

Health & Safety Guide





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Introduction

Hockey is played in over 130 countries throughout the World. It has been an Olympic sport since 1908 and an Asian Games Sport since 1958. In Singapore the sport is played by both men and women aged 6 to 60. It has a good mix of local and expat based teams which allows for enjoyable exchanges between different sporting and social cultures.

The International Hockey Federation (FIH) recognizes 11 a side Field Hockey, 6 a side Indoor Hockey and Hockey 5s competitions around the world and also legislates the rules for these competitions.

These rules make the sport non-contact in nature, however injuries do occur, mainly due to breach of rules, accident or high intensity training. When contact occurs it is from stick, ball, player and surface. The most common injuries are to hand and wrist, ankle and knee. However with the right warm up and protective equipment, injuries can be minimized. Players must understand their bodily limitations and adjust their style of play so that it minimizes injury to themselves and to other players. Suitable measures should also be in place to minimize aggravating previous injuries.

This guide will briefly describe the common injuries of the sport and recommend preparations to suggest the ways injuries can be prevented and/or attended to in order to make the sport safe and enjoyable.





Common Injuries



The lower limb injury is most common, and accounts for about 45% of reported injuries. Injuries to the upper limbs tend to be mainly to fingers.



Ankle Sprains

This accounts for about 15% of all hockey injuries and is an injury to the ligaments that surround and connect the bones of the leg to the foot. The injury occurs when a player accidentally twists or turns his or her ankle in an awkward way. This can stretch or tear the ligaments that hold the ankle bones and joints together. Symptoms include swelling or bruising of the site of the injury.

Players who have had a previous ankle sprain and/or whose ankle feels unstable when walking on uneven surfaces such as trails or sandy areas, are at higher risk of ankle sprain during hockey games.

Players should wear an ankle guard to stabilize the ankle before playing. Physiotherapy to strengthen the ankle muscles and balance board training will also help.



Hamstring Strains

This is a tear of the hamstring muscle and can vary in severity. This can happen to the weekend warrior (who seldom exercises) and participates in intense physical activity or to athletes who are over-trained. - Athletes who play sports requiring explosive activities are more susceptible to hamstring strains and hockey is no exception. A hamstring strain is a common lower limb injury involving a tear in one or more of the hamstring muscles. This can vary in severity. If a player has sustained a hamstring injury, it is important to rest fully before returning to sports. Otherwise, recurrence of the injury will occur. As a general guide, mild hamstring strains require 4-6 weeks of rest and hamstring tears take at least 12 weeks to fully recover.



Knee Injuries

Knee injuries are one of the most common hockey injuries and usually stem from overexertion, lack of rest, lack of proper warm-ups or pre-conditioning and poor supporting muscle strength around the knee area.

Knee injuries can occur either from overuse injuries such as patella tendinitis/iliotibial band syndrome or more severe ones such as meniscus tears or anterior cruciate ligament (ACL) tears. If a player's knee feels unstable, wobbly, painful with clicking or

locking, he or she should get it properly diagnosed. Any knee pain that lasts for more than a week despite rest needs to be checked out by a doctor.

Players should strengthen the quads and hamstrings to reduce the likelihood of such injuries.



Hand and Wrist Injuries

These injuries most commonly occur from contact with the ball or stick. The kind of injuries differ widely and can be contusions, bruises, open wounds and finger fractures. The best way to prevent such injuries is the use of gloves. These are smaller gloves as opposed to the hand protectors used by goalkeepers. Such gloves greatly reduce the incidence of injury and give more confidence when playing.



Head and Face Injuries

These are usually from contact with the ball or stick and can result in cuts, bruises, facial fractures and broken teeth. There is a high incidence of dental injuries in some countries, but not so much in Singapore. These injuries can be prevented or largely mitigated by the use of mouth guards.

Eye injuries are uncommon, but use of spectacles increases that risk; contact lens are recommended. Safety goggles certified for use in field hockey may be used.



Soft Tissue Injuries

Soft tissue injuries are the most common injury in sports and includes injuries to the muscles, tendons and ligaments. The damage to muscles, tendons and ligaments in our body is usually caused by contusion (usually with bruising) or the overuse of a particular body part. Minor forms of soft tissue injuries include strains and sprains while major forms include torn ligaments.

When a player sustains soft tissue injuries, it is advisable for him or her to apply the RICER guidelines (Rest, Ice, Compression, Elevation and Referral) for proper injury management.



Serious Conditions

Concussion

Some of the most serious injuries in field hockey are from blows to the head or face.

Despite the non-contact nature of the sport, concussions do occur and account for about 7% of all recorded injuries. These can occur after being hit by the ball or stick, following collision with another player or from falling. This can mostly be avoided by players looking up and being aware of other players. This can also occur when players accidentally miss trap the ball in the air into the head of another. Players and umpires therefore must be mindful of the lofted ball and safety must always be paramount when allowing players to contest the ball in these situations.

