PARKINSON'S DISEASE AND MOVEMENT DISORDERS

1. INTRODUCTION

The Center of Continuing Education and Lifelong Learning (K.E.DI.BI.M.) of the University of Ioannina welcomes you to the Supplementary Distance Education Program, and specifically to the professional training and vocational program titled "PARKINSON'S DISEASE AND MOVEMENT DISORDERS".

The need for continuous training and certification of professional skills led to the design of these innovative Professional Training and Vocational Programs, with a focus on connecting theoretical with practical knowledge, primarily developing the applied dimension of sciences in the respective professional fields.

Below, we present in detail the study program for the professional training and vocational program: "PARKINSON'S DISEASE AND MOVEMENT DISORDERS", the requirements for your participation in it, as well as all the details we believe are useful for you to have a complete picture of the program.

2. PURPOSE OF THE PROGRAM

The basic purpose of the Program "PARKINSON'S DISEASE AND MOVEMENT DISORDERS" is the provision and consolidation of the knowledge and skills required for the clinical diagnosis and specific therapy of the above conditions . It focuses on the following specific objectives:

- The understanding,
- the recognition,
- the classification,
- the evaluation, and
- the management of these disorders.

Upon completion of the program, participants will be able to diagnose Parkinson's disease and distinguish it from atypical parkinsonian syndromes. They will be able to distinguish phenomenologically the various types of movement disorders (chorea, dystonia, ataxia, tremor, etc.), proceed with differential diagnosis,

identify drug-induced, autoimmune, metabolic, and functional movement disorders, and decide on therapeutic interventions.

3. CATEGORIES OF CANDIDATES ACCEPTED INTO THE PROGRAM – MODE OF ENTRY

Application for participation can be submitted by:

- **Doctors**
- **Advanced Level Medical Students:** students who have successfully completed the first two years of medical studies (pre-clinical years).
- **Postgraduate Students:** Includes individuals pursuing or holding a master's degree in biomedical sciences or related health fields.
- **PhD Students:** Specifically, those specializing in medicine or related/kindred health fields.
- **Professionals in Related Health Fields:** Including nursing students or professionals, speech therapy, physiotherapy, occupational therapy, etc.

4. PREREQUISITES

The prerequisites for monitoring the Program by the trainees are:

- Internet access
- Possession of a personal e-mail
- Basic computer skills
- Adequate knowledge of English

The application for participation is submitted electronically via the website: https://neuroedu.med.uoi.gr/application/

5. MODE OF CONDUCTING THE PROGRAM

The asynchronous distance professional training and vocational education of the K.E.DI.BI.M. of the University of Ioannina is conducted via the internet, offering the trainee "autonomy," meaning the possibility of study regardless of restrictive factors, such as the obligation of physical presence in a specific place and time

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The educational material of the program is available gradually, per didactic unit, through specially configured electronic classes. During the development of each thematic unit, the necessary announcements for the smooth conduct of the educational process are posted on a relevant link.

The trainee, after completing the study of each didactic unit, is invited to submit the corresponding evaluation test electronically.

Tests may include matching correct answers, multiple-choice, true/false statements, or upload, where the trainee must formulate and attach their answer in a written text

. The thematic unit may be accompanied by a final project, available upon completion of the thematic unit (if the nature of the unit requires it), concerning the entire syllabus).

At the same time, full educational support is provided, as the trainee can address their designated instructor electronically (for the duration of the respective courses) through an integrated electronic communication system for the immediate resolution of queries related to thematic units, evaluation exercises, or the final project

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6. METHOD OF EXAMINATION AND GRADING

In each didactic unit, the trainee must solve and submit the corresponding test electronically, following the schedule given by their instructor. The grading ranges from 0 to 100%. Overall, the grade of each thematic unit results from the evaluation exercises.

The issuance of the Certificate of Training occurs when the trainee receives a grade greater than or equal to 50% in all courses. If the overall grade for one or more courses does not exceed 50%, the trainee has the possibility of re-examination after the completion of the program's educational process. The grade gathered during re-examination is final, provided it exceeds the grade gathered during the normal duration of the process.

