

Instructional Framework

Sports Medicine and Rehabilitation

51.0913.00



This Instructional Framework identifies, explains, and expands the content of the standards/measurement criteria, and, as well, guides the development of multiple-choice items for the Technical Skills Assessment. This document corresponds with the Technical Standards endorsed on April 26, 2018.

Domain 1: Anatomy and Terminology	
Instructional Time: 30-40%	
STANDARD 1.0 USE MEDICAL TERMINOLOGY AS APPLIED IN HEALTHCARE	
1.1 Use medical abbreviations and acronyms commonly used in sports medicine and rehabilitation services	<ul style="list-style-type: none">• Sports medicine abbreviations<ul style="list-style-type: none">◦ S/S, Hx, Tx, etc.• Sports medicine acronyms<ul style="list-style-type: none">◦ ATC, ACL, OSHA, HOSA, BOC, NATA, etc.
1.2 Use anatomical terms commonly used in sports medicine and rehabilitation services (e.g., positions, planes locations, and joint motions)	<ul style="list-style-type: none">• Anatomical planes• Anatomical position• Anatomical terms• Anatomical movement/direction• Assessment terms
1.3 Use root words, prefixes, and suffixes commonly used in sports medicine and rehabilitation services	<ul style="list-style-type: none">• Define and recognize common prefixes, suffixes, and roots used in medical terminology<ul style="list-style-type: none">◦ -itis, hyper-, hypo-, etc.
STANDARD 2.0 DEMONSTRATE AN UNDERSTANDING OF BODY SYSTEMS AND HUMAN ANATOMY	
2.1 Examine the structure and function of the cardiopulmonary system	<ul style="list-style-type: none">• Basic structure and functions of the heart and circulatory system that make up the cardiovascular system
2.2 Examine the structure and function of the musculoskeletal system (e.g., axial and upper and lower extremities)	<ul style="list-style-type: none">• Basic structure and functions of the musculoskeletal system
2.3 Analyze the joints and their articular structures (i.e., joint types synovial joint characteristics, etc.)	<ul style="list-style-type: none">• Joint types, joint characteristics, and articulating structures
2.4 Examine the structure and function of the neurological system	<ul style="list-style-type: none">• Basic structure and functions of the neurological system

Domain 2: Injury Recognition and Management

Instructional Time: 30-40%

STANDARD 6.0 ASSESS THE IMPACT OF INJURIES, SPORTS TRAUMA, AND PHYSICAL DYSFUNCTIONS AND DISORDERS

6.1 Use information from H.I.P.S., H.O.P.S., or SOAP for an injury evaluation

- Systematic evaluation process
 - H.O.P.S/H.I.P.S/S.O.A.P.

6.2 Understand the etiology, signs, and symptoms related to injuries to the head

- Common injuries and their mechanisms, signs, symptoms, and treatments for head, neck, and facial injuries
- Signs/Symptoms and immediate care for someone who has suffered a concussion/traumatic brain injury (TBI)
- Protocol when returning an athlete to play after a concussion/TBI
- Potential risks of returning an athlete too soon after a concussion/TBI

6.3 Understand the etiology, signs, and symptoms related to injuries to axial regions

- Common injuries and their mechanisms, signs, symptoms, and treatments for injuries to the axial regions

6.4 Understand the etiology, signs, and symptoms related to injuries to upper body extremity

- Common injuries and their mechanisms, signs, symptoms, and treatments for injuries to the axial regions

6.5 Understand the etiology, signs, and symptoms related to injuries to lower body extremity

- Common injuries and their mechanisms, signs, symptoms, and treatments for injuries to the axial regions

6.6 Identify and describe common special tests used to evaluate joints (e.g., ligament, valgus and varus, anterior and posterior drawer, and apprehension)

- ROM, Manual Muscle Testing (MMT), special tests

6.7 Identify phases of tissues' healing injury

- Phases of tissue healing - soft tissue vs. bony tissue
- Severity or damage of tissue injury - displaced fracture vs. nondisplaced fracture, first degree vs. third degree, etc.

