Physiotherapy: List of Topics for the Government Examination and Bibliography

Cardiovascular and Pulmonary Systems

Clinical Application of Basic Science

Relates to the scientific principles that constitute the basis for understanding the cardiovascular and pulmonary systems of patients of all ages.

- Anatomy, physiology and pathophysiology of the cardiovascular and pulmonary systems.
- Physiological response to environmental factors.
- Pharmacology of the cardiovascular and pulmonary systems.
- Effect of physical activity on the cardiovascular and pulmonary systems (including the physiological response to various forms of exercise, interventions and examinations).

Patient Assessment

Relates to being familiar with the types of tests, assessments and measurements in the field of the cardiovascular and pulmonary systems:

Choice of the most appropriate form of assessment, its implementation and significance, in accordance with information collected from history taking and the medical file. Additionally, relates to the knowledge required to understand the interactions between the cardiovascular and pulmonary systems and movement and activity, in order to plan physiotherapy in an efficient and effective manner throughout the life cycle.

- Implementation of appropriate assessments and tests.
- Assessment of movement as relates to the function of the systems, e.g. mobility of the thorax.
Foundations of Assessment, Differential Diagnosis and Prognosis

Reference to clinical application of theoretical knowledge about the cardiovascular and pulmonary systems, and the contribution of this to clinical decision making about the treatment of patients suffering from diseases and syndromes in these systems throughout the life cycle.

- Diseases/syndromes of blood vessels, heart and lungs.
- Diseases/syndromes of the lymphatic system.
- Differential diagnosis as relates to the cardiovascular and pulmonary systems.
- Clinical decision making as regards diseases of blood vessels, heart and lungs.
- Diagnostic imaging of the cardiovascular and pulmonary systems.
- Medical management of cardiovascular and pulmonary disease (surgery and medical examinations).

Interventions

Types of interventions, their implementation, contraindications, expected reactions and possible complications. The effect of implementation of the interventions on other systems.

- Appropriate interventions and their implementation in the cardiovascular and pulmonary systems.
- Secondary effects or complications of interventions in the vascular, cardiac and pulmonary systems.
- Secondary effects or complications of interventions in the cardiac, pulmonary and vascular systems.
- Secondary effects in the cardiovascular and pulmonary systems caused by interventions in other bodily systems.
The Musculoskeletal System

Clinical Application of Basic Science

Basic scientific principles that constitute the basis for understanding the musculoskeletal system, as the basis for effective treatment throughout the life cycle.

- Anatomy, physiology and pathophysiology of the musculoskeletal system.
- Pharmacology of the musculoskeletal system.
- Physiological response to environmental factors.
- Effects of exercise on the musculoskeletal system.
- The structure of joints.
- Function and mobility of the joints.

Patient Assessment

Relates to being familiar with the types of tests, assessments and measurements in the field of the musculoskeletal system; the choice of an appropriate assessment tool, its implementation and significance in accordance with the information collection during the interview and examination of the patient. Assessment and mapping of movement, kinesiology/kinematics, as relates the musculoskeletal system e.g. analysis of walking.

- Choice and implementation of appropriate assessments, measurements and tests.
- Physiological response of the musculoskeletal system to various tests.
- Analysis of movement, including implementation of the principles of kinesiology/kinematics (e.g. analysis of walking).

Foundations of Assessment, Differential Diagnosis and Prognosis

Relates to the clinical application of knowledge about diseases/syndromes of the musculoskeletal system, in order to ensure efficient, proper and effective management of treatment throughout the life cycle.

- Diseases and syndromes of muscles, bones and the musculoskeletal system.
- Diseases and syndromes of connective tissue.
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- Differential diagnosis as relates to pathologies of the muscular, skeletal and connective tissue systems.
- Clinical decision making as relates to diseases of the muscular, skeletal and connective tissue systems.
- Diagnostic imaging of the musculoskeletal system.
- Medical management of the musculoskeletal system (surgery and medical examinations).

**Interventions**

Interventions in the musculoskeletal field, including: types of intervention (e.g. electrotherapy, exercises, mobilization), their implementation, contraindications, expected reactions and possible complications; the effect of interventions implemented in other bodily systems on the musculoskeletal system, and vice-versa. Ability for efficient and effective planning of the patient’s condition throughout the life cycle.

