

SM 110

Fundamentals of Sports Medicine

COMPETENCIES

RISK MANAGEMENT AND INJURY PREVENTION

Cognitive Domain

- Identifies the physical and environmental risk factors associated with specific activities the physically active person may engage in.
- Implements the recommended or required components of a pre-participation examination based on governing authorities' rules, guidelines, and recommendations.
- 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.
- 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).
- 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.
- 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).
- 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.
- Identifies the components of a physical conditioning program (pre-season, in-season, post-season, off-season).
- Lists the safety precautions, hazards, and contraindications of various stretching, strengthening, or flexibility routines and/or equipment.
- Describes the basic principles regarding protective equipment, including standards for design, construction, maintenance, and reconditioning of protective sports equipment (e.g., football, hockey, and lacrosse pads and headgear).
- Identifies basic legal concepts and considerations associated with protective equipment, including product and personal liability.
- Accesses and interprets the rules and regulations established by the associations that govern the use of protective equipment.
- Describes the principles and concepts relating to prophylactic taping, wrapping, and bracing and protective pad fabrication.
- Explains the basic principles and concepts of protective equipment and material composition (e.g., tensile strength, maximum tolerances, heat dissipation).
- Relates the principles and concepts involved in the fabrication and appropriate application of dynamic and static splints.

Psychomotor Domain

- Performs appropriate tests and examinations for pre-participation physical exam as required by the appropriate governing agency and/or physician.

- Implements appropriate screening procedures to identify common acquired or congenital risk factors that would predispose athletes and others engaged in physical activity to certain types of injuries.
- 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.
- 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.
- Uses commercial fitness equipment to administer standard physical fitness tests and records and interprets the test results
- Selects, fabricates, and applies appropriate preventive taping and wrappings, splints, braces, and other special protective devices that are consistent with sound anatomical and biomechanical principles.

Affective Domain

- Accepts the moral, professional, and legal responsibilities to conduct safe programs to minimize injury and illness risk factors for individuals involved in physical activity.
- Acknowledges the importance of developing and implementing a thorough, comprehensive injury and illness prevention program.
- Understands the need for cooperation among administrators, athletic personnel, certified athletic trainers, parents/guardians, other health care professionals, and athletes and others engaged in physical activity in the implementation of effective injury and illness prevention programs.
- Appreciates and respects the role of athletic personnel and supervisors in injury and illness prevention programs.
- Accepts moral, professional, and legal responsibility of conducting appropriate pre-participation examinations.
- Accepts and respects the established guidelines for scheduling physical activity to prevent exposure to unsafe environmental conditions.
- 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.
- Understands the values and benefits of correctly selecting and using prophylactic taping and wrapping or prophylactic padding.

PATHOLOGY OF INJURIES AND ILLNESSES

Affective Domain

- Recognizes that physician consultation is a moral and ethical necessity in the diagnosis and treatment of pathologic conditions.
- Accepts the moral and ethical responsibility of maintaining current knowledge of the pathologic conditions of athletes and others involved in physical activity
- Promotes accountability for moral and ethical decision-making in the treatment of pathologic conditions.

ASSESSMENT AND EVALUATION

Cognitive Domain

- Demonstrates knowledge of the normal anatomical structures of the human body systems and their physiological functions.
- Lists and defines directional terms and cardinal planes used to describe the body and the relationship of its parts.

- Differentiates injury recognition, assessment, and diagnosis.
- 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)
- Explains the relationship of injury assessment to the systematic observation of the person as a whole.
- Uses the terminology necessary to communicate the results of an athletic training assessment to physicians and other health professionals.

Psychomotor Domain

- Constructs and phrases appropriate questions to obtain a medical history of an injured or ill individual that includes a previous history and a history of the present injury or illness.
- Palpates bony and soft tissue structures to determine normal or pathological tissue(s).
- Uses appropriate terminology in the communication and documentation of injuries and illnesses.