Otherwise, the original grade is maintained.

Re-examination Schedule:

Trainees scoring below 50% will receive an email from the secretariat within 2 working days of program completion.

Start of Re-examination: December 15 December2026.

7. OTHER OBLIGATIONS – PREREQUISITES FOR CERTIFICATE ISSUANCE

Successful completion requires:

- A grade ≥ 50% in each unit (Scale: 0-100%, Base: 50%, Excellent: 100%). Unit Quizzes (multiple choice) contribute 100% to the grade.
- Repayment of all tuition fees. Certificates are withheld until financial obligations are settled.

8. AUTHORS OF EDUCATIONAL MATERIAL

The authors are faculty members of the University of Ioannina or specialized experts with writing distinction.

9. SYLLABUS FORMATION

The program includes 3 thematic sections:

COURSE DESCRIPTION

SECTION I: PARKINSON'S DISEASE

MODULE 1: SYMPTOMATOLOGY AND DIAGNOSIS OF PARKINSON'S DISEASE.

The purpose of this instructional nodule is to present the symptomatology and diagnosis of Parkinson's Disease in a comprehensive and understandable way.

Specifically, the unit aims to help the learner to:

- Understand the basic characteristics and nature of the disease.
- Recognize the main motor and non-motor symptoms.
- Distinguish the stages of progression and their impact on the patient's daily life.
- Learn modern diagnostic methods and criteria.

- Understand the importance of early diagnosis and proper clinical evaluation.
- Become familiar with the interdisciplinary approach to care and monitoring.

The final goal is the development of knowledge and skills that will allow for better understanding, recognition, differential diagnosis, and management of the disease within modern clinical and social reality.

MODULE 2: ATYPICAL AND SECONDARY PARKINSONISM. Covers MSA, LBD (synucleinopathies), CBD, PSP (tauopathies), and differential diagnosis from idiopathic PD.

The purpose of this module is the understanding of the forms of atypical and secondary parkinsonism, as well as their distinction from Parkinson's Disease. Specifically, the module aims to help the trainees:

- Recognize the basic characteristics of atypical parkinsonism.
- Understand the main categories of synucleinopathies and tauopathies.
- Recognize the clinical characteristics of Multiple System Atrophy, Dementia with Lewy Bodies, Corticobasal Degeneration, and Progressive Supranuclear Palsy.
- Distinguish the characteristics of secondary parkinsonism and its most common causes.
- Understand the importance of differential diagnosis between idiopathic and atypical parkinsonism.

Familiarize themselves with the diagnostic approach and, ultimately, the therapeutic management of these syndromes.

The final goal is the development of knowledge and clinical skills for the early recognition and correct evaluation of different forms of parkinsonism.

MODULE 3: DOPAMINERGIC SYNAPSE AND PHARMACOLOGY. COVERS LEVODOPA, DOPAMINE AGONISTS, MAO-B INHIBITORS, COMT INHIBITORS, ANTICHOLINERGICS, AND AMANTADINE.

The purpose of this module is to understand the function of the dopaminergic synapse and the basic principles of pharmacology for anti-parkinsonian drugs used in the treatment of Parkinson's Disease. Specifically, it aims to help the trainees:

- Understand the synthesis, storage, release, and reuptake of dopamine in the dopaminergic synapse.
- Learn the mechanisms of action of basic anti-parkinsonian drugs.
- Distinguish the main categories of drugs, such as levodopa, dopamine agonists, MAO-B inhibitors, COMT inhibitors, anticholinergics, and amantadine.
- Understand the indications, adverse effects, and drug interactions

The final goal is the acquisition of knowledge that will allow the understanding of pharmacological action for a rational and safe use of anti-parkinsonian drugs in clinical practice.

