Cisse broke his leg playing on solid turf.

### Opponent

Eg: If your opponent is highly aroused / aggressive - Luis Suarez

### Coaching

- Improper coaching → poor technique & higher risk of injury

### Safety Hazards

- Safety checks / risk assessment (environment, equipment)
- Misuse of equipment
- First aid provision

### Excessive Load on the Body

- Nature and speed of movement
- Number of repetitions
- Impact
- Footwear
- Training surface
- Overtraining

# Intrinsic Injuries

- injuries which are controllable.

This means that the injury is down to yourself and no-one else.

## Intrinsic Risk Factors

(all factors somehow link into each other)

- Muscle imbalance
- Poor preparation
- Fitness level
- Overuse / overtraining
- Age
- Growth development (Osgood Schlatters, growing pains)
- Previous injury history
- Flexibility
- Nutrition
- Sleep
- Postural defects (lordosis, kyphosis, scoliosis)
- Psychological (confidence)

# Examples of Intrinsic Risk Factors

## Improper Technique

Nemanja Vidic for Manchester United who went in for a tackle using the wrong technique and ended up twisting his knee resulting in an ACL injury causing him to be out of play for a long time.

## Return to play too early from an injury.

Steven Gerrard 2011/2012 for Liverpool suffered a hamstring and groin injury and was out for a long time, but rushed back into the game because of the period of time he was out for. Gerrard went on to suffer an ankle injury after a couple of games due to muscle imbalance.

When you have a leg injury you tend to compensate for it putting more weight through the other leg causing weakness in the injured leg, and strengthening or overusing the other leg. This impacts the injured leg when it heals because of the muscle imbalance.

## Previous Injury/ Psychological

Past injuries play a big part in future injuries. Experiencing painful or bad injuries will always be in the back of your mind and can influence how you play.

Eduardo Silva after breaking his leg at Arsenal probably battled with feelings of anxiety, anger and fear in not knowing if he'll be able to play again. This may cause someone, once they return to play, to be scared of going in for 50/50 challenges. Going in to a challenge half-heartedly may increase the risk of getting injured.

## Training Effects (how hard and regular you train)

Overtraining can lead to fatigue and muscle strains, or even exhausting yourself before a game.

# CAUSES OF INJURIES

## INTRINSIC FACTORS

- LACK OF STRENGTH
- POOR FLEXIBILITY
- POSTURE DEFECTS
- WEAK JOINTS
- MUSCLE IMBALANCE
- EXCESSIVE BODY FAT
- POOR ENDURANCE
- POOR WARM-UP

## EXTRINSIC FACTORS

- UNEVEN PLAYING SURFACE
- FAULTY EQUIPMENT
- BAD WEATHER
- POOR RULES
- FOUL PLAY
- POOR REFEREEING
- BAD LIGHTING
- POOR ACOUSTICS



# Preventative Measures



# FOOTBALL INJURIES



IF YOU'RE CRAZY ABOUT FOOTBALL, IT'S IMPOSSIBLE TO AVOID SPRAINING AN ANKLE OR PULLING A HAMSTRING. THAT'S WHY IT'S IMPORTANT TO KNOW WHAT TO DO WHEN YOU GET INJURED.

## THE UNIVERSAL METHOD OF P.R.I.C.E (PROTECTION-REST-ICE-COMPRESSION-ELEVATION)

APPLICABLE TO: INJURED ACL, HAMSTRING (WITHOUT THE PROTECTION), TORN KNEE CARTILAGE AND SPRAINED ANKLE

**PROTECTION:** PUT LEG IN A BRACE.  
**REST:** AVOID USAGE OF KNEE OR LEG.  
**ICE:** APPLY ICE INDIRECTLY (ICE BAG).  
**COMPRESSION:** USE INTERMITTENT COMPRESSION TO AVOID SWELLING.  
**ELEVATION:** KEEP THE LEG ELEVATED ABOVE THE WAIST.



