

ACSM/NCPAD Certified Inclusive Fitness Trainer

EXERCISE PHYSIOLOGY AND RELATED EXERCISE SCIENCE

- 1.1.1 Knowledge of changes of basic structures of bone, skeletal muscle, and connective tissue that may occur consequent to disabling conditions.
- 1.1.2 Knowledge of changes to cardiovascular and respiratory function that may occur consequent to a disabling condition.
- 1.1.3 Knowledge of changes to metabolic function that may occur consequent to a disabling condition and the effect on caloric expenditure.
- 1.1.4 Knowledge of changes to muscle physiology and function that may occur consequent to a disabling condition.
- 1.1.5 Knowledge of changes to the central nervous system that may occur consequent to a disabling condition.
- 1.1.6 Knowledge of abnormal curvatures of the spine.
- 1.1.7 Knowledge of changes to center of gravity, base of support, balance, stability, and proper spinal alignment that may occur consequent to a disabling condition.
- 1.1.8 Knowledge of movement patterns and biomechanical principles in walking, jogging, running, swimming, cycling, weight lifting, and carrying or moving objects in people with disabilities that may be different from people without disabilities.
- 1.1.9 Knowledge of acute and chronic responses to aerobic exercise and resistance training in people with disabilities that may be different from those without disabilities.
- 1.1.10 Knowledge of hemodynamic responses during acute exercise, including body position changes in people with disabilities that may be different than people without disabilities.
- 1.1.11 Knowledge of changes to the peripheral nervous system that can occur consequent to a disabling condition.
- 1.1.12 Knowledge of issues related to body composition and disability.
- 1.1.13 Knowledge of the common secondary conditions (e.g., bowel and bladder control, epilepsy, spasticity, contractures) associated with disabilities that may affect physiological responses to acute and chronic exercise.
- 1.1.14 Knowledge of changes to muscle tone and flexibility in people with disabilities that may be different from people without disabilities.
- 1.1.15 Knowledge of how alternate movement patterns, such as upper body exercise, can impact the physiological responses to exercise.
- 1.1.16 Knowledge of how disability can change thermoregulation.

HEALTH APPRAISAL, FITNESS AND CLINICAL EXERCISE TESTING

- 1.3.1 Knowledge of relative and absolute contraindications to exercise testing and/or participation related to neuromuscular, musculoskeletal, and cognitive disabilities
- 1.3.2 Knowledge of the limitations of informed consent for people with cognitive disabilities prior to exercise testing
- 1.3.3 Knowledge of the limitations of a medical clearance prior to exercise testing
- 1.3.4 Knowledge of potential limitations to using various body composition and assessment techniques (i.e. air displacement, plethysmography, hydrostatic weighing, Bod Pod, bioelectrical impedance)
- 1.3.5 Knowledge of body mass index and its potential lack of relevance in assessing people with disabilities
- 1.3.6 Knowledge of alternate forms of communication for informed consent (i.e. those with cognitive, visual, and hearing impairments)
- 1.3.7 Ability to recognize appropriateness and use alternate forms of communication for instructing use of exercise equipment
- 1.3.8 Knowledge of alternate methods and adaptations to standard pre-exercise and field testing and assessment (i.e. 12-minute wheel)
- 1.3.9 Knowledge of the negative psychological effects of exercise testing
- 1.3.10 Knowledge of the lack of relevance of pre-exercise testing and assessment results in people with disabilities
- 1.3.11 Knowledge of potential daily variances in exercise testing results based on characteristics of certain cognitive, mobility, and neurological impairments
- 1.3.12 Knowledge of specific aspects of health conditions and disabilities that may affect activity and exercise performance (i.e. impaired balance and/or grip, fatigue, pain)
- 1.3.13 Ability to understand the purpose of and procedures for modified pre-activity fitness testing and assessment, including cardiovascular fitness, muscular strength, muscular endurance and flexibility, and body composition
- 1.3.14 Knowledge of additional reasons, other than traditional criteria, to terminate an exercise test