6.8 Investigate the cause of secondary injuries (i.e., gait, compensatory posture, etc.)

- Primary and secondary injuries
- Biomechanical changes and secondary injuries that can occur during healing process and rehabilitation

STANDARD 7.0 APPLY THERAPEUTIC EXERCISE, TRAINING, AND RECONDITIONING

7.1 Differentiate among various kinds of exercises (i.e., isometric, isotonic, manual resistance, isokinetic, circuit training, etc.)

- Types of muscle contractions

	<ul style="list-style-type: none"> • Early and advanced strengthening, endurance, and proprioceptive exercises for a rehabilitation program • Classifications of exercises - open/close chain, isotonic vs. isokinetic, etc.
7.2 Consider indications, contraindications, and safety precautions in strength and conditioning activities	<ul style="list-style-type: none"> • Indications, contraindications, safety precautions, and applications for various types of exercises
7.3 Describe types of stretching and flexibility strategies (i.e., static, ballistic, dynamic, proprioceptive neuromuscular facilitation, etc.)	<ul style="list-style-type: none"> • Types of stretching and flexibility exercises
7.4 Explain strength, mobility, and balance as related to performance and injury prevention	<ul style="list-style-type: none"> • Muscle balance, proprioception, and coordination
7.5 Explain indications, contraindications, precautions, and proper fitting of devices for mobility, transfers and ambulation (e.g., weight-bearing assistive devices, prosthetics, orthotic devices, and protective equipment)	<ul style="list-style-type: none"> • Types of devices for mobility, transfers, and ambulation
7.6 Determine appropriate rehabilitation progression [e.g., return-to-play, work, or daily activity criteria (full strength, free from pain, skill performance tests, and emotional readiness)]	<ul style="list-style-type: none"> • Musculoskeletal injury rehabilitation progression
STANDARD 8.0 DEMONSTRATE AN UNDERSTANDING OF THERAPEUTIC INTERVENTIONS AND PAIN MANAGEMENT	
8.1 Explain treatment expectations, physiological changes, and special instructions for specific interventions (i.e., thermotherapy, cryotherapy, electric stimulation, ultrasound, hydrotherapy, compression, etc.)	<ul style="list-style-type: none"> • Physiological effects of various modalities • Preparation, instruction, equipment application, and treatment documentation
8.2 Explain indications, contraindications, safety precautions, and applications related to interventions (i.e., thermotherapy, cryotherapy, electric stimulation, ultrasound, hydrotherapy, compression, etc.)	<ul style="list-style-type: none"> • Indications, contraindications, safety precautions, and applications of various modalities
8.3 Recognize traditional and nontraditional approaches to pain management (i.e., pharmaceutical, complementary techniques, etc.)	<ul style="list-style-type: none"> • Alternative pain control approaches - acupuncture, massage, meditation, etc. • Indications and contraindications, side effects, and dosages of common pain medications
8.4 Demonstrate the proper use of PRICE (protection, rest, ice, compression, elevation)	<ul style="list-style-type: none"> • Proper application of immobilization device, rest, ice, compression, and elevation

STANDARD 9.0 APPLY PSYCHOLOGICAL TECHNIQUES TO PHYSICAL PERFORMANCE, INJURY EVALUATION, AND REHABILITATION

9.1 Describe emotional/psychological responses to injury and rehabilitation (i.e., depression, anxiety, fear, etc.)	<ul style="list-style-type: none">Analyze the five stages of grief and understand behaviors found in each stageRisk factors and behaviors that are associated with increased level of stress and methods to reduce stress
9.2 Explain motivational techniques for physical conditioning and rehabilitation (i.e., goal setting, positive reinforcement, celebrating successes, etc.)	<ul style="list-style-type: none">Extrinsic and intrinsic motivation and apply them to various situationsGoal setting in various situations
9.3 Identify risk factors, signs, and symptoms for patients in need of interventional counseling (i.e., eating disorders, depression, head injury, substance abuse, etc.)	<ul style="list-style-type: none">Psychological needs and referral to appropriate resources

Domain 3: Emergency Care and Safety
Instructional Time: 10-25%**STANDARD 4.0 DEMONSTRATE SAFETY AND INFECTION CONTROL**