FOR CONCUSSION AND HERNIA, IT IS STRONGLY ADVISED THAT YOU VISIT A DOCTOR.

MOST OF THESE INJURIES CAN BE PREVENTED BY WEARING THE RIGHT PROTECTIVE GEAR.



**2** WEAR SHOES DESIGNED SPECIALLY FOR FOOTBALL AND CROSS-TRAINERS THAT TAKE YOUR PRONATION INTO ACCOUNT.



**1** PROTECTIVE HEADGEAR IS A MUST TO AVOID CONCUSSIONS AND DIZZINESS.



**3** ALWAYS WEAR SHIN GUARDS AND PADS.

# Preventing Injuries

## Role of the Coach

- Up to date knowledge of the sport and player
- Adapt coaching style to performers ability/age/fitness level
- Good communication between players, coaches & physiotherapist (limiting match minutes if need be, players informing coach/physio if injured)

## Warm Up

- Prepares joints, muscles and circulatory system for training / match play
- Primary goal is to generate a starting condition that is optimal for performance (include movement patterns specific to that sport, dynamic stretches)
- Those with muscle shortening should do individual static stretching exercises prior to the warm-up
- Longer more intensive warm ups are recommended with lower temperatures

## Equipment & Environment

- Equipment checks
- Risk assessment
- Protective equipment
- Appropriate use of equipment

## Prehabilitation

- Screening
- Individual strength programmes specific to the sport – reduces the risk of injury
- Adequate sleep (8 hours) and nutrition – enhances recovery and prevents training when tired which increases the risk of injury, nutrition also aids muscle development
- Fitness – endurance fitness leads to higher exercise tolerance and improved fatigue resistance which helps reduce the risk of injury
- Flexibility –insufficient flexibility increases the risk of muscle injuries (2-3 reps of 30secs hold, 2-3 times per week)

# Risk Assessment

- a technique for identifying and controlling hazards associated with an organisation's activities.
- Demonstrates commitment and a duty of care to those involved
- Identifies and overcomes health and safety problems
- Involves identifying all hazards, assessing the risk, and putting in place measures to control risks

**Hazard** - anything that has the potential to cause harm

**Risk** - is the likelihood of it causing harm and the degree of harm it could cause

Government's Health and Safety Executive risk assessment website:  
<http://www.hse.gov.uk/risk/index.htm>

# FA Risk Assessment: Football Club Venue

## PLAYING/TRAINING AREA

- Check that the area and surroundings are free from obstacles.
- Is the area fit and appropriate for activity?  
(Please outline the hazard, who may be at risk and action taken, if any)

## GOALPOSTS

- Check that they are fit and sound for activity and suitable for age group/ability.
- Are the goalposts safe and appropriate for activity? (Please refer to Goalpost safety leaflet)  
(Please outline unsafe equipment, who may be at risk and action taken, if any)

## PLAYERS

- Check that the players' register is up to date with medical information and contact details.
- Check that players are appropriately attired for the activity.
- Is/are the register(s) in order?  
(Please outline current state and action taken, if any)
- Are players appropriately attired and safe for activity?  
(Please outline unsafe equipment/attire and action taken, if any)

## EMERGENCY POINTS

- Check that emergency vehicles can access facilities, a working telephone is available with access to emergency numbers and that exit points are clear.
- Are emergency points checked and operational?  
(Please outline the issues and action taken, if any)
- Is a working telephone available?