Affective Domain

- Accepts the role of the certified athletic trainer as a primary provider of assessment to the injuries and illnesses of athletes and others involved in physical activity.
- Recognizes the initial clinical evaluation by the certified athletic trainer as an assessment and screening procedure, rather than as a diagnostic procedure.
- Appreciates the practical importance of thoroughness in a clinical evaluation.
- Accepts the professional, ethical, and legal parameters that define the proper role of the certified athletic trainer in the evaluation and appropriate medical referral of injuries and illnesses of athletes and others involved in physical activity.
- Values the skills and knowledge necessary to competently assess the injuries and illnesses of athletes and others involved in physical activity.

ACUTE CARE OF INJURIES AND ILLNESSES

Cognitive Domain

- Describes the availability, contents, purposes, and maintenance of contemporary first aid and emergency care equipment.
- 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.
- Interprets standard nomenclature of athletic injuries and illnesses.
- Describes the management of external hemorrhage, including the location of pressure points, use of universal precautions, and proper disposal of biohazardous materials.
- Recommends the appropriate use of aseptic or sterile techniques, approved sanitation methods, and universal precautions for the cleansing and dressing of wounds.
- Discriminates those wounds that require medical referral.
- Explains the application principles of cold application, elevation, and compression in treatment of acute non-limb-threatening pathologies.
- Cites the signs, symptoms, and pathology of acute inflammation.
- Recognizes signs and symptoms of head trauma, including loss of consciousness, changes in standardized neurological, cranial nerve assessment, and other symptoms that indicate underlying trauma.
- Explains and interprets the signs and symptoms associated with increasing intracranial pressure.

- Explains the importance of monitoring a patient following a head injury, including obtaining clearance from a physician before further patient participation.
- Defines cerebral concussion and lists the signs and symptoms used to classify cerebral concussions according to accepted grading scales (e.g., Cantu, Colorado, Torg, American Neurology Association standards).
- 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.
- Recites the indications and guidelines for removing the helmet and shoulder pads from an athlete with a suspected cervical spine injury.
- Describes the proper techniques for removing the helmet and shoulder pads from an athlete with a suspected cervical spine injury.
- Describes the proper techniques and necessary supplies for removing equipment and clothing in order to evaluate and/or stabilize the involved area.
- 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.
- Explains the need for leadership and teamwork when using a spine board or body splint.
- Identifies the appropriate short-distance transportation method for an injured athlete or other physically active individual, including immobilization if applicable.
- Recognizes the signs and symptoms of shock.
- Describes the proper immobilization techniques and selects the appropriate splinting material to stabilize the injured joint or limb and maintain distal circulation.
- Recognizes the proper technique for using ambulatory aids, including selecting an aid appropriate for the injury and person.
- Recommends ambulatory aids to coordinate movement on flat, slippery, or uneven terrain and to navigate steps, ramps, doors, or obstacles, and evaluates the patient's technique in using the aids.
- Constructs and educates the patient regarding home care and self-treatment plans.

Psychomotor Domain

- Performs a secondary survey/assessment, including obtaining a history, inspection/observation, palpation, and using special tests.
- Palpates a variety of anatomic locations to assess the pulse in resting (non-emergency) and trauma situations.
- Demonstrates proper use of universal precautions and aseptic or sterile techniques when controlling external hemorrhaging.
- Demonstrates proper wound cleaning and care, including the use of barriers, aseptic protocols, and disposal of biohazardous waste.
- Administers cryotherapy, elevation, and compression to a limb and/or joint.
- Applies various types of splints to different body parts, employing different constructions of splinting materials and allowing for distal pulse palpation
- Fabricates, applies, adjusts, and removes special protective equipment (braces, special pads, modified taping procedures).

Affective Domain

- Appreciates the medical-legal and ethical protocol governing the referral of injured and ill athletes and other individuals engaged in physical activity.
- Appreciates the legal, moral, and ethical parameters that define the scope of first aid and emergency care, and values the proper role of the certified athletic trainer in providing this care.
- Appreciates state laws, rules, and regulations governing the application of immobilization devices
- Supports the application of cryotherapy, elevation, and compression as primary care for a non-threatening injury.