4.1 Describe maintaining a safe and sanitary treatment area including the use of disinfectants, antiseptics, and sanitization techniques	<ul style="list-style-type: none">Guidelines and procedures to clean and maintain sanitary treatment surfaces and patient care equipmentGuidelines and procedures to provide sanitary care of patients
4.2 Use universal precautions (e.g., use and disposal of PPE equipment and biohazard materials)	<ul style="list-style-type: none">Body fluids - saliva, feces, blood, etc.Hand-washing techniquesBiohazard bags and sharps containers
4.3 Apply strategies of risk management according to OSHA compliance, SDS chemical management, and injury and illness compliance solutions	<ul style="list-style-type: none">Recognize and properly report exposure incidentsWorkplace practice controls vs. engineering controls

STANDARD 5.0 MANAGE ACUTE CARE EMERGENCY AND NON-EMERGENCY SITUATIONS

5.1 Assess vital signs (normal vs. abnormal) (i.e., temperature, pulse, respirations, skin, pupils, blood pressure, pulse oximetry, etc.)	<ul style="list-style-type: none">Normal range of each vital sign based on populationDemonstrate proper procedures for assessing vital signs
5.2 Recognize sudden illnesses and describe their treatment (e.g., fainting, seizures, types of shock, poisoning, heart attack, stroke, and choking)	<ul style="list-style-type: none">Recognition of sudden illnessSignals and steps for care of specific illnesses - fainting, stroke, seizures, poisonings, allergic reactions, diabetes, etc.

	<ul style="list-style-type: none"> • Heart and circulatory conditions which may cause health concerns • Acute emergency care of sudden illness
5.3 Recognize causes, signs, symptoms, and describe treatment of environmentally related emergencies (e.g., effects of heat and cold, and asthma)	<ul style="list-style-type: none"> • Signs, symptoms, severity, and treatment of environmental injuries - heat/cold illness, altitude, lightning, air quality, etc.
5.4 Perform CPR (cardiopulmonary resuscitation) and AED (automated external defibrillator) procedures for infants, children, and adults	<ul style="list-style-type: none"> • CPR and AED use
5.5 Demonstrate common taping, wrapping, and bracing techniques that prevent, support, or treat injuries and conditions	<ul style="list-style-type: none"> • Purpose, application, and critical thinking skills related to basic and advanced taping, bandaging, and wrapping techniques
5.6 Describe common open and closed wounds including bleeding control techniques (e.g., abrasions, incisions, lacerations, punctures, blisters, and contusions)	<ul style="list-style-type: none"> • Common types of skin wounds including burns • Bleeding control techniques
5.7 Demonstrate proper wound care to assess and prevent infection (e.g., signs and symptoms of infection, cleaning, bandaging, and dressing)	<ul style="list-style-type: none"> • Infection prevention techniques • Recognition of infection
5.8 Demonstrate splinting techniques (e.g., soft, rigid, and anatomical)	<ul style="list-style-type: none"> • Various types of stabilization and splinting techniques • Purpose of immobilization - acute care and healing process
5.9 Explain proper procedures for removing and transporting an injured patient including the use of proper body mechanics (e.g., logroll, spine board, and stretcher)	<ul style="list-style-type: none"> • Proper patient removal transportation - log roll, spine boarding, stretcher, and cervical collar
5.10 Describe key components of emergency action plans and conditions for activation	<ul style="list-style-type: none"> • Emergency action plan - specific sport venue, chain of command, location of emergency equipment and location of emergency exits
5.11 Differentiate between the appropriate first-aid supplies for various types of allied health care settings	<ul style="list-style-type: none"> • First-aid kit supplies

