## sof ERR INJURIES

Soccer is the most popular sport in the world, with approximately 200 million players in 186 countries registered with the International Federation of Football Association (FIFA).

Many people in Canada play soccer for fun, in schools and on organized teams.
Soccer demands bursts of speed and power as well as finesse and accuracy...it involves frequent collisions with other players, the ball and the ground. If you want to avoid bruises or 'seeing stars'...take a few moments to read the following.

## WHO GETS INJURED THE MOST?

- An analysis of NEISS* data shows that $85 \%$ of injuries occur in athletes under age 23, 45\% are to those under age 15
- Females are twice as likely to be injured than males (2:1 ratio)
- Younger players have more head, face and upper extremity injuries
- The incidence of severe injuries has been found to be higher among low-skill groups than highskill groups
- In aged-matched players, those with poor muscular strength are shown to have higher rates of injury
- Players that have had a previous injury aswell as inadequate rehabilitation are at greater risk for a future injury
- A Norwegian study of adults found heading to be associated with higher rates of cognitive difficulties. However, further study is needed regarding the safety of heading for younger players
- Goalkeepers tend to suffer more head, face, neck, arm/shoulder injures than other soccer players

Head, spine and trunk (10-25\%)

Upper limbs (37\%)

Lower limbs (46\%) $\longrightarrow$

Fatalities from
soccer-related
injuries are
associated
almost
exclusively with
traumatic contact
with goalposts

Soccer is the
second leading cause of facial
and dental
injuries in sports

During a
competition in
hot humid
weather, 18 of
4000 players
collapsed with
heat exhaustion.
Remember,
always stay
HYDRATED by
drinking lots of
water!

## HOW DO PEOPLE GET INJURED?

- Injuries occur more often during competitive play
- About one-third of injuries are a result of foul play
- Between 44\%-74\% of traumatic injuries result from physical contact between players
- Studies comparing indoor and outdoor soccer indicate that indoor soccer players have 6 times the frequency of injury as outdoor soccer players with comparable playing time hours
- Significantly more injuries and skin abrasions occur on artificial turf than on a grass playing field
- Death from soccer-related injuries are associated almost entirely with traumatic impact from goalposts
- In a study of 264 players at different skill levels and ages, players 14 to 16-years-old were more likely to get hurt as well as players at a lower level of competition


## HEADING THE BALL

Soccer players purposely head the ball by making contact on the forehead, near the hairline while extending the trunk into the ball. It is a dynamic skill that requires timing, skill and accuracy and puts the player at risk for injury. Purposeful heading and accidental head impacts in soccer can be prevented and managed as a head injury:
a) Heading in soccer should be limited in children under 12 years until the neck muscles are adequate to sustain impact
b) Balls should be appropriately weighted for the age group
c) Neck and abdominal muscles should be improved before heading is introduced to children and repetitions should be gradually increased
d) Players that are observed to have had an impact to the head should be assessed for symptoms of concussion

Soccer-related Injuries to 0-19 yr olds resulting in emergency department visits (Health Canada, 1997, n=2460 records)


## GENERAL TIPS TO STAY SAFE

## 1. PREPARATION \& TRAINING

- Athletes should participate in a yearround conditioning program to improve and maintain strength, flexibility and endurance*
- Preseason training should gradually increase in intensity and duration to prepare athletes for competition
- Warm-up and stretch before and after practice and competition
- Proper tackling techniques should be taught
- Technique for 'heading' should be taught, but the number of balls 'headed' should be keep to a minimum until the potential for cognitive impairment is better understood


## 2. GET THE RIGHT EQUIPMENT

- Players should have the safest possible equipment, well fitted and properly maintained
- Shin guards should be properly fitted
- Soccer cleats should allow freedom of movement and provide support for the foot
- The American Academy of Pediatrics has recommended both protective eyewear and mouthguards to prevent head and facial injuries to children
- Use the appropriate sized ball for the specific age groups


## 3. RULES \& REGULATIONS

- Foul play is harmful and should be discouraged
- Coaches should be certified, promote safety rules, and encourage sportsmanship and fair play


## 4. CHECK OUT THE ENVIRONMENT

- Playing fields must be well-maintained and clear of hazards
- Spectators, equipment and other obstacles should be backed away from the sideline
- Precautions must be made to prevent heat injuries by limiting play/practice in hot and humid environments, and providing adequate water and electrolyte refreshment*
- Goal posts must be stable and secured so they are not at risk of falling
- Padding may be used to cover goal posts to decrease risk of head injuries

[^0]

If you prepare, get the right equipment and follow the rules, soccer is a fun sport for all. Stopping injuries before they occur is your responsibility!

For further information on how you can prevent injuries, contact your local health unit, the BC Injury Research and Prevention Unit or the BC Soccer Association.


## REFERENCES

1. Committee of Sports Medicine and Fitness. Injuries in Youth Soccer: A Subject Review. Pediatrics 105(3):659-661, 2000.
2. Dvorak J, Junge A. Football Injuries and Physical Symptoms: A Review of the Literature. American Journal of Sports Medicine 28(5):S3-S9, 2000.
3. Kirkendall DT, Jordan SE, Garrett WE. Heading and Head Injuries in Soccer. Sports Medicine 31(5):369-386.
4. Elias SR, Roberts WO, Thorson DC. Team Sports in Hot Weather: Guidelines for Modifying Youth Soccer. Physician and SportsMedicine 19(5):67-78, 1991.
5. Patlak M, Joy JE. Is Soccer Bad for Children's Heads? Summary of the IOM Workshop on Neuropsychological Consequences of Head Impact in Youth Soccer. Institute of Medicine, National Academy Press, Washington DC 2002.
6. Sport \& Recreation Injury Prevention Strategies: Systematic Review and Best Practices. BC Injury Research \& Prevention Unit, Children’s Hospital of Eastern Ontario, 2000.

## B.C. InjunvResearch <br> A N D • P R E V E N T I O N • U N I T

The British Columbia Injury Research and Prevention Unit (BCIRPU) is committed to meeting the challenge of making BC a safe place to live and work by coordinating efforts that will prevent or reduce injuries, their consequences, and costs.
phone: (604) 875-3776
fax: (604) 875-3569 e-mail: injury@cw.bc.ca www.injuryresearch.bc.ca

## Coaches

Certification
The CSA has
coaching
standards and
clinics for all
coaches from the
community youth
to elite levels.
For information
see "coach
development" at
WMW.soccerbc.com

The governing
body of soccer in
Canada is the
Canadian Soccer
Association
(CSA). Check out
the website for
more information:
wWW.canadasoccer.com

Produced by BCIRPU in collaboration with Children's Hospital of Eastern Ontario and Alison Padfield. Production of this document has been made possible by a financial contribution from Rick Hansen Neurotrauma Initiative, Childrens Hospital of Eastern Ontario Research Institute, Office for Injury Prevention, BC Ministry of Health Planning.



[^0]:    * Supported by extensive review of research on sports injury prevention strategies (BCIRPU, CHEO, 2000)