EXERCISE PRESCRIPTION AND PROGRAMMING

- 1.7.1 Knowledge of how to modify exercise programming based on the functional and cognitive ability level.
- 1.7.2 Knowledge of and ability to implement adaptive devices to assist in exercise programs for individuals with physical disabilities (i.e. grip, limb loss, joint contracture/tone, hemiparesis, paraplegia, tetraplegia, spasticity)
- 1.7.3 Knowledge of exercise precautions and cardiovascular considerations for specific physical and cognitive disabilities and ability to describe modifications needed in exercise prescription
- 1.7.4 Knowledge of valid assessment skills for individuals with disabilities in order to develop an exercise program
- 1.7.5 Knowledge of and ability to recognize exercises that would be contraindicated for certain physical and cognitive disabilities

- 1.7.6 Knowledge of the importance and ability to perform basic fitness evaluations to assess change in fitness levels or functional status
- 1.7.7 Skill to teach and demonstrate an adaptive exercise in resistance and cardiovascular training
- 1.7.8 Skill to teach and demonstrate proper posture for individuals with neuromuscular deficiencies and ability to adapt program when necessary
- 1.7.9 Skill to teach and demonstrate proper Passive Range of Motion Exercises for those with Range of Motion Limits and Contracted limbs
- 1.7.10 Knowledge and ability to apply methods to monitor exercise intensity for individuals with impaired heart rate responses to exercise
- 1.7.11 Knowledge of neuromuscular impairment level for Spinal Cord Injuries including differences between complete and incomplete injuries and how it would impact exercise prescription
- 1.7.12 Knowledge of commercial accessible fitness equipment options in health and fitness industry including accessible ergometers, stairsteppers, wheelchair rollers, ellipticals, bikes, strength equipment
- 1.7.13 Knowledge of the physiological response and efficiency of upper body aerobic exercise versus lower body aerobic exercise, including differences in heart rate response, submaximal workload and endurance
- 1.7.14 Knowledge of the diminished venous Muscle Pump in the lower extremity for those with certain neuromuscular disabilities and the effect on aerobic performance
- 1.7.15 Knowledge of the movement science behind wheelchair propulsion including the muscles involved and ability to create exercise programs to prevent injury and overuse in these muscle groups
- 1.7.16 Ability to explain and implement exercise prescription and exercise guidelines
- 1.7.17 Knowledge on how to adapt existing equipment to adjust to disability groups

SAFETY, INJURY PREVENTION, AND EMERGENCY PROCEDURES

- 1.10.1 Knowledge of the environmental effects of temperature, humidity, and pollution on the physiological response to exercise and contraindications for exercise.
- 1.10.2 Knowledge of the factors which contribute to skin breakdown
- 1.10.3 Knowledge of neurological deficits and the secondary conditions which may occur during exercise; the implications of these responses, and what the trainer's response should be if they occur
- 1.10.4 Knowledge of the steps necessary to prevent thermal injury
- 1.10.5 Knowledge of and ability to identify and react to medical emergencies specific to exercise programming
- 1.10.6 Knowledge of common causes of overuse injuries and how to prevent them
- 1.10.7 Knowledge of various assistive devices and the ability to modify (exercise) equipment to accommodate to accommodate the client's use (i.e., Velcro gloves for assistance in maintaining a safe grip)

- 1.10.8 Knowledge of transfers, specifically the types of situations in which transfers will be needed
- 1.10.9 Knowledge of the level of supervision necessary for clients
- 1.10.10 Knowledge of unique neurological abnormalities (e.g., spasticity)
- 1.10.11 Ability to position clients appropriately on equipment and mats.
- 1.10.12 Knowledge of the contraindication of specific anatomical positions and/or exercises.