- Accepts the approved aseptic and sterile methods for cleaning, treating, and bandaging wounds and for disposing of biohazardous waste.

THERAPEUTIC MODALITIES

Psychomotor Domain

- Selects and applies appropriate therapeutic modality parameters (e.g., intensity, length of time, duration, frequency), and modifies them as required.

GENERAL MEDICAL CONDITIONS AND DISABILITIES

Psychomotor Domain

- Use and interprets urine diagnostic Chemstrips (dipsticks).
- Uses a penlight to examine pupil responsiveness, equality, and ocular motor function.
- Assesses body temperature.
- Assesses vital signs.

PSYCHOSOCIAL INTERVENTION AND REFERRAL

Cognitive Domain

- Describes the current psychosocial and sociocultural issues and problems confronting athletic training and sports medicine and identifies their effects on athletes and others involved in physical activity.
- Compares the psychosocial requirements of various sports activities to the readiness of the injured or ill individual to resume physical participation.
- Describes the theories and techniques of interpersonal and cross-cultural communication among certified athletic trainers, athletes, athletic personnel, patients, administrators, health care professionals, parents/guardians, and others.

Affective Domain

- Recognizes the certified athletic trainer's role as a liaison between the physically active, athletic personnel, health care professionals, parents/guardians, and the public.
- Accepts the need for appropriate interpersonal relationships between all of the parties involved with athletes and other involved in physical activity.
- Recognizes athletes and other physically individuals as deserving of quality professional health care.
- Accepts the individual's physical complaint(s) without personal bias or prejudice.
- Respects the various social and cultural attitudes, beliefs, and values regarding health care practices when caring for patients.

HEALTH CARE ADMINISTRATION

Cognitive Domain

- Describes the organization and administration of pre-participation examination and screening including, but not limited to, maintaining medical records, developing record keeping forms, scheduling personnel, and site utilization.
- Describes the universal precautions mandated by the Occupational Safety and Health Administration (OSHA), and discusses how they apply to the athletic trainer.
- Identifies the process of obtaining state regulatory acts for athletic trainers, and becomes familiar with locally relevant statutes, rules, and regulations.
- 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.

- Identifies the typical availability, capabilities, and policies of community-based emergency care facilities and community-based managed care systems.
- 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.
- 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.
- Selects sideline emergency care supplies and equipment that are necessary and appropriate for the setting.
- 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 .
- Describes federal and state infection control regulations and guidelines as they pertain to the prevention, exposure, and control of infectious disease.
- Lists the components of a comprehensive risk management plan that addresses the issues of security, fire, electrical and equipment safety, emergency preparedness, and hazardous chemicals.
- Differentiates the roles and responsibilities of the certified athletic trainer and other medical and allied health personnel to provide care to athletes and others involved in physical activity.
- Describes the role and function of various community-based medical, paramedical, and other health care providers.
- Describes the roles of various personnel in the organization of activity sessions and methods of instruction for athletes and others involved in physical activity.
- Describes the continuing education process for certified athletic trainers as outlined by the NATABOC and the relationship between continuing education and state athletic training practice acts
- Identifies the current developments, missions, objectives, and professional activities of other allied health and medical organizations and professions.
- Understands the NATA Code of Professional Practice and the NATABOC Standards of Professional Practice.
- Understands how to locate Commission on the Accreditation of Allied Health Education Programs (CAAHEP) accreditation standards and recognizes their impact on the educational system.
- Describes the relationship between the National Athletic Trainers' Association, Inc. (NATA), NATA Board of Certification, Inc./ National Organization for Competency Assurance (NATABOC/NOCA), National Commission for Certifying Agencies (NCCA), and Joint Review Committee-Athletic Training/Commission on the Accreditation of Allied Health Education Programs (JRC-AT/CAAHEP).
- Identifies the roles and responsibilities of allied health care personnel in providing services to athletes and others involved in physical activity.