MODULE 4: TREATMENT OF EARLY PARKINSON'S DISEASE

The purpose of this module is the understanding of the basic principles of therapeutic management for early Parkinson's Disease and familiarity with modern therapeutic options applied in the initial stages of the disease. Specifically, it aims to help the trainees:

- Understand the therapeutic goals of early Parkinson's disease.
- Know the criteria for starting medication.
- Distinguish the main categories of anti-parkinsonian drugs used in the initial stages.
- Understand the advantages and limitations of levodopa, dopamine agonists, and MAO-B inhibitors.
- Familiarize themselves with the individualization of therapy according to the patient's age, symptoms, and needs.
- Recognize potential adverse effects and complications of treatment.
- Understand the importance of non-pharmacological interventions, such as exercise, physiotherapy, and psychosocial support.

The final goal is the development of knowledge and skills for the correct selection and monitoring of therapy in the early stages of the disease, with the aim of improving functionality and quality of life.

MODULE 5: TREATMENT OF ADVANCED PARKINSON'S DISEASE

The purpose of this module is to understand the therapeutic approaches in advanced Parkinson's Disease and to familiarize trainees with modern pharmaceutical and invasive methods for dealing with complications. Specifically, it aims to help the trainees:

- Familiarize themselves with therapeutic strategies and individualization of treatment depending on the stage of the disease.
- Recognize the characteristics and complications of advanced Parkinson's disease.
- Understand motor fluctuations and dyskinesias that appear during long-term treatment.
- Learn strategies for modifying dopaminergic treatment.
- Familiarize themselves with continuous drug administration therapies, such as levodopa/carbidopa infusion pumps and subcutaneous apomorphine infusions.
- Understand the indications, benefits, and limitations of Deep Brain Stimulation (DBS).
- Recognize and treat non-motor symptoms of the advanced disease.
- Understand the importance of multidisciplinary care, rehabilitation, and supportive treatment.

The final goal is the development of knowledge and clinical skills for the effective and individualized treatment of the complex problems of advanced Parkinson's disease.

MODULE 6: INVASIVE THERAPIES FOR PARKINSON'S DISEASE

The purpose of this module is the understanding of invasive therapeutic methods applied in Parkinson's Disease and familiarity with their indications, benefits, and

limitations in treating advanced disease. Specifically, it aims to help the trainee understand when a patient is considered a candidate for invasive therapy and learn about basic options such as:

- Deep Brain Stimulation (DBS).
- Continuous levodopa/carbidopa infusion pumps.
- Subcutaneous apomorphine infusions.
- Mechanism of action and therapeutic effects of these methods.
- Indications and contraindications of each intervention.
- Possible complications and adverse effects.
- Importance of correct patient selection and multidisciplinary evaluation.
- Contribution of invasive therapies to improving mobility, functionality, and quality of life.

The final goal is the development of knowledge and clinical skills allowing for the correct evaluation and application of invasive therapeutic options.

MODULE 7: TREATMENT OF NON-MOTOR SYMPTOMS OF PARKINSON'S DISEASE

The purpose of this module is the understanding of the therapeutic management of non-motor symptoms and familiarity with modern pharmaceutical and non-pharmacological interventions. Specifically, it aims to help the trainees:

- Recognize main non-motor symptoms (neuropsychiatric, autonomic, sensory, and sleep disorders).
- Understand the importance of non-motor manifestations in disease progression.
- Know treatment options for symptoms such as: depression and anxiety, psychosis and cognitive decline, sleep disorders, constipation and other autonomic dysfunctions, pain and sensory symptoms.
- Familiarize themselves with pharmacological and non-pharmacological treatment.
- Understand the need for an individualized and multidisciplinary approach.
- Recognize the importance of supportive care for the patient and their family environment.

The final goal is the development of knowledge and skills for holistic treatment of non-motor symptoms.

SECTION II: OTHER MOVEMENT DISORDERS

MODULE 1: TREMOR

This module refers to tremor—one of the most common movement disorders—with the goal of understanding its clinical picture, pathophysiology, and therapeutic management. Specifically examined are:

- Clinical forms of tremor (rest, action, and postural).
- The difference between Parkinsonian tremor and other types.
- The pathophysiological basis of the symptom.
- Evolution and impact on the patient's functionality.
- Pharmaceutical options.
- Cases where tremor is refractory to medication.
- Invasive therapeutic options in selected patients (e.g., DBS).

