

## Module Summaries:

### Summary - The Emergency Plan

- The emergency plan is a *crucial part* of the total sports program.
- Prior to each season and game, those individuals responsible for the program and athletes should *survey the area* of participation (including the spectator areas) to make sure the area is safe and clear of all items that may cause an injury.
- Make sure your emergency plan is *thorough and comprehensive*. It should include instruction on communication, first aid kits, emergency training, scene management, and more.
- It is essential that all facility staff, all coaches and even parents of players are *aware of the emergency plan and its components*.

### Summary - Heat and Cold Illnesses

#### Heat Illness - Prevention

You can help prevent heat illness by:

1. Adjusting gradually to the heat over a 10-14 day period.
2. Scheduling practice or games when the heat and humidity are not as high. This is usually early morning or late afternoon.
3. Monitoring the temperature and humidity before and during practice or games.
4. Ensuring the athletes dress appropriately.
5. Allowing the frequent removal of helmets or hats to permit heat to escape through the head.
6. Monitoring weight loss.
7. Preventing a recently ill athlete from participation if her illness included fever, chills, vomiting, or diarrhea. The athlete should rest and consume additional fluids.

#### Fluid Replacement

- Athletes should not wait until they are thirsty to consume fluids since dehydration of 1-2% of body weight can impede performance.
- Cold water (50-55 degrees F) is an excellent fluid replacement.
- Sports drinks are more effective at replacing fluids and minerals lost during exercise lasting longer than 45-50 minutes.
- Beverages containing caffeine, alcohol, carbonated water, and comprising more than 8% carbohydrate are not recommended for hydration.
- Fluid replacement should occur before, during and after exercise.
- Proper fluid replacement is needed in all temperatures depending on exercise levels.

#### Heat Illness - Management

- Recognition of the early warning signs of dehydration is essential to proper management of heat illnesses.
- The emergency plan should be activated when an athlete is suspected of having heat exhaustion or heat stroke.
- With any heat illness the primary concern is replacing fluids (if the athlete can drink) and cooling the body.

#### Cold Illness - Prevention and Management

- Cold temperatures are exacerbated by wind, dampness, and wetness of clothes.
- Most cold illnesses in sports involve the ears, nose, cheeks, fingers and toes.
- Moderate and severe (frostbite) cold conditions should be treated in a medical facility where controlled re-warming of the body part can occur.
- **Frostbite is a medical emergency!**
- Appropriate dress for cold environments can help prevent these conditions from occurring. As a general rule for temperatures below 32 degrees F, an added layer of protective clothing should be worn for every 5 mph of wind.
- Wind chill should be monitored along with other weather conditions.

#### Airway, Breathing and Circulation (ABCs)

- The maintenance of the ABCs takes priority over any other injury.
- The absence of breathing or circulation is a medical emergency and your emergency plan should be activated.
- Those responsible for the well being of athletes should be trained in CPR (which is not included in this course).

### Shock

- Shock can occur with any injury (minor or serious) that involves bleeding, pain, internal trauma, fracture or spinal injury.
- If not recognized and managed, shock can cause serious tissue damage and even death.
- If shock is suspected, the emergency plan should be activated.

### Vital Signs

- There are nine vital signs: pulse, respiration, blood pressure, temperature, skin color, pupils, level of consciousness, movement and reaction to pain. One or more of these may need to be checked following an injury.
- Check for **feeling, warmth, and color** to assess the state of the body itself and of an extremity following an injury.
- The inability of a conscious athlete to move one or more extremities is called paralysis and can be a sign of a serious injury, which should result in activation of the emergency plan.
- An athlete with paralysis or suspected paralysis should not be moved and no equipment removed, unless it is a life threatening situation.

### Special Medical Considerations

- Coaches should be aware of athletes with known medical conditions such as seizures, asthma, allergies, or diabetes.
- Coaches should have medical history cards for each athlete readily available at every practice or game.
- It is important to have the appropriate treatment readily available for athletes with special medical conditions.

### Seizures (Convulsions)

- Although controllable by medication, seizures may still occur in athletes with epilepsy.
- Seizures may last a few seconds or a few minutes for major episodes.
- The most important action to take in response to an athlete suffering a seizure is to protect the athlete from a self inflicted injury.

#### Asthma

- Asthma is a condition in which the air passages in the lungs get smaller, thus interfering with normal breathing.
- An athlete should only use his own prescribed inhaler.
- Athletes with asthma should bring their inhalers to all practices and games.
- As exercise becomes more strenuous, the likelihood of an asthma attack increases for athletes with exercise induced asthma (EIA).

#### Allergic Reactions

- The most common allergic reactions in athletes are caused by insect bites or stings.
- Allergic reactions range from minor skin irritation to breathing problems.

#### Diabetes

- Two types of diabetic conditions exist and management is different for each.
- A diabetic coma is caused by too little insulin, or high blood sugar.
- Insulin shock can be caused by low blood sugar.
- Give sugar to a diabetic athlete when in doubt of his condition.
- Call 911 and activate your emergency plan if there is no response.

#### Returning to Play

- Specific signs and symptoms exist that enable you to determine if an athlete should be seen by a physician before returning to play.