Psychomotor Domain

- Develops a risk management plan that addresses issues of liability reduction, security, fire, facility hazards, electrical and equipment safety, emergency preparedness, and hazardous chemicals (manufacturer safety data sheets [MSDS]).

PROFESSIONAL DEVELOPMENT AND RESPONSIBILITIES

Cognitive Domain

- Compares and contrasts the role and function of state athletic training practice acts and registration, licensure, and certification agencies.
- Explains the basic legislative processes for the implementation of practice acts for athletic trainers.
- Defines the rationale for state regulations that govern the practice of athletic training.
- Describes the consequences of violating federal and state regulatory acts.

- Outlines the process of attaining and maintaining an athletic training professional credential.
- Describes the current professional development requirements for the continuing education of certified athletic trainers.
- Describes the role and function of the governing structures of the National Athletic Trainers' Association.
- Differentiates the essential documents of the NATA, including, but not limited to, the Role Delineation Study, the Code of Ethics, JRC-AT Standards and Guidelines, Athletic Training Educational Competencies, and the Standards of Practice of the Profession.
- Summarizes the position statements regarding the practice of athletic training (NATA, NCAA, National Association of Intercollegiate Athletics [NAIA], National Federation of State High School Associations, American College of Sports Medicine [ACSM], American Academy of Pediatrics [AAP], American Academy of Family Physicians [AAFP], American Orthopedic Society for Sports Medicine [AOSSM]).
- Locates and accesses the current activities and requirements for the professional preparation of the certified athletic trainer (NATA Education Council, JRC-AT, CAAHEP, NATABOC).
- Able to access the professional objectives, scope of practice, and services of other health care providers.
- Distinguishes that issues and concerns regarding the health care of athletes and other involved in physical activity (e.g., public relations, third-party payment, and managed care).
- Properly interprets the role of the certified athletic trainer as a health care provider, and provides information regarding the role of the certified athletic trainer to athletes, the physically active, parents/guardians, athletic department personnel, and others.
- Describes the availability of educational materials and programs in health-related subject matter areas (audiovisual aids, pamphlets, newsletters, computers, software, workshops, and seminars).

Psychomotor Domain

- Demonstrates the techniques and methods for disseminating injury prevention and health care information to health care professionals, athletes, athletic personnel, parents/guardians, and the general public (e.g., via team meetings, parents' nights, parent/teacher organizations [PTO] meetings, booster clubs, workshops, and seminars).
- Demonstrates the ability to construct a resume.
- Demonstrates the ability to access the policy-making and governing bodies that regulate the certified athletic trainer (state regulatory boards, NATA, NATABOC).

Affective Domain

- Accepts the professional responsibility to satisfy certified athletic trainers' continuing education requirements.
- Accepts the professional, historical, ethical, and organizational structures that define the proper roles and responsibilities of the certified athletic trainer in providing health care to athletes and others involved in physical activity.
- Respects the role and responsibilities of the other health care professions.

PROFICIENCIES

INSTRUCTED & EVALUATED

Risk Management and Injury Prevention

The student will assess the following:

- Height
- Weight
- blood pressure
- pulse
- vision using a Snellen eye chart
- body composition, using a manual skinfold caliper and appropriate formulas

The student will

- use a sling psychrometer
- use a wet bulb globe index
- interpret and present environmental data for the following conditions: heat; wind; humidity; potential for lightning strike; cold; poor air quality
- check an activity setting for physical and/or environmental hazards
- use and interpret weight charts

Health Care Administration

The student will demonstrate appropriate communication skills.

- effectively communicate and work with physicians, emergency medical technicians (EMTs), and other members of the allied health care community and sports medicine team
- appropriately communicate with athletic personnel and family members

The student will demonstrate the ability to develop administrative plans that include but are not limited to, the following components:

- risk management
- developing policies and procedures
- addressing facility hazards