

# **SIM 150 Management of Sport Trauma and Illness**

## **RISK MANAGEMENT AND INJURY PREVENTION**

### Cognitive Domain

- 2 Appraises the risk factors associated with common congenital and acquired abnormalities, disabilities, and diseases.
- 4 Outlines the basic concepts and practice of wellness screening. This includes, but is not limited to, various baselines and standards and other fundamental methods used to screen for wellness.
- 5 Identifies areas that athletic personnel or supervisors must be familiar with in order to avoid or reduce the possibility of injury or illness occurring to athletes and others engaged in physical activity (e.g., CPR and first aid).
- 6 Describes the principles of effective heat loss and heat illness prevention programs. These principles include, but are not limited to knowledge of the body's thermoregulatory mechanisms for acclimation and conditioning, fluid and electrolyte replacement requirements, proper practice and competition attire, and weight loss.
- 7 Evaluates the accepted guidelines, recommendations, and policy and position statements of applicable governing agencies relating to practice during extreme weather conditions (e.g., heat, cold, and lightning).
- 8 Describes the use of a sling psychrometer, and possesses the ability to apply wet bulb globe thermometer (WBGT) reading and other heat and humidity indices to determine the scheduling, type, and duration of practice.
- 16 Identifies the precautions and risks associated with exercise in individuals who have systemic medical conditions.
- 25 Identifies the basic principles and concepts of home, school, and work place ergonomics and their relationship to the prevention of illness and injury.

### Psychomotor Domain

- 4 Collects and interprets climatic data (temperature, humidity, distance of lightning from practice or competition areas) with use of appropriate instruments or personal observation and applies this data to schedule physical activity.
- 5 Implements prevention and treatment of environmental stress factors that pertain to acclimation and conditioning, fluid and electrolyte replacements, proper practice and competition attire, and weight loss.

### Affective Domain

- 7 Appreciates the importance of the body's thermoregulatory mechanisms for acclimation and conditioning, fluid and electrolyte replacements, proper practice and competition attire, and weight loss.
- 8 Values the importance of collecting data on temperature, humidity, and other environmental conditions that can affect the human body when exercising in adverse weather conditions.

## **PATHOLOGY OF INJURIES AND ILLNESSES**

### Cognitive Domain

- 18 Describes the signs and symptoms of deep and superficial vein thromboses, pulmonary embolism and other emboli, and myocardial infraction.

### Affective Domain

- 2 Recognizes that physician consultation is a moral and ethical necessity in the diagnosis and treatment of pathologic conditions.

## **ASSESSMENT AND EVALUATION**

### Cognitive Domain

- 7 Describes commonly accepted techniques and procedures for evaluation of the common injuries and illnesses that are incurred by athletes and others involved in physical activity. These techniques and procedures include the following:(a) taking a history, (b) inspection or observation,(c) palpation, (d) functional testing (range of motion, ligamentous or capsular stress, manual muscle, sensory, motor, reflex neurological), (e) special evaluation techniques (e.g., orthopedic tests, auscultation, percussion)
- 9 Demonstrates knowledge of a systematic process that uses the medical or nursing model to obtain a history of an injury or illness that includes, but is not limited to, the mechanism of injury, chief complaint, and previous relevant injuries or illnesses.
- 25 Demonstrates familiarity with the function of a stethoscope in the examination of the heart, lungs, and bowel.
- 26 Uses the terminology necessary to communicate the results of an athletic training assessment to physicians and other health professionals.
- 27 Describes components of medical documentation (e.g., subjective, objective, assessment, plan [SOAP] and history, inspection, palpation, special tests [HIPS])

## **ACUTE CARE OF INJURIES AND ILLNESSES**

### Cognitive Domain

- 1 Explains the legal, moral, and ethical parameters that define the scope of first aid and emergency care, and identifies the proper roles and responsibilities of the certified athletic trainer.
- 2 Describes the availability, contents, purposes, and maintenance of contemporary first aid and emergency care equipment.
- 3 Determines what emergency care supplies and equipment are necessary for event coverage, such as biohazardous waste disposal containers, splints, short-distance transportation equipment, emergency access tools, primary survey instruments (CPR mask, bag-valve-mask), and ice.
- 6 Describes the principles and rationale for a primary survey of the airway, breathing, and circulation.
- 8 Interprets vital signs as normal or abnormal including, but not limited to, blood pressure, pulse, respiration, and body temperature.
- 9 Assesses pathological signs of injury including, but not limited to, skin temperature, skin color, skin moisture, pupil reaction, and neurovascular function.

