

# Sports Injury and Prevention

Year 10 Physical Education

# Why are we studying Sports Injury and prevention?

As PE students you will often face a sporting injury.

If you participate in sport, at some time you will be called upon to treat an injury.

# What is an Injury?

An injury is defined as something that causes a person mental or physical discomfort and affects their overall performance.

# What is a sporting injury?

A sporting injury is defined as something that causes a person mental or physical discomfort as a result of playing sport.

# ACTIVITY

- In groups of 4 'Brainstorm and record as many sporting injuries as possible
- Highlight on your list the injuries you have suffered
- Using a different colour record the sport being played where you suffered the injury/injuries.

# Types of Sporting Injuries

- ACUTE- occurs suddenly
  - Direct injury (impact e.g. corked thigh, concussion, breaks/ dislocation)
  - Indirect injury (muscle strain, muscle tear, joint sprain breaks/ dislocation)
  
- CHRONIC- occurs overtime
  - Overuse
  - Over exertion over time
  - Re-injury of previous acute

# ACTIVITY

- Individually fill in the table Sports Injuries Symptoms and Causes Worksheet
- the following link to help fill in the worksheet
- [http://www.elastoplastsport.com.au/Common/Pdf/Lesson2\\_notes.pdf](http://www.elastoplastsport.com.au/Common/Pdf/Lesson2_notes.pdf)

# How do we stop Sporting Injuries occurring?

PREVENTION is the key!!!!

More than 1 million sports injuries occur each year costing an estimated \$10million.....

Approximately 30-50% of these could potentially be prevented.



# What is prevention?

Prevention is stopping an injury occurring or reducing the risk of injuries occurring during a sporting activity.

# How can we prevent Sporting injuries?

- FITNESS-Preseason testing
- FITNESS-Specific training/  
conditioning to sport played
- Warm Up and stretching
- ENVIROMENT-Protective  
and Safety Equipment
- Rules / Umpiring
- ENVIROMENT-Facilities  
ENVIROMENT-Surfaces
- Coaching
- ENVIROMENT-Weather
- Nutrition and hydration

# FITNESS



- Preseason Testing
  - Undergo preseason fitness testing to identify physical deficiencies
- Specific Training/Conditioning to sport played
  - Developing fitness training/conditioning needed during the season



# Warm Up and Stretching

- Increasing muscle temperature and muscle length to reduce injury risk

# Protective Equipment

- Provide adequate safety and protective equipment for all competitors. Regularly checked and maintained
  - Mouthguards- (prevents the teeth from breaking, jaw damage and reduces risk of concussion)
  - Shin pads
  - Helmets-
  - Strapping- prevention and protection
    - ankles and fingers

# Rules /Umpiring

- Ensure the rules of the game are adhered to and that all competitors feel safe in playing the game to the rules



# Facilities and Surfaces (Environment)

- Provide adequate and safe facilities and playing surfaces to compete on. Regularly checked and maintained



# Good Coaching

- A coach that emphasise the rules, accredited, trains players well and specific to sport being played. Someone who is conscious that preventing injury is a big part of player management.... No players, no game!!

# Weather

- Provide care and assess all surfaces/equipment to ensure player safety in-
  - Extreme heat
  - Wet weather
  - Extreme cold temperatures

# Nutrition and Hydration

- Good nutrition (healthy eating) and hydration can not only play a big role in a competitors injury prevention it can naturally enhance sporting performance.

## Finally – PLAY ALL OUT

- When players are mentally and physically under prepared in their approach to physical activity injuries are more likely to occur.
  - This may be due to errors in techniques, player movement and poor positioning.



