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USA Hockey Recertification Program

Safety Issues in Hockey

Lesson Workbook



presented by



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Safety Issues in Hockey

Introduction

This lesson is an attempt to acquaint you with various injuries associated with hockey and how you should be prepared to deal with these injuries. If you have prepared your first aid kit, brought along the medical records and familiarized yourself with the different types of injuries, you should be able to handle whatever situation arises. Follow the steps that are outlined for you and remember – you are not a doctor. If you are in doubt about how to proceed, use the coins in your first aid kit and call for professional help. Do not make decisions about treatments if you are not qualified to make them.

Remember, react quickly and with confidence. Most injuries will be minor and the injured players will need only a little reassurance before they can be moved to the bench area. Injuries will always occur in ice hockey. Therefore, you must prepare yourself to deal with whatever happens in a calm, responsible manner. The coach is a teacher, leader and role model for young athletes. The coach is in charge when an emergency occurs, either on or off the ice.

1. The coach is a teacher and a leader.

The coach is a role model for young athletes.

2. The coach is in charge when an emergency occurs, either on or off the ice.

3. Emergency care

Evaluation of an injured player using the ABC's = Airway, Breathing, Circulation

Some points to remember:

- Don't turn the player
- Don't move the player
- Don't remove the player's helmet, it has been shown it is better to leave it on.

4. Injury prevention

- Warm-up and stretching before and after games and practices.
- Cooling down after games and practices.
- Proper practice to game ratio.
- Importance of hydration during practices and games.
- 70% - 90% of injuries occur in games.
- Only 10% - 30% of injuries occur during practice.

Practice to game ratio

The recommended practice to game ratio in youth hockey is 2:1 to 4:1

- NHL 1:1 (80 to 110 games)
- College 2:1 (30 to 40 games)
- Juniors 2:1 (60 to 80 games)
- High School 2:1 (25 to 30 games)
- Youth 4:1 to 1:2 (25 to 75 games)

Relation of Injuries to Practice to Game Ratio

A Premise (as yet unproved) "Teams with HIGHER practice to game ratios will have LESS injuries than teams with LOWER practice to game ratios." Dr. Alan Ashare, USA Hockey

Some basic ideas in Injury Prevention

- Injuries are not part of the game.
- Coaches are our first line of defense against injuries.
- Coaches are very important in limiting or decreasing the risk for catastrophic injuries.

5. Injuries in Ice Hockey

Most common injuries:

- | | |
|------------------------------|--------------------------------|
| • A. Back or Neck Injury | • H. Head Injury - Unconscious |
| • B. Blisters | • I. Lacerations |
| • C. Bruise | • J. Loss of Wind |
| • D. Dental Injury | • K. Nose Bleed |
| • E. Dislocation | • L. Skate Bite |
| • F. Fracture | • M. Sprain |
| • G. Head Injury - Conscious | • N. Strain |

A. Back or Neck Injury

Definition

Any injury to the back or neck area which causes the player to become immobile or unconscious.

Symptoms

- Pain and tenderness over the spine.
- Numbness
- Weakness or heaviness in limbs.
- Tingling feeling in extremities.

Care

- Make sure player is breathing.
- Call for medical assistance.

Return to Action

- Dependent upon severity of the injury, a bruise may mean no practice for 2-3 days; a fracture may mean the player could never play again.
- Permission of a physician.

B. Blisters

Definition

- Localized collection of fluid in the outer portion of the skin.

Symptoms

- Redness
- Inflammation
- Oozing of fluid
- Discomfort

Care

- Clean the site with disinfectant.
- Use a sterile needle and puncture the blister at the edge; force the fluid out.
- Put disinfectant on the area.
- Cover the area with a band-aid.
- Alter the cause of the problem when possible. (i.e., proper size and/or shape of the skates)

Return to Action

- Immediately, unless pain is severe

C. Bruise

Definition

- A bruising of the skin caused by a direct blow.

Symptoms

- Tenderness around the injury.
- Swelling
- Localized pain

Care

- Rest, Ice, Compression and Elevation (R.I.C.E.) for the first 3 days.
- Contrast treatments for days 4-8
- Restricted activity, protective padding

Return to Action

- When there is complete absence of pain and full range of motion

D. Dental Injury

Definition

- Any injury to mouth or teeth

Symptoms

- Pain
- Bleeding
- Loss of tooth (partial or total)

Care

- Clear the airway where necessary.
- Stop the bleeding with direct pressure. (make sure excess blood does not clog airway)
- Save any teeth that were knocked free; store them in moist, sterile cloth. They may be reinserted in some cases.
- Transport to hospital.

Return to Action

- When pain is gone – usually within 2-3 days
- Permission of a dentist

E. Dislocation

Definition

- Loss of normal anatomical alignment

Symptoms

- Complaints of joint slipping in and out. (subluxation)
- Joint out of line.
- Pain at the joint.