- Appropriate interventions and their implementation in the musculoskeletal system.
- Physiological responses of the musculoskeletal system to various interventions.
- Secondary effects or complications of interventions in the musculoskeletal system.
- Secondary effects or complications of interventions to the musculoskeletal system from interventions in other bodily systems.
- Secondary effects or complications of interventions in other bodily systems upon the musculoskeletal system.

**Neuromuscular System and Nervous System**

**Clinical Application of Basic Science**

Basic scientific principles that constitute the basis for understanding the function of the neuromuscular system and the nervous system, as the basis for effective treatment throughout the life cycle.

- Anatomy, physiology and pathophysiology of the neuromuscular system.
- Anatomy, physiology and pathophysiology of the nervous system (central nervous system, peripheral nervous system).
- Pharmacology for treatment of disorders of the neuromuscular system and the nervous system.
- Physiological response to environmental factors.
- Effects of activity and exercise on the neuromuscular system and the nervous system.
- Motor control as relates to the neuromuscular system and the nervous system.
- Motor learning as relates to the neuromuscular system and the nervous system.
- Neurological function (e.g. cognition, affect, arousal, memory).

**Patient Assessment**

Relates to being familiar with the types of tests, assessments and measurements in the field of the motor system as relates to the neuromuscular system and the nervous system; choosing the appropriate forms of assessment, implementing and understanding them, as relates to body's motor system and mechanics as regards the neuromuscular system and the nervous system, in accordance with the patient’s condition, in order to effectively plan treatment throughout the life cycle.

- Choice and implementation of appropriate assessments, measurements and tests.
- Physiological response of the neuromuscular system and the nervous system to various tests.
- Analysis of movement, including implementation of the principles of kinesiology/kinematics (e.g. analysis of walking, assessment of balance) as regards the neuromuscular system and the nervous system.

**Foundations of Assessment, Differential Diagnosis and Prognosis**

Relates to the clinical application of knowledge about diseases/syndromes of the neuromuscular system and the nervous system, in order to ensure effective management of treatment throughout the life cycle.
• Diseases and syndromes of the nervous system.
• Differential diagnosis as relates to pathologies of the nervous system.
• Clinical decision making as relates to diseases of the nervous system.
• Diagnostic imaging of the neuromuscular system and the nervous system.
• Medical management of the neuromuscular system and the nervous system (surgery and medical examinations).

Interventions

Interventions in the neuromuscular and nervous system field, including: types of intervention, their implementation, contraindications, expected reactions and possible complications; the effect of interventions implemented in other bodily systems upon the the neuromuscular system and the nervous system (e.g. electrotherapy, exercises, mobilization and various accessories), in order to effectively support the patient’s disease throughout the life cycle.

• Appropriate interventions and their implementation in the neuromuscular system and the nervous system.
• Physiological responses of the neuromuscular system and the nervous system to various interventions.
• Secondary effects or complications of interventions in the neuromuscular system and the nervous system.
• Secondary effects or complications of interventions to the neuromuscular system and the nervous system from interventions in other bodily systems, and vice-versa.
• Secondary effects or complications of interventions in other bodily systems upon the: neuromuscular and nervous systems.
Introduction to Research Methods

1. Familiarity with concepts from the world of physiotherapy research, and its importance. What is evidence-based practice?

2. Types of research in the field of physiotherapy (qualitative, quantitative research).

3. Basic concepts and terminology in research: hypotheses, the concept of a variable, independent and dependent variable, correlation and causal relation between variables, reliability and validity.

4. Understanding of the research process and the stages of execution of a study with a quantitative approach.

5. Understanding of the structure of a study and the meaning of its components: background in the literature, research tools, methods.


The Practice of Health Care Professions Arrangement Law 5768 - 2008 and The Code of Ethics of Physiotherapy

1. Being familiar with the aims of the law and the main points of then law

2. Being familiar with the education and training requirements

3. Being familiar with the ethical principles of the Code of Ethics of Physiotherapy
Bibliography

List of recommended sources for preparing for the Government examination

Orthopedics


Neurology

4. Zasler ND, Katz DI, Ross D. Zafonte, RD, Arciniegas DB

Heart and Respiratory


**Aging**


**Children:**


**Electrotherapy**


**Exercise Physiology**


**Kinesiology Biomechanics:**


Muscle Tests and Measurements


Scientific Writing and Clinical Research Methods


The Practice of Health Care Professions Arrangement Law 5768 - 2008

The Code of Ethics of Physiotherapy in Israel