

SUBJECT NAME: Clinical Exercise Prescription

SUBJECT DESCRIPTION

The subject focuses on the basic and advanced principles of exercise prescription as they apply to clinical populations, including individuals and groups. Content includes knowledge of absolute and relative contraindications for assessment and treatment of specific populations, including program design, implementation and progression factors, based on the stage of healing. Additional information on treatment in common complex care situations will be discussed. The content will be delivered using an evidence-informed framework for direct implementation in professional practice.

CONTENT COVERED

- Knowledge of exercise prescription – including the FITT, progression, and reversibility principles, irrespective of age or functional capacity
- Age specific 24-hour exercise guidelines/recommendations
- The role of exercise in disease management and recovery from injury, including post surgical intervention
- The role of exercise in disease prevention
- The effects of common medications on exercise response– e.g., Beta Blockers, diuretics, beta agonists (common asthma medications)
- The role of training types in enhancing health, function, and slowing disease progression
- The relevance of client health history, psychosocial status, and cultural identity in the design and modification of treatment recommendations
- The influence of absolute and relative contraindications on treatment recommendations and design
- Interpretation and use of test results in treatment design and progression
- Exercise prescription considerations for the following conditions/populations:
 - Bone and joint conditions, such as osteoarthritis, rheumatoid arthritis, osteoporosis, osteogenesis imperfecta, and osteomalacia
 - Pulmonary conditions, such as asthma, COPD, cystic fibrosis, emphysema, and lung cancer
 - Cardiovascular conditions, such as hypertension, hypercholesterolemia, and conduction disorders
 - Metabolic conditions, such as diabetes types I and II, metabolic syndrome, and Graves' disease
 - Nervous system disorders, such as MS, stroke, Alzheimer's disease, Parkinson's disease, ALS, and Bell's Palsy
 - Older adults and children
 - Orthopaedic soft tissue injuries (STI's), such as sprains, strains, tears, bursitis, and tendinopathies

KEY PERFORMANCE INDICATORS (KPIs)

1. Applies knowledge and communicates risk factors in obtaining client informed consent in treatment planning.
2. Applies knowledge of physiological adaptation to exercise to progress client treatment.
3. Designs and delivers safe, evidence-informed exercise programs based on client needs and goals in an effective, efficient manner.
4. Recognizes when exercise is contraindicated or requires modification to ensure client safety and prevent injury or reinjury, which corresponds with the treatment goals and needs of the client.
5. Recognizes the impact of age and disease state on activity.
6. Considers and utilizes client information on their environment, comorbidities, and medications in care planning.
7. Considers impact of the injury and disease state on human movement and performance.

8. Considers the reaction of the body to injury (e.g., cellular adaption/tissue responses, neoplasia/anaplasia, cellular degeneration/ necrosis, infective agents, pain), and disease.
9. Demonstrates competency in assessing physical and cardiorespiratory fitness in clinical populations.
10. Applies knowledge of pathology of musculoskeletal, neurological, cardiopulmonary, neoplastic, and metabolic disorders and conditions in treatment design.
11. Explains and takes into consideration the pathophysiological process of inflammation and repair.
12. Explains the body's response and adaptation to exercise and occupational work.
13. Continuously evaluates the pathological adaptations and responses to exercise and work inherent in chronic diseases and other pathologies to deliver progressive quality care.
14. Develops and implements a plan to alter and/or improve function and ability to achieve desired outcomes with the client's consent.
15. Assesses client's ability to perform the exercise in a competent and safe manner and modifies if required.
16. Clarifies and sets the client's expectations during the time of the intervention and/or treatment.
17. Monitors client's response to the intervention and/or treatment.
18. Utilizes risk stratification to determine the level of supervision required during the intervention and to determine required modification to treatment and/or referral to other sources.
19. Measures goals and tracks outcomes against established benchmarks to ensure desired goals are met.
20. Re-assesses the client's progress and status to determine effectiveness of the intervention and/or exercise prescription.
21. Establishes and utilizes appropriate infection prevention and control measures when providing client care.