## SAFETY INFORMATION

- Check that evacuation procedures are published and posted somewhere for all to see. Ensure that volunteers and staff have access to information relating to health and safety.
- Are emergency procedures published and accessible to those with responsibility for sessions in the club?  
(Please outline what information is missing and action taken, if any)
- Does the club need to take any further action? (If yes, please specify)

# Reading Material

Online Research:

## Journals

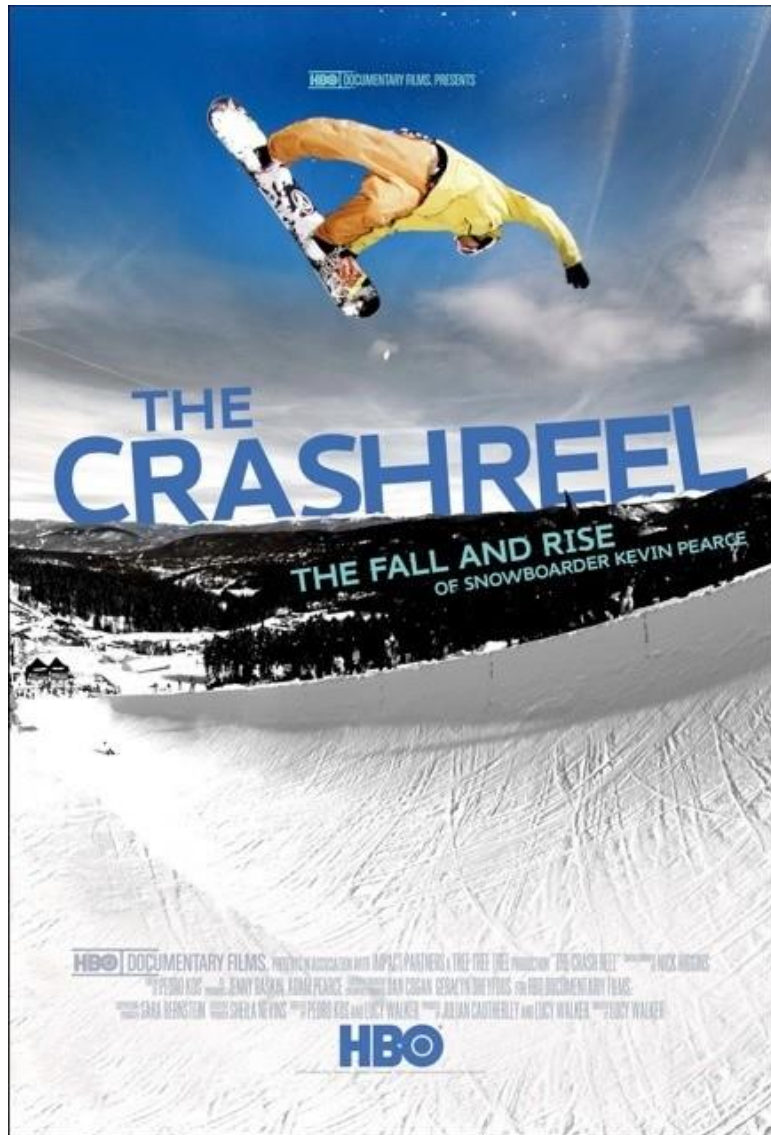
- ACSM Health & Fitness Journal
- BJSM
- BMJ
- Exercise & Sport Sciences Reviews
- International Journal of Sports Science and Coaching
- Journal of Athletic Training
- Medicine and Science in Sports and Exercise
- Peak Performance
- Research Quarterly for Exercise and Sport
- Sports Injury Bulletin

# Websites

- Coachwise [www.1st4sport.com](http://www.1st4sport.com)
- E-Podiatry [www.epodiatry.com](http://www.epodiatry.com)
- Peak Performance [www.pponline.co.uk](http://www.pponline.co.uk)
- Sports Coach UK [www.sportscoachuk.org](http://www.sportscoachuk.org)
- Sports Coach [www.brianmac.co.uk](http://www.brianmac.co.uk)
- Sports Injury Clinic [www.sportsinjuryclinic.net](http://www.sportsinjuryclinic.net)
- Sports Medicine [www.sportsmedicine.about.com](http://www.sportsmedicine.about.com)
- Top End Sports [www.topendsports.com](http://www.topendsports.com)