Care

- Mild
 - Treat as sprain. (R.I.C.E.)
 - Obtain medical care.
- Severe
 - Immobilize before moving.
 - Needs to be treated by a physician.
 - Obtain medical care. (do not attempt to put joint back into place)
 - R.I.C.E.

Return to Action

- Subluxation: Go by pain level, range of motion and strength; if no pain, has full range of motion and strength returned to 95% of same joint on opposite side of body, player may return to action.
- Severe: Surgery may be necessary, six weeks is usually the minimum recovery time; full range of motion must be present, full strength must be present; doctor's permission is required to resume practice.

F. Fracture

Definition

- A crack or complete break in a bone. A simple fracture is a broken bone, but with unbroken skin. A compound fracture is a broken bone and broken skin.

Symptoms

- Pain at fracture site.
- Tenderness, swelling.
- Deformity or unnatural position.
- Loss of function in injured area.
- Open wound, bleeding. (compound)
- A simple fracture may not be evident immediately. If localized pain persists, obtain medical assistance.

Return to Action

- Full range of motion is present.
- Strength must be returned to pre-injury levels throughout the entire range of motion of adjoining joints.
- Permission of a physician.

G. Head Injury – Conscious

Definition

- Any injury which causes the player to be unable to respond in a coherent fashion to known facts. (names, date, etc.)

Symptoms

- Dizziness
- Pupils unequal in size and/or non-responsive to light and dark.
- Disoriented
- Unsure of name, date or activity.
- Unsteady movement of eyeballs when trying to follow a finger moving in front of eyes
same symptoms as noted for back or neck injury may be present.

Care

- If above symptoms are present, player may be moved carefully when dizziness disappears.
- Players with head injuries should be removed from further practice or competition that day and should be carefully observed.
- Obtain medical assistance

Return to Action

- Permission of a physician.

H. Head Injury – Unconscious

Definition

- Any injury in which the player is unable to respond to external stimuli by verbal or visual means.

Symptoms

- Player is unconscious.
- Cuts or bruises to head area.

Care

- Any time a player is unconscious, assume an injury to the spinal cord or brain.
- Remove the mouth piece and clear the airway if necessary.
- Do not move the player.
- Call for medical assistance.
- Do not remove the helmet.

Return to Action

- Permission of a physician.

I. Lacerations

Definition

- A tearing or cutting of the skin.

Symptoms

- Bleeding
- Swelling

Care

- Direct pressure to the wound for four to five minutes will usually stop bleeding.
- Clean the wound with disinfectant.
- R.I.C.E.
- If stitches are required, send to a doctor within twenty-four hours.

Return to Action

- As soon as pain is gone, if the wound can be protected from further injury.

J. Loss of Wind

Definition

- A forceful blow to mid-abdomen area which causes inability to breathe.

Symptoms

- Rapid, shallow breathing.
- Gasping for breath.

Care

- Make sure no other injuries exist.
- Place player on back.
- Get player to relax and breathe slowly.

Return to Action

- After five minutes of rest to regain composure and breathing has returned to normal rate.

K. Nose Bleed

Definition

- Bleeding from the nose

Symptoms

- Bleeding
- Swelling
- Pain
- Deformity of nose

Care

- Calm the athlete down.
- Get athlete into a sitting position.
- Pinch the nostrils together with fingers while the victim breathes through the mouth.
- If bleeding cannot be controlled, call for medical assistance.

Return to Action

- Minor nosebleed – when bleeding has stopped for several minutes.
- Serious nosebleed – no more competition that day; doctor's permission if a fracture has occurred

L. Skate Bite

Definition

- Pain where the skate laces are tied

Symptoms

- Localized pain.
- Small, swollen area.

Care

- Lace skates down one eyelet.
- Put foam rubber under tongue where laces are tied.
- Rest if pain continues.

Return to Action

- Immediately

M. Sprain

Definition

- A stretching or a partial or complete tear of the ligaments surrounding a joint.

Symptoms

- Pain at the joint.
- Pain aggravated by motion at the joint.
- Tenderness and swelling.
- Looseness at the joint.

Care

- Immobilize at time of injury if pain is severe; use hockey stick as splint.
- R.I.C.E.
- See physician.
- Extended rest.
- Surgery

Return to Action

- Pain and swelling are gone.
- Full range of motion reestablished.
- Strength and stability within 95% of the non-injured limb throughout range of motion.
- Light formal activity with no favoring of the injury.
- Moderate to full intensity formal activity with no favoring of the injury.
- Return to formal practice and competition.

N. Strain

Definition

- Stretching or tearing of the muscle or tendons which attach the muscle to the bone.
- Commonly referred to as a “muscle pull”

Symptoms

- Localized pain brought on by stretching or contracting the muscle in question.
- Unequal strength between limbs.