HUMAN BEHAVIOR AND COUNSELING (persons with sensory, mobility, cognitive and psychiatric disabilities)

- 1.9.1 Knowledge of fundamentals of behavior management
- 1.9.2 Ability to apply positive principles of behavior management when providing individual instruction
- 1.9.3 Skills in modifying behavior management interventions based on individual need
- 1.9.4 Ability to use strategies that will enhance learning and mastery of specific exercise technique(s).
- 1.9.5 Knowledge of distinction between intellectual, cognitive disabilities & learning disabilities
- 1.9.6 Knowledge of impact of cognitive & psychiatric disabilities on ability to understand, communicate, learn, and master skills
- 1.9.7 Knowledge of myths surrounding mental illness
- 1.9.8 Knowledge of the ranges of hearing and vision loss
- 1.9.9 Knowledge of the impact of hearing and visual disabilities on ability to understand, communicate, learn, and master skills
- 1.9.10 Ability to identify and use alternative communication strategies for persons with hearing and vision loss/sensory disabilities
- 1.9.11 Knowledge of behaviors associated with intellectual disabilities
- 1.9.12 Knowledge of impact of intellectual disabilities on ability to communicate, understand, learn and master skills
- 1.9.13 Ability to reinforce and encourage appropriate social behavior

CLINICAL AND MEDICAL CONSIDERATIONS

- 1.12.1 Knowledge of the special considerations regarding the physiological response(s) of clients with sensory, cognitive, and/or mobility impairments and what conditions may require (medical) consultation before testing or training
- 1.12.2 Knowledge of common drugs for each classification (e.g. antispasmodics, colon, urinary, antipsychotics, botox, muscle relaxants) and their corresponding side effects and associated drug interaction
- 1.12.3 Knowledge of pain management and how to identify differences between chronic versus acute onset (i.e. phantom limb pain)

- 1.12.4 Knowledge of the fatigue associated with specific conditions (e.g. multiple sclerosis) and the potential triggers
- 1.12.5 Knowledge of the function of the inner ear, it's relation to the condition of vertigo, and it's effect on balance
- 1.12.6 Knowledge of assistive devices (e.g.vagal nerve stimulator, prosthetics)
- 1.12.7 Knowledge of the definition of an exacerbation and the ability to identify potential triggers.
- 1.12.8 Knowledge of the common drugs for each classification (e.g. antispasmodics, colon, urinary, antipsychotics, botox, muscle relaxants) and their side effects and associated drug interactions.

ADA & FACILITY DESIGN

- 1.13.1 Knowledge of the purpose of the Americans With Disabilities Act, (ADA) and general requirements
- 1.13.2 Knowledge of key ADA Standards related to customer service in the fitness environment
- 1.13.3 Ability to apply specific ADA Guidelines and Standards related to access of fitness facilities
- 1.13.4 Knowledge of key resources that provide information on the ADA Guidelines and Standards
- 1.13.5 Knowledge of other relevant disability rights laws applicable to fitness environments
- 1.13.6 Knowledge of the principles of Universal Design
- 1.13.7 Ability to identify strength and cardiovascular equipment that meets the principles of universal design

DISABILITY AWARENESS

- 1.14.1 Knowledge of the common disability definitions as defined in Americans with Disabilities Act (ADA).
- 1.14.2 Knowledge of epidemiology of common disabilities.
- 1.14.3 Knowledge of the negative impact of using disability labels that foster stereotyping and focus attention on the disability rather than the abilities of an individual.
- 1.14.4 Knowledge of appropriate etiquette when communicating, offering assistance, or inquiring about specific needs
- 1.14.5 Knowledge of and ability to understand the impact that disabilities have on physical, motor, social, and cognitive development
- 1.14.6 Knowledge of how an individual's disability interacts with the environment and how the impact of a disability can be either enhanced or hindered by the constraints of the environment.
- 1.14.7 Knowledge of the differences between medical and functional disability classification systems.
- 1.14.8 Knowledge of the benefits people with disabilities can derive from exercise and physical activity.
- 1.14.9 Knowledge of the barriers (e.g., physical, social, emotional, and environmental) that prevent full inclusion in exercise and physical activity programs.
- 1.14.10 Knowledge of the standard operating procedures used to refer clients for additional services and/or assessment that fall outside the scope of practice of the trainer.

- 1.14.11 Knowledge of the common support mechanisms (e.g., transportation services) available to people with disabilities in their communities that can be used to facilitate participation in exercise and physical activity programs.
- 1.14.12 Knowledge of resources available to keep up-to-date on best practices related to addressing the exercise and physical activity needs of people with disabilities.