The final goal is understanding tremor as a significant and often functionally burdensome symptom, and familiarity with its correct diagnostic and therapeutic approach.

MODULE 2: DYSTONIA

Dystonia is presented as a clinically very important movement disorder. Specifically mentioned are:

- Definition and clinical picture.
- Forms (focal, segmental, generalized).
- Differential diagnosis from other movement disorders.
- Therapeutic options: medication (anticholinergics, etc.), botulinum toxin for focal forms, and invasive therapies for refractory cases.
- Importance of individualized treatment.

The final goal is understanding dystonia as a major motor complication and familiarity with its correct clinical evaluation.

MODULE 3: LATE SYNDROMES AND DRUG-INDUCED MOVEMENT DISORDERS

The purpose of this module is to understand late motor syndromes and drug-induced movement disorders, as well as familiarity with their recognition, prevention, and treatment. Specifically, it aims to help the trainees:

- Recognize main late motor complications, such as tardive dyskinesia.
- Understand mechanisms of development from chronic anti-dopaminergic therapy.
- Distinguish different late clinical syndromes.
- Know risk factors for late complications.
- Familiarize themselves with therapeutic strategies and the importance of close monitoring

The final goal is the development of knowledge and skills for effective management of late complications.

MODULE 4: ATAXIA –MYOCLONUS - AUTOIMMUNE MOVEMENT DISORDERS

This module covers ataxias, SCAs syndrome, myoclonus, and autoimmune movement disorders. Specifically examined are:

- Basic characteristics of ataxia and differential diagnosis (cerebellar, sensory, vestibular).
- Hereditary Spinocerebellar Ataxias (SCAs) and their genetic basis.
- Myoclonus, its types (cortical, subcortical, spinal), and main causes.
- Autoimmune movement disorders and their association with paraneoplastic or antineuronal antibodies.
- Diagnostic approach with clinical assessment, imaging, and laboratory tests.
- Differential diagnosis from degenerative motor syndromes.
- Therapeutic options, including immunotherapy where indicated.
- Importance of early recognition

The final goal is to develop knowledge for the correct recognition and treatment of a wide range of degenerative and autoimmune disorders.

MODULE 5: WILSON – NEUROMETABOLIC DISEASES AND OTHER TREATABLE MOVEMENT DISORDERS

This module refers to Wilson's disease, neurometabolic diseases, and other treatable movement disorders that are often reversible with appropriate therapy. Specifically examined are:

- Wilson's disease and copper metabolism disorders.
- Basic clinical manifestations (motor, psychiatric, and hepatic).
- Neurometabolic diseases are manifested as movement disorders.
- Diagnostic approach (lab tests, imaging, genetic testing).
- Differential diagnosis from degenerative syndromes.
- Therapeutic options like chelating agents, zinc, and specific metabolic therapies.
- Importance of early intervention to prevent permanent neurological damage.
- Other potentially treatable movement disorders requiring immediate recognition

The final goal is to develop knowledge for the early recognition and treatment of treatable movement disorders to improve patient prognosis.

MODULE 6: CHOREA

The purpose of this module is to understand chorea as a movement disorder, recognize its main causes, and familiarize trainees with the diagnostic and therapeutic approach. It aims to help the trainees:

- Understand the definition and characteristics of chorea.
- Recognize main causes, emphasizing Huntington's Chorea.
- Distinguish chorea from other hyperkinetic disorders.
- Know the pathophysiological substrates of basal ganglia disorders.

- Familiarize themselves with diagnostic approaches (clinical, genetic, imaging).
- Understand basic therapeutic options, including symptomatic medication.
- Recognize the importance of early diagnosis and supportive care

The final goal is the acquisition of knowledge for the correct recognition and treatment of chorea and its underlying causes.