- 10 Applies the current standards of first aid, emergency care, rescue breathing, and cardiopulmonary resuscitation for the professional rescuer, including (1) use of a bag-valve-mask, (2) use of a pocket mask, and (3) the chin lift-jaw thrust maneuver.
- 11 Describes the role and function of an automated external defibrillator in the emergency management of acute heart failure and abnormal heart rhythms.
- 12 Describes the role and function of oxygen administration as an adjunct to cardiopulmonary resuscitation techniques.
- 13 Recognizes the characteristics of common life-threatening conditions that can occur either spontaneously or as the result of direct trauma to the throat, thorax and viscera, and identifies the management of these conditions.
- 14 Describes the management of external hemorrhage, including the location of pressure points, use of universal precautions, and proper disposal of biohazardous materials.
- 15 Recognizes signs and symptoms associated with internal hemorrhaging.
- 16 Recommends the appropriate use of aseptic or sterile techniques, approved sanitation methods, and universal precautions for the cleansing and dressing of wounds.
- 17 Discriminates those wounds that require medical referral.
- 19 Cites the signs, symptoms, and pathology of acute inflammation.
- 21 Explains and interprets the signs and symptoms associated with increasing intracranial pressure.
- 22 Explains the importance of monitoring a patient following a head injury, including obtaining clearance from a physician before further patient participation.
- 24 Recognizes the signs and symptoms of trauma to the cervical, thoracic and lumbar spines, the spinal cord, and spinal nerve roots, including neurological signs, referred symptoms, and other symptoms that indicate underlying trauma.
- 25 Selects a cervical stabilization device that is appropriate to the circumstances of the injury.
- 26 Recites the indications and guidelines for removing the helmet and shoulder pads from an athlete with a suspected cervical spine injury.
- 27 Describes the proper techniques for removing the helmet and shoulder pads from an athlete with a suspected cervical spine injury.
- 28 Describes the proper techniques and necessary supplies for removing equipment and clothing in order to evaluate and/or stabilize the involved area.
- 29 Recognizes proper positioning and immobilization of a person with a suspected spinal cord injury when using a spine board or body splint, including preparatory positioning prior to placement of the spine board or body splint.
- 30 Explains the need for leadership and teamwork when using a spine board or body splint.
- 31 Identifies the appropriate short-distance transportation method for an injured athlete or other physically active individual, including immobilization if applicable.
- 32 Recognizes the signs and symptoms of shock.

- 33 Identifies the different types of shock type (traumatic, hypovolemic, anaphylactic, septic) and the proper management of each.
- 34 Differentiates the signs and symptoms of diabetic coma and insulin shock.
- 35 Describes the proper treatments of diabetic coma and insulin shock.
- 36 Describes the appropriate treatment of a seizure.
- 41 Recognizes the signs, symptoms, and treatment of individuals suffering from adverse reactions to environmental conditions.
- 42 Uses the information obtained during the examination to determine when to refer an injury or illness for further or immediate medical attention (e.g., a life- or limb-threatening situation).
- 43 Describes the proper immobilization techniques and selects the appropriate splinting material to stabilize the injured joint or limb and maintain distal circulation.

#### Psychomotor Domain

- 1 Acquires and maintains skills in first aid and emergency care.
- 2 Acquires and maintains skill in rescue breathing and CPR, including two-person skills and the use of a bag-valve-mask and a pocket mask.
- 3 Performs a primary survey/assessment in appropriate situations.
- 5 Palpates a variety of anatomic locations to assess the pulse in resting (non-emergency) and trauma situations.
- 6 Demonstrates proper use of universal precautions and aseptic or sterile techniques when controlling external hemorrhaging.
- 7 Demonstrates proper wound cleaning and care, including the use of barriers, aseptic protocols, and disposal of biohazardous waste.
- 10 Demonstrates the proper technique for removing a face from a helmeted athlete in respiratory distress or arrest.
- 11 Demonstrates the proper technique for removing the helmet, shoulder pads, and other protective equipment from an athlete with a possible cervical injury.
- 12 Demonstrates the proper technique for removing the helmet, shoulder pads, and other protective equipment from an athlete with an injury to the trunk or extremities.
- 13 Applies various cervical stabilization devices correctly, with the victim in various positions.
- 14 Performs the correct technique for moving an injured person safely onto a spine board for stabilization and transportation purposes.
- 15 Palpates for the rigidity, guarding, and rebound tenderness of the abdomen associated with internal injury or illness.
- 16 Performs proper care and positioning of an individual suffering from shock.
- 17 Applies various types of splints to different body parts, employing different constructions of splinting materials and allowing for distal pulse palpation.
- 18 Performs short-distance transportation using proper positioning techniques, immobilization, and appropriate transportation methods.