# Homework

## Sky – On Demand – The Crash Reel (Sky Atlantic)



**IF YOU HIT YOUR HEAD  
HOW DO YOU KNOW WHAT TO DO  
AND WHETHER YOU MUST SEE A DOCTOR?**

HERE ARE THE SIGNS TO DETERMINE IF SOMEONE NEEDS TO GO SEE A PHYSICIAN\*

**IF YOU EXPERIENCE ANY OF THESE SYMPTOMS,  
YOU SHOULD IMMEDIATELY SEEK PROPER MEDICAL ATTENTION:**

 COGNITIVE	 EMOTIONAL	 PHYSICAL	 ANYTHING UNUSUAL
Lack of ability to concentrate. Memory Loss. Feeling confused, foggy or hazy.	Feeling moody including: sad, anxious, irritable or apathetic. Just not feeling "right" or feeling "down."	Headache or "pressure" in your head. Nausea or vomiting. Balance problems or dizziness. Sensitivity to light or noise.	Like feeling unusually sleepy or wide-awake.

**SOMETIMES THESE SIGNS DON'T APPEAR IMMEDIATELY, SO IT'S IMPORTANT TO BE AWARE and keep track of how you are feeling. If you think that something may be wrong, don't hesitate, don't go to sleep hoping you'll feel better on your own, GO AND SEE A PHYSICIAN NOW.**

\*A HEAD INJURY CAN ALSO OCCUR FROM A BLOW TO THE BODY THAT CAUSES THE HEAD TO MOVE BRISKLY BACK AND FORTH.

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# Homework

## Sky – On Demand – The Crash Reel (Sky Atlantic)

- In 2009 Kevin Pearce was the greatest half-pipe snowboarder and had the 2010 Vancouver Olympics coming up
- 22 years old with high profile sponsorship deals with Nike and other brands
- When practising a new trick entering a 22ft vertical wall he flipped forward at high speed and smashed his face into the ice
- He was taken to hospital by helicopter and remained in intensive care for 27 days – he had suffered a TBI to his frontal lobe (effects planning and short-term memory). If he were to hit his head again he would die.
- His eyes didn't look in the same direction and had to re-introduce himself to people every 5 minutes forgetting they had just met, and he had to undergo intense Physiotherapy and learn how to walk again
- The film shows his career leading up to the accident which a passer by had filmed, and his recovery and emotional struggle from that point onwards
- It shows other extreme sportsmen who took the risk of going back to snowboarding after a TBI, hit their heads again and died.
- It suggests that extreme sports and the corporations that make money from them need to consider what constitutes acceptable risk
- **This will help you with your assignment, giving you different ideas and things to think about, as well as introducing you to risks involved in sports other than football**

# Assignment 1

## **SCENARIO:**

Having gained a work placement with a sports physiotherapist, you identify risk factors relating to sports performance and their associated preventative measures.

# TASK

**In order to receive a PASS grade, you need to:**

- Create a booklet that can be given out at local sports clubs. Highlight the extrinsic and intrinsic risks that are prevalent in a team sport of your choice. You must include:
  - Coaching implications;
  - Technique implications;
  - Environmental factors;
  - Safety hazards;
  - The effects of training;
  - Individual variables;
  - Postural defects.

**(P1)**

- Describe the preventative measures that their club should consider, in order to minimise the risk of injury. Include the role of the coach in ensuring the safety of the players as well as maintaining the equipment appropriately and carrying out a risk assessment.

**(P2)**

**In order to receive a MERIT grade, in addition to the requirements for a Pass, you need to:**

- Explain in detail, how the risks can be minimised for the players. Carry out a risk assessment for a team's training session, within that sport and offer advice to the coach to reduce the chance of injury.

**(M1)**

# Assignment Format

- Presentation
- Booklet

## Deadlines

Hand out date: **Mon 11<sup>th</sup> Nov 2013**

Hand in date: **Mon 2<sup>nd</sup> Dec 2013**

Feedback return by **Mon 9<sup>th</sup> Dec**

Final hand in: **Fri 20<sup>th</sup> Dec**

# Questions