A concussion is an injury caused by a blow to the head that disrupts the way the cells in the brain normally function. Such injuries can result in impaired thinking, memory problems, and emotional and behavioural changes.

Signs of concussion to look out for include:

- > Appearing dazed or stunned
- > Being confused about assignment or position
- > Being unsure of the game, score or opponent
- > Moving clumsily and staggering on their feet
- > Answering questions slowly
- > Losing consciousness (even briefly)
- > Inability to recall events prior to or after a hit or fall

Never return to play while signs or symptoms of a concussion are present. Experts recommend that an athlete with a suspected concussion not return to activities that are associated with a higher risk of another concussion while still showing symptoms of concussion. You should also not return to play on the same day as the injury.

It is prudent to note that symptoms of concussion may develop immediately or later.

Players who suffer a concussion must be evacuated to a hospital as soon as possible.

Symptoms for the concussed player to recognize include:

- > Headache or 'pressure' in head
- > Nausea or vomiting
- > Balancing problems or dizziness
- > Double or blurry vision



Dehydration, heat exhaustion, and heat stroke

Extreme hot weather may lead to heat-related illnesses like dehydration, heat exhaustion and heat stroke. All coaches and managers are responsible for resting every player during each quarter, to allow them to rehydrate and to perform at their best. Once a player is thirsty before they drink then dehydration is already established.

Heatstroke is a serious life-threatening emergency when the body loses its ability to control its temperature. If left untreated or treated inadequately, unconsciousness, coma and eventually death may result. If dehydration is detected early, fluids and rest might be all that is needed. If a player seems confused or loses consciousness, seek emergency care.

Heat stroke is clinically characterized by:

	a core temperature of 41.1° Celsius or higher	ataxia (loss of full control of bodily movements)
	a weak pulse	Fits (seizure)
	coma	difficulty breathing
	skin which is hot, flushed and dry	confusion, hallucination, agitation

First aid efforts must be directed towards lowering the body temperature:

- > Move to a shady area
- > Remove clothing from the player (as appropriate)
- > Sponge down with cool water
- > Fanning with a towel or a fan to promote sweating and evaporation, do not immerse in cold water as this will cause vasoconstriction and exacerbate the problem by not allowing more heat to be transferred to the surface via the blood
- > Ice may only be applied in the carotid (neck), armpit, groin (femoral) and the back of the knee (popliteal) areas as these areas have relatively superficial large arteries, which may transfer heat from the blood to the coolant by conduction
- > Intravenous fluids

Seek emergency attention (call (995) as soon as heat stroke is suspected. Early hospital treatment is necessary to prevent complications. The player must be evacuated to a hospital as soon possible. The FIH recommends that when the temperature is at and above 36° Celsius before the start of the match, then breaks between the first and third quarters should be extended to 4 minutes. Players should also be encouraged to rehydrate in the shade.



During hot and humid conditions, coaches are encouraged to:

- > Require young athletes to drink plenty of fluids before practice and during regular beverage breaks — even if they are not thirsty
- > Encourage players to pay attention to early signs and symptoms of dehydration, including:
 - ✓ Dry or sticky mouth
 - ✓ Thirst
 - ✓ Headache
 - ✓ Dizziness
 - ✓ Cramps
 - ✓ Excessive fatigue
 - ✓ Disinterest in the game

Remind players that he or she should report these signs and symptoms to the coach right away. Don't let embarrassment keep them on the pitch.

After exercise, players need to rehydrate with water. If you are exercising heavily for longer than an hour, you may benefit from a sports drink to help replace carbohydrates and electrolytes.

Sudden Cardiac Arrest

Sudden cardiac arrest is the abrupt loss of heart function, breathing and consciousness. The condition usually results in the stopping of blood flow to the heart.

Symptoms include:

- > Sudden collapse
- > No pulse
- > No breathing
- > Loss of consciousness



An ambulance must be called for immediately. While waiting for the ambulance basic cardiac life support can be administered. See Singapore Resuscitation and First Aid Council CPR and AED Protocol for further information on resuscitation steps. The guide can be found at srfac.sg/public-information/

An automated external defibrillator (AED) can be located at Sengkang stadium next to the groundsman's room on Level 2.

In order to minimize the risk of sudden cardiac arrest, players are encouraged to complete a Get Active Questionnaire, a sample of which can be found at store.csep.ca/pages/getactivequestionnaire before attempting to play.





The Field of Play

Most injuries occur in the shooting circle. This is due mainly to crowding and sudden shots at goal. Players and umpires alike must be more attentive when the ball is in the shooting circle and be mindful of actions that lead to dangerous play.