Domain 4: Health and Performance Concepts

Instructional Time: 5-10%

STANDARD 3.0 EXAMINE HEALTH AND PERFORMANCE CONCEPTS

<p>3.1 Describe nutritional concepts and physical composition of food (e.g., 6 basic nutrients, protein, carbohydrates, fats, vitamin, minerals, and water)</p>	<ul style="list-style-type: none"> • Six major types of nutrients <ul style="list-style-type: none"> ◦ Role in the body ◦ Best sources of each ◦ Quantities needed
<p>3.2 Calculate and analyze caloric intake in relation to dietary guidelines (e.g., RDA for protein, carbohydrates, and fat)</p>	<ul style="list-style-type: none"> • Calculate caloric intake • Calculate amount of calories <ul style="list-style-type: none"> ◦ Maintain/Lose/Gain weight
<p>3.3 Explain nutrition and exercise considerations for diverse populations (i.e., patients with medical conditions, cultural considerations, food intolerances, weight management, etc.)</p>	<ul style="list-style-type: none"> • Diet modifications and exercise based on special situations and population <ul style="list-style-type: none"> ◦ Pregame/Postgame ◦ Vegetarians • Disordered eating
<p>3.4 Describe general concepts of athletic hydration (e.g., pre-practice/competition, competition, and post-practice/competition)</p>	<ul style="list-style-type: none"> • Method to monitor hydration levels • Proper hydration processes • Signs and symptoms of dehydration
<p>3.5 Interpret tests used to determine fitness for cardiorespiratory endurance, strength, flexibility, and body composition</p>	<ul style="list-style-type: none"> • Healthy weight range using different tools • Training zones for cardiovascular fitness • Cardiovascular fitness testing <ul style="list-style-type: none"> ◦ Baseline test ◦ Assess level of fitness • Body fat and body composition <ul style="list-style-type: none"> ◦ Terminology ◦ Influencing factors ◦ Ideal percentages ◦ Methods of calculations ◦ Take measurements ◦ Measurement results • Variables of the FITT formula • Assess upper and lower body flexibility • Muscular fitness <ul style="list-style-type: none"> ◦ Strength and endurance
<p>3.6 Evaluate dietary supplements and performance enhancement drugs (PEDs) for safety and efficacy</p>	<ul style="list-style-type: none"> • Ergogenic aids/performance enhancers <ul style="list-style-type: none"> ◦ Purpose ◦ Various forms ◦ Pros and cons ◦ Market claims (Not FDA Approved) ◦ Athlete use

	<ul style="list-style-type: none"> ○ Negative effects on the body and safety ● Safety banned substances ● Drug testing
3.7 Explain general strength and conditioning training principles and how they apply to fitness regimens	<ul style="list-style-type: none"> ● Programs/exercises for the following purposes: <ul style="list-style-type: none"> ○ Flexibility ○ Cardiorespiratory fitness ○ Muscular strength ○ Muscular endurance ○ Agility ● Safety practices and contraindications

Domain 5: Organization and Administration Instructional Time: 5-10%	
STANDARD 10.0 DEMONSTRATE HEALTHCARE ORGANIZATION AND ADMINISTRATION ACTIVITIES	
10.1 Document the results of observations and treatments [e.g., EMR (electronic medical record); SOAP (subjective, objective, assessment, and plan); HOPS (History, Objective, Palpation, Special tests); HIPS (History, Inspection, Palpation, Special tests) and daily treatment records]	<ul style="list-style-type: none"> ● Proper documentation
10.2 Describe the basic terminology of health insurance [e.g., co-pay, third-party payment, reimbursement, Explanation of Benefits (EOB), visit authorizations, referrals, and PPO/HMO)	<ul style="list-style-type: none"> ● Billing appropriate to the environment ● Types of health insurance and common terminology
10.3 Understand the process of maintenance and inventory of supplies and equipment	<ul style="list-style-type: none"> ● Budgeting, ordering, and maintaining inventory ● Capital vs. non-capital supplies
10.4 Utilize professional resources to stay current with advances in healthcare (i.e., CDC, professional journals, position statements, etc.)	<ul style="list-style-type: none"> ● Professional development and continuing education requirements
10.5 Assess the benefits of active involvement in local, state, and national associations and organizations	<ul style="list-style-type: none"> ● Advantages and disadvantages of belonging to a professional organization i.e., HOSA
10.6 Evaluate methods to protect patients' rights through legal, moral, and ethical measures (e.g., HIPAA, legal liability, codes of ethics, and standards of care)	<ul style="list-style-type: none"> ● Good Samaritan laws and legal obligations ● Ethics and morals ● Cultural competence ● Legal terms associated with liability ● Medical records

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| | <ul style="list-style-type: none">○ Reasons to keep them○ Different types○ Legal requirements○ Legal rights and confidentiality |
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