Care

- R.I.C.E. for the first 3 days.
- Stretching to point of discomfort; no pain, start as soon as player is able.
- Contrast treatment for days 4-8.

Return to Action

- Check flexibility – can players stretch as far as they could pre-injury?
- Check strength between limbs; do both sides of the body appear equally strong?
- Can athlete perform basic hockey tasks (i.e., skating, passing, shooting) without favoring the injury?

Mild Strain.....1 to 2 days

Moderate Strain.....4 to 6 days

Severe Strain.....1 to 2 weeks or more

Some Not So Common Injuries

- Dislocated Shoulder
- Broken Wrist
- Broken Ankle
- Concussions
- Lacerations

Three Types of Catastrophic Ice Hockey Injuries

- Paralysis due to cervical spine injuries.
- Skateblade neck lacerations.
- Death due to blunt chest trauma. (commotio cordis)

6. Early Treatment

R.I.C.E. - Rest, Ice, Compression, Elevation

7. Sports Medicine

Physicians can be very helpful in evaluating a player's injuries and determining when he/she can return to play.

8. CPR

All coaches are strongly urged to take CPR training.

- Make it a team project to get players and coaches patched in CPR.
- Take the American Red Cross, USOC Sports Safety Training Course (6 hours)
- Call your local American Red Cross Chapter to get the schedule for the next course

9. Universal Precautions

Hepatitis and HIV

- Assume that all players have the disease.
- Cover bleeding wounds and replace bloody uniforms.
- Use latex gloves and plastic bags.

10. Team First Aid Kit

- 20-25 Band-Aids
- 1-2 rolls of plastic tape
- 2-4 4x4 sterile gauze pads
- 3-4 small zip-lock bags (use as ice bags)
- 1-2 chemical ice bags
- 2-4 foil covered antiseptic wipes
- 2-3 pairs of latex gloves
- List of contents and emergency numbers.

Maintaining Appropriate Records

The immediate care you provide to an injured player is important to limit the extent of the injury and set the stage for appropriate rehabilitation and thus a quick recovery. It is not sufficient, however, to terminate your care with these two areas. Two additional brief but valuable tasks should be completed. The first of these is to complete a personal injury report form and the second is to log the injury on your summary of season injuries.

Personal Injury Report Form

It is important for you to maintain a record of the injuries that occur to your players. This information may be helpful to guide delayed care or medical treatment and may be very important if any legal problems develop in connection with the injury.

Summary of Season Injuries

A Summary of Season Injuries, lists each type of injury, with a space for you to record when that type of injury occurred. At the end of the season you should total the incidences of each injury to see if there is a trend to the kind of injuries your team has suffered. If a trend exists, evaluate your training methods in all areas of practices and games. Try to alter drills or circumstances that may be causing injuries. Perhaps your practice routine ignores or overemphasizes some area of stretching or conditioning. Decide on a course of action that may be implemented for next season and note the appropriate changes you wish to make on your season or practice plans.

Rehabilitation

Decisions about the rehabilitation of injuries and re-entry into competition must be made according to a flexible set of guidelines; not hard and fast rules. Every individual on your team and each injury is unique. Therefore, rehabilitation techniques and re-entry criteria will differ for each injured player.

General Procedures

Most minor injuries suffered by your players will not be treated by a physician. Therefore, you, the player, and the player's parents will determine when the player returns to action. Players, coaches and parents realize that missing practices will reduce the player's ability to help the team and that the loss of practice time will reduce the opportunity to perfect the skills of the game. Pressure is often exerted on the coach to play injured players before they are fully recovered. However, chances of an injury recurring are greatly increased if a player returns too soon. The following five criteria should be met, in order, before allowing an injured player back into full competition. They are:

- Absence of Pain
- Full range of motion at the injured area.
- Normal size and power (strength throughout the range of motion) at the injured area.
- Normal speed and agility.
- Normal level of fitness.

If a physician is not overseeing an injured player's rehabilitation, the task of rehabilitation will probably fall upon the coach. Stretching activities, calisthenics and weight training exercises form the basis of a rehabilitation program. Start with simple stretches. Presence of pain during movement is the key to determining if the activity is too stressful. The onset of pain means too much is being attempted too soon. When players can handle the stretching, then calisthenics and weight training can be added to the program.

Absence of Pain

Most injuries are accompanied by pain, although the pain is not always evident immediately when the injury occurs. Usually, the pain disappears quickly if the injury is a bruise, a strain or a minor sprain. For more serious injuries such as dislocations, tears, or fractures, the pain may remain for days or weeks. When the pain is gone, the player can start the stretching portion of a rehabilitation program. The main goal of a rehabilitation program is to re-establish range of motion, strength, power and muscular endurance at the point of injury. As long as players remain free of pain, they should proceed with their program. If pain reoccurs they should eliminate pain-producing movements until they are pain-free again. The chance of an injury recurring is greatly increased if a player returns to action too soon.