Synthetic pitches have high density padding below the synthetic grass playing surface but are still constructed on a concrete base. The surface can therefore create these player safety issues:

- > Extensive high intensity training on synthetic surface may contribute to chronic leg pain.
- > Falling on synthetic surface is also responsible for a high rate of abrasions.
- > If surface is not correctly watered or is allowed to be partially dry during practice or matches, players are more likely to trip over (ie high friction of rubber footwear on rubber surface). This can cause abrasions, can burn and/or rip skin, or result in sprained or twisted knees, ankles, elbows or wrists etc.
- > If players are wearing unsuitable footwear (ie smooth soles) they will slip on the wet pitch and also possibly cause similar injuries as a dry or partially dry pitch.





Safe Practices



Hockey can be played safely avoiding injury in most circumstances.

Warm Up, Cool Down and Stretch

Warm up

A proper warm up regime is important to ensure that muscles are not stiff. A proper warm up regime is important to prevent injuries. Both static and dynamic warm ups are important. Static warm up involves stretching while dynamic warm ups mean jogging on the spot or at a slow pace for at least 5-10 minutes before playing.

The warm up is the start of a physical activity session.

This warm up aims to:

- > Prepare the mind and body for the activity
- > Increase body temperature
- > Increase heart rate
- > Increase breathing rate



The warm up routine should include activities that use the same movement patterns as the activities to be performed during the session. Warm up exercises should begin at a low intensity and gradually increased to the level required for the activity.

Cool down and Stretching

Cool down exercises assist in recovery. Participants should include a cool down routine at the end of every activity session, consisting of:



- > Activity of significantly reduced intensity, such as 2-3 minutes of easy jogging or walking
- > 5 minutes of gentle, dynamic stretching exercises

Stretching activities should move the muscles through a full range of movements and include all muscle groups involved in the main activity. Stretching can be performed in different ways but there is evidence for youth that dynamic stretching (moving slowly through a full stretch) is better than static stretching (holding one angle for more than a few seconds).

Equipment

1. Mouth guards

A good mouth guard can prevent any damage to or loss of teeth. Mouth guards are recommended for players during matches and training sessions. A functional mouth guard should protect the player's teeth and its surrounding soft tissue. Those made from a dental mould, usually at a dental clinic provide the best protection.



2. Footwear

Footwear for the players should be in good condition and appropriate for the playing surface. Non-slip soles must be mandatory.

3. Shin guards

The force of contact from a ball or stick hitting the shin area can be very common in hockey and without shin guards the contact is normally very painful and can cause considerable injury.

Use of shin guards is compulsory for all SHF competitions.

Shin guards protect the lower leg from bone fractures and bruises during training and matches. They need to be individually fitted to be long and wide enough to cover your entire lower leg. A good shin guard will mould to the shin, end just below the knee, and fit snugly around the ankle bone without restricting blood circulation.



4. Gloves

These provide excellent protection to wrists and fingers. Ensure that the glove is a good fit and has enough padding around the wrist and fingers. The gloves should not overly increase the size of the hand or it cannot be used in competition. A special measuring box is available which can be used to determine if the glove meets competition requirements.

It is now far more common for outdoor players to wear similar gloves as indoor players. Specialist outdoor gloves are readily available to better protect against the extra power of the outdoor passes. These gloves protect the player from fractured or dislocated fingers.

Larger gloves are allowed for defending penalty corners. These gloves must also satisfy the size test by fitting into the size measuring box.



Gloves for Open Play



Gloves for Penalty Corners

5. Eyewear

Players should avoid wearing spectacles when training or playing as this increases the risk of serious injury to eyes. Contact lenses should be used instead. Alternatively players may want to use safety goggles that are approved for use for hockey. But such goggles must be smooth and flush to the face, to avoid causing danger to other players.

A face mask can be worn by players who defend penalty corners. These face masks must also be smooth and not be dangerous to other players.





MOUTH GUARD

PADDED GLOVE

SHIN PADS

FACE MASK

Goalkeeper

Goalkeepers defend far more shots at training than in any match so training injuries are far more common. Goalies are recommended to wear full protective gear when playing or training.

This equipment would be:

- > Helmet
- > Throat protector
- > Chest and arm body armour
- > Hand protector gauntlets
- > Girdles and pelvic protector
- > Leg Guards
- > Kickers

Goalkeeping protective equipment is made in material of different density and associated cost. Junior equipment is often of lower density, hence lighter and cheaper. When moving from junior hockey to senior hockey, more protection is needed as the ball will be hit much harder. Goalkeepers should look to change to higher density padding for all their main protection equipment.





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Disclaimer

This Guide does not constitute medical, legal or training advice and is published for general information only. Readers are advised to seek professional medical attention in the event of any injury and follow directions of professional coaches and teachers when preparing to train or play hockey. The Singapore Hockey Federation gives no assurance or warranty with respect to the guidance provided in this publication.

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