# ACTIVITY- Strapping

- Why Strap?
  - Prevention and protection of injury
  - Finger Strapping
    - Buddy Strapping
- Ankle Strapping
  - Basic Ankle Strapping (2 x anchors, 3 x stirrups and 2 x 6's)
  - Basic Ankle Strapping (2 x anchors, 3 x stirrups, 2 x 6's and heel lock)



# Preparation in prevention of injury

- Look at the newspaper article Maintaining Body Temperature
  - [http://www.nytimes.com/images/2001/08/02/sports/spt\\_HEAT\\_010802.html](http://www.nytimes.com/images/2001/08/02/sports/spt_HEAT_010802.html)
  - 98.6 F is 37 Degrees Celsius
  - 104 F is 40 Degrees Celsius
- As a class read the article ‘Heat Kills Pro Football Player Korey Stringer’
  - [http://www.nytimes.com/learning/teachers/featured\\_articles/20010803friday.html](http://www.nytimes.com/learning/teachers/featured_articles/20010803friday.html)

# Preparation in prevention of injury

- As a class read the article ‘Heat Kills Pro Football Player Korey Stringer’
  - [http://www.nytimes.com/learning/teachers/featured\\_articles/20010803friday.html](http://www.nytimes.com/learning/teachers/featured_articles/20010803friday.html)
- 90 F is 32.2 degrees Celsius
- 110 F is 43 degrees Celsius
- 106 F is 41 degrees Celsius
- 350 pounds is 160kgs
- Discuss the implications of prevention in this sever case-
  - Fitness
  - Nutrition- prior to, during and after match/training
  - Hydration- prior to, during and after match/training
  - Refuel

# HOMWORK ACTIVITY

- Use the Sheet and other investigations to design suitable for your chosen sport
  - pre-competition nutrition and hydration (10%)
  - during match nutrition and hydration (5%)
  - post match nutrition and hydration (5%)

Must be on HW Sheet provided and detailed (Formative task).

NOTE: Provide example on IWB

# Warm Up and Stretching

- As a class discuss the reasons for Warm Up
  - Increase blood flow to muscles (example)
- Students to receive hand out Stretching exercises:
  - Highlight the information on the back sheet of things to avoid when stretching
- **ACTIVITY- Basketball Competition**
  - In groups of 5 or 6 perform a 10 minute warm up and stretch routine to prepare for a mini basketball competition
  - **PLAY!!**

# Assessment of Sporting Injuries

A sporting injury needs to be assessed in a correct and sequential manner.

But how?

# T O T A P S

- T- talk
  - stop the player immediately, remove them from the field if possible
  - ask what has happened and gather information about what is hurting
- O- observe
  - look at the affected area- is there swelling, redness
  - Is it different from the opposite side of the body

# TOTAPS

- T- touch
  - touch will indicate warmth for inflammation
  - touch will also assess for pain
- A- active movement
  - ask the injured player to move the injured part without any help
  - this will help determine seriousness of injury
  - If 'NO' move into injury management



# T O T A P S

- P- passive movement
  - if the player can move the injured part, carefully try to move it yourself through its full range of motion
- S- skill test
  - Did the active and passive movement produce pain?
  - If 'NO', and the player can demonstrate some skills of the game without pain play may continue
  - IF 'YES' and an injury has been identified remove the player from any activity and treat injuries immediately

# Treatment of Sporting Injuries

A sporting injury needs to be treated in a correct and sequential manner.

But how?

# R I C E R

- R- rest
  - reduces further damage
  - Avoid as much movement as possible to limit further injury
  - Don't put any/or minimal weight on the injured part
- I- ice
  - apply a cold pack/ice pack to the injury for 20 minutes every 2 hours (wrap in a towel- do not apply directly to skin)
  - Continue this treatment for the first 48-72 hours to cool the damaged tissue and reduce pain, swelling and bleeding

# R I C E R

- C- compression
  - apply a compression bandage covering the injured area
  - Avoid as much movement as possible to limit further injury
  - Don't put any/or minimal weight on the injured part
- E- elevation
  - elevate the injured area to stop bleeding and swelling (place injured area under a pillow for comfort)
- R- referral
  - refer the injured person to a qualified professional for definitive diagnosis and continuing management

# Factors to avoid when treating a sports injury

What not to do in the first 48 Hours to cause further HARM to an injured area.

# H A R M

- H- heat
  - increases the bleeding at the injured site
  - avoid hot baths, hot water bottles, heat packs and ointments (dencorub)
- A- alcohol
  - increases bleeding and swelling at the injury site, and delays healing
  - can mask the pain and severity of the injury

# H A R M

- R- running
  - running or any form of exercise will cause further damage
  - do not resume exercise unless a medical professional has given you the all clear
- M- massage
  - causes an increase in bleeding and swelling at the injury site, and delays healing
  - can mask the pain and severity of the injury