Full Range of Motion

Injuries generally reduce the range of motion around a joint. The more severe the injury, the greater the reduction in range of motion, particularly when the injured area has been immobilized. As soon as they are able, injured players should start moving the injured area in a progressively normal way. For example, if the player has strained a groin muscle, a fairly common injury early in the season, he/she should stretch the muscle as much as possible without causing pain. Initially, the movement may be slight if the injury was severe, but with stretching, the full range of motion will eventually return. When the player can move the injured joint through its normal range, strengthening exercises should begin.

Strength and Size

After a body part has been immobilized (cast, splint wrap or disuse), muscles become smaller and weaker than they were prior to the injury. Just because a cast is removed and the injuries have “healed” does not mean that players are ready to practice or play at full speed. Loss of muscle mass means a loss of strength. Letting the player resume a normal practice schedule before strength has returned to pre-injury levels could lead to re-injury. Strengthening the injured area should be done very conservatively. If weights are used, start with light weights and perform the exercise through the entire range of motion. If the exercise causes pain, then lighter weights should be used. Your goal is to have the players regain full strength through the entire range of motion before allowing them to return to competition. To determine when full strength and size has been regained, compare the injured area to the non-injured area on the opposite side of the body. When both areas are of equal size and strength then the players may progress to the next phase of recovery.

Normal Speed and Agility

If the lower parts of the body were injured, skating drills which incorporate progressively more intense changes of speed, and/or direction, stopping and accelerating will provide a good indication of the player’s recovery. If the upper part of the body was injured, passing and shooting drills should be attempted also. In your observation of injured players, try to detect any favoring of the injury or inability to smoothly perform a skill at increasing intensities. When players can move at pre-injury speed and agility, they are almost ready to play. The main goal of a rehabilitation program is to re-establish range of motion, strength, power and muscular endurance to the injured area.

Level of Fitness

Every extended layoff reduces the level of muscular fitness. While recovering, the player may be able to exercise other body parts without affecting the injured area. Someone with a sprained ankle may not be able to skate, but may be able to swim. Someone with a broken wrist may be able to jog or ride a bike. Encourage this type of activity, because it helps to maintain portions of their pre-injury levels of fitness. Players who have missed long periods of time due to an injury, should practice for several days after meeting the previous criteria, before being allowed to play in a game. Their cardiovascular system and the endurance of the injured musculature need time to adjust to the demands of the game. The longer the layoff, the more conditioning work they will need.

Conclusion

When the pain is gone, and the range of motion, strength, agility and conditioning are back to normal, your player is ready to resume play. The entire process may take two days for a bruise to 12 weeks or more for a fracture. In either case, if you have followed the general guidelines of this chapter, you know you have acted in the best long-term interest of the player. Participation is important, but only if the participation is achieved with a healthy body. Resist the pressure and the temptation to rush players into a game before they are ready. Your patience will be rewarded in terms of the long term health and performance of your players.

Addendum A - Medical History Form

Name _____ Date _____

Address _____ Birthdate _____

Telephone - Day _____ Evening _____

Who to contact in case of an emergency?

Name _____ Telephone _____

Relationship _____

Physician's Name _____ Telephone _____

Hospital of choice _____

(If the answer to any of the following questions is or was yes, please describe the problem and its implications for proper first aid treatment on the back.)

Have you had (or do you presently have) any of the following?

Circle One

Head injury (concussion, skull fracture)

Yes No

Fainting Spells

Yes No

Convulsion/epilepsy

Yes No

Neck or back injury

Yes No

Asthma

Yes No

High blood pressure

Yes No

Kidney problems

Yes No

Hernia

Yes No

Diabetes

Yes No

Heart murmur

Yes No

Allergies

Yes No

Specify _____

Injuries to:

Shoulder

Yes No

Knee

Yes No

Ankle

Yes No

Fingers

Yes No

Arm

Yes No

Other _____

Poor Vision

Yes No

Poor Hearing

Yes No

Other _____

Have you had a recent tetanus booster? If so, When? _____

Are you currently taking any medication? What? Why? _____

Has a doctor placed any restrictions on your activity? Explain. _____

Signed

Athlete _____ Parent _____

Addendum B - Sample 3 x 5 Card

Medical Information

Player's Name _____

Address _____

Parent's Name _____

Telephone - Home _____

Work _____

Alternate _____

In an emergency, if parents cannot be contacted, notify:

Name _____

Telephone - Work _____

Home _____

Doctor's Name _____

Telephone - Day _____

Evening _____

Past Injuries _____

Restrictions/Allergies _____

Hospital Preference _____



Coaches' Clipboard

Notes: _____

[illegible]



Coaches' Clipboard

Notes: _____