#### Wound Care

- Personal protective equipment should be worn as a safeguard against blood and body fluids.
- Signs of wound infection are: tenderness, swelling, redness, heat and oozing fluid from the wound that may be whitish or yellowish in color.
- The inability to control bleeding through direct pressure and elevation is a medical emergency.
- **Do not** remove embedded foreign objects.
- **Do not** puncture a blister to drain the fluid.

#### Fractures and Dislocations

- Fractures and dislocations can be medical emergencies, particularly if there is obvious deformity, loss of feeling, the skin is cold to the touch or bluish, or it is an open fracture.
- There is no difference between a fracture and a broken bone. Fractures can range from a simple crack in the bone to multiple broken pieces of a bone.
- An x-ray is required to determine if a bone is fractured and the extent of damage.

#### Acute and Chronic Injuries

- Injuries can be classified as either acute or chronic.
  - *Acute injuries* have a rapid onset and short duration.
  - *Chronic injuries* develop slowly over a period of time. Poorly treated acute injuries can become chronic.
- The severity of an acute injury is determined by the amount of tissue damaged from the injury. The more tissue damaged, the longer the recovery time.
- Chronic injuries can be more difficult to treat because of the gradual nature of their development.

#### Use of Ice and Heat

- Ice should be used on all acute injuries until there is no swelling present.
- Heat can be used on chronic injuries when there is *no swelling* present.

- The application of ice should be used in conjunction with rest, compression, and elevation.
- You should apply ice directly to the skin. When using frozen gel packs, a wet elastic wrap or towel should be placed between the skin and the gel pack.

## Head Injury

An athlete with any of the following signs needs to be seen **immediately** by a physician.

- |   |                            |
|---|----------------------------|
| • Confusion/disorientation              | • Bump or deformity        |
| • Loss of memory                        | and/or bleeding at site of |
| • Decreasing level of consciousness     | blow                       |
| • Loss of consciousness                 | • Pupils not responsive to |
| • Blood or clear fluid flowing from the | light                      |
| nose, mouth, or ears                    | • Seizure                  |
| • Blurred vision                        | • Slurred speech           |
|   | • Breathing and pulse      |
|   | irregularities             |

An unconscious athlete is **assumed** to have a head and neck injury and should be treated as such until determined otherwise.

## Neck Injury

Signs of a neck injury include:

- Inability to move arms, legs, fingers or toes
- Loss of feeling
- Possible breathing difficulties
- Hand grip strength is significantly unequal
- Motionless

## Eight Rules for Suspected Neck Injury

Rule 1:

**Do not move the athlete.** Without removing equipment, assess ABCs in the position in which the athlete is found.

Rule 2:

**Activate emergency plan** if a problem with the ABCs exists, if the athlete is unconscious, or if a neck injury is suspected based upon the signs and symptoms listed above.

Rule 3:

An unconscious athlete **with properly functioning ABCs** should be left in the position found and closely monitored until the arrival of EMS.

Rule 4:

An athlete who is face down and **not breathing** must be rolled onto her back with the neck and spine in alignment. The airway must then be opened and rescue breathing begun.

During the rehearsal of the emergency plan, rolling an athlete must be practiced. It should be noted that rolling an athlete wearing equipment is quite different than rolling an athlete without equipment. This maneuver should be supervised by a trained professional.

Rule 5:

A head or neck injury is **always** suspected when there is unconsciousness. It is necessary, then, to always stabilize the head and neck of an unconscious athlete.

Rule 6:

Helmet or shoulder pads should **never** be removed unless proper care cannot be administered with them in place. The airway can be maintained and rescue breathing and CPR can be performed without removing any equipment.

Rule 7:

A **tool to remove the face mask** should be included in the first aid kit and you should be familiar with how to use it.

Rule 8:

Maintain the airway by using **modified jaw thrust**, a method that protects the neck. Remove the face mask to perform rescue breathing (a technique learned in a CPR class or from a local EMS or physician).

Facial Injury

- Prohibit the rubbing of an eye that has in it a foreign body
- Most facial lacerations should be seen immediately by a physician to determine if stitches are needed to reduce the severity of scarring

- Nose bleeds are managed by having the athlete lean forward, pinching shut the upper portion of the nose
- A chipped tooth should be seen by a dentist as soon as possible
- A dislodged tooth should be seen immediately by a dentist (tooth may be saved if a dentist treats the athlete within an hour of injury)
- Place a dislodged tooth in milk or saline solution (if unavailable, use cold water or have the athlete hold the tooth in his mouth)

### Warm-Up

- The warm-up period should last approximately 10 to 15 minutes. In hot and humid conditions, this time may need to be reduced. In cold conditions, this time may need to be increased.
- The benefits of a warm-up include reducing the risk of injury, preparing the body for physical activity, preparing the heart for physical exercise, rehearsal of sport-specific movement and skills, and mental preparation for the event.
- The four stages of a warm-up are gentle loosening exercises, jogging, stretching, and event-specific exercises.

### Cool-Down

- The cool-down period allows the body to return to a resting state.
- The cool-down period should last 5 to 10 minutes and each stretch should be held 10 to 20 seconds with no bouncing.
- Stretching during the cool-down period will help “flush-out” the waste products that have accumulated in the muscles during exercise.

### Exercises

The following muscle groups should be targeted during the warm-up and cool-down periods:

- Neck
- Shoulder
- Lower back
- Hip and groin
- Hamstring
- Quadriceps
- Calf