#### Affective Domain

- 1 Appreciates the medical-legal and ethical protocol governing the referral of injured and ill athletes and other individuals engaged in physical activity.

- 3 Appreciates the roles and responsibilities of various community-based emergency care personnel (paramedics, emergency medical technicians, emergency room personnel).
- 4 Appreciates the role and function of various medical/paramedical specialties, and values their respective areas of expertise in the definitive treatment of acute injuries and illnesses.
- 5 Values the importance of certification in first aid and emergency care and cardiopulmonary resuscitation.
- 6 Appreciates the systematic approach to acute injury or illness of the secondary survey components of obtaining a history, inspection/observation, palpation, and using special tests.
- 7 Realizes the importance of identifying signs and symptoms in cases of possible shock, internal bleeding, and closed-head trauma.
- 8 Advocates the principles of proper splinting techniques to prevent further injury.
- 9 Appreciates the construction of various splinting devices and the appropriate uses for each.
- 10 Appreciates state laws, rules, and regulations governing the application of immobilization devices
- 12 Appreciates the need for leadership and teamwork when using a spine board or body splint.
- 13 Respects short-distance transportation techniques as a crucial means of moving an injured person.
- 14 Supports the application of cryotherapy, elevation, and compression as primary care for a non-threatening injury.

## **GENERAL MEDICAL CONDITIONS AND DISABILITIES**

### Cognitive Domain

- 12 Recognizes the relationship between changes in blood pressure and changes in activity level.
- 13 Recognizes the relationship between changes of respiration rate and changes in activity level.
- 14 Explains the typical history, signs, and symptoms associated with cardiopulmonary conditions.
- 15 Describes common heart conditions, such as coronary artery disease, hypertrophic cardiomyopathy, heart murmurs, and mitral valve prolapse.
- 31 Recognizes the main cerebral lesions caused by trauma (e.g., subdural, epidural hematoma, aneurysm).
- 32 Describes the etiology, signs, symptoms, and management of convulsive disorders.

### Psychomotor Domain

- 2 Manages acute asthma attacks and takes appropriate steps to reduce the frequency and severity of asthma attacks.
- 7 Takes the appropriate steps to treat a seizure.
- 11 Uses a penlight to examine pupil responsiveness, equality, and ocular motor function.
- 13 Uses the stethoscope correctly to auscultate the heart, lungs, and bowel.

- 14 Assesses body temperature.
- 15 Assesses vital signs.

## **HEALTH CARE ADMINISTRATION**

### Cognitive Domain

- 21 Describes typical community-based emergency health care delivery plans, including communication and transportation systems.
- 22 Recognizes and appraises emergency action plans, which include on-site care, notification of emergency medical services (EMS), location of exits, and other relevant information, for the care of acutely injured or ill individuals.
- 23 Identifies the typical availability, capabilities, and policies of community-based emergency care facilities and community-based managed care systems.
- 24 Interprets the typical administrative policies and procedures that govern first aid and emergency care, such as those pertaining to parents/guardians, informed consent, media relations, incident reports, and appropriate record keeping.
- 25 Identifies the basic components of a comprehensive athletic injury emergency care plan, which include (1) personnel training, (2) equipment needs, (3) availability of emergency care facilities, (4) communication, (5) transportation, (6) activity or event coverage, and (7) record keeping.
- 26 Assembles an emergency action plan for all settings that includes on-site care, notification of EMS or appropriate personnel, and location of exit and evacuation routes.
- 27 Selects sideline emergency care supplies and equipment that are necessary and appropriate for the setting.
- 28 Summarizes basic legal concepts, such as, but not limited to, standard of care, scope of practice, liability, negligence, informed consent, and confidentiality, as they apply to a medical or allied health care practitioner's performance of his or her responsibilities.
- 37 Explains the protocol that governs the referral of patients to medical or paramedical specialists and other health care providers.

### Affective Domain

- 2 Appreciates the roles and functions of various medical and paramedical specialties as well as their respective areas of expertise in the acute care of injuries and illnesses to athletes and others involved in physical activity.