MODULE 7: RESTLESS LEGS SYNDROME (RLS)

This module refers to Restless Legs Syndrome (RLS), a common disorder that may coexist with or be differentiated from Parkinson's Disease. Specifically examined are:

- Basic clinical characteristics (urge to move lower limbs).
- Worsening of symptoms during rest and at night.
- Relief with movement.
- Pathophysiology emphasizing dopaminergic dysfunction and iron metabolism.
- Diagnostic approach and criteria.
- Differential diagnosis from other motor or sensory disorders.
- Therapeutic options (dopaminergic agents, gabapentinoids, iron were deficient).
- Importance of correct recognition for improving sleep and quality of life

The final goal is the familiarity with systematic evaluation and treatment of RLS in clinical practice.

MODULE 8: PAROXYSMAL MOVEMENT DISORDERS - FUNCTIONAL MOVEMENT DISORDERS – TICS

This module refers to paroxysmal movement disorders, functional disorders, and tics. Specifically examined are:

- Paroxysmal movement disorders (paroxysmal dyskinesia, kinesigenic and non-kinesigenic forms).

- Clinical characteristics and triggering factors of episodes.
- Functional (psychogenic) movement disorders and their special diagnostic signs.
- Tics (motor and vocal) and their association with Tourette syndrome.
- Differential diagnosis from organic neurological diseases.
- Diagnostic approach emphasizing clinical observation.
- Therapeutic options (pharmaceutical, non-pharmaceutical, and behavioral therapy).
- Importance of early recognition to avoid misdiagnosis and unnecessary treatments

The final goal is the development of skills for the recognition and correct management of a wide range of paroxysmal and functional movement disorders.

SECTION III: EXTRAS

MODULE 1: VIDEO SESSION

Presents the most common clinical findings and motor phenomena through analysis of filmed material to familiarize the trainees with clinical practice.

Specifically, it aims to help the trainees:

- Recognize basic motor phenomena (e.g., tremor, bradykinesia, rigidity, dystonia, chorea, myoclonus).
- Distinguish different patterns based on clinical picture.
- Connect visible findings with corresponding pathological entities.
- Familiarize themselves with differential diagnosis between degenerative, autoimmune, and functional disorders.
- Recognize characteristic findings from late drug-induced complications.
- Improve clinical observation skills

The final goal is the development of the ability to recognize movement disorders "at first sight" to support correct clinical evaluation and diagnosis.

MODULE 2: VIDEO SESSION (PD, MSA, PSP, CBD, AND THERAPEUTIC CASES)

Analysis of characteristic filmed clinical cases of Parkinson's Disease and atypical syndromes (MSA, PSP, CBD) to strengthen clinical observation and diagnostic thinking. Specifically, it aims to help the trainees:

Recognize characteristic motor and non-motor findings in different parkinsonism syndromes.

Distinguish idiopathic Parkinson's disease from atypical syndromes.

Identify clinical "red flags" indicating atypical progression.

Understand diagnostic logic through case-based learning.

Connect clinical findings with therapeutic options and response to medication.

Evaluate the importance of therapeutic approaches per stage and disease type.

Familiarize themselves with clinical decision-making in complex cases

The final goal is to strengthen the ability for recognition and differential diagnosis in clinical practice.

MODULE 3: DIGITAL HEALTH AND TELEMONITORING STRATEGIES FOR OPTIMIZING PARKINSON'S DISEASE MANAGEMENT

This module will provide an overview of the role of mHealth technologies and remote telemonitoring in the management of Parkinson's disease. Participants will explore how digital health solutions, wearable sensors, mobile applications, and telemonitoring platforms are transforming patient-centered care and enabling continuous assessment beyond the clinical setting.

The course will present the principles of remote monitoring in Parkinson's disease, including the assessment of motor and non-motor symptoms, treatment response, and fluctuations in daily living conditions. Emphasis will be placed on the integration of mHealth technologies into clinical care pathways, supporting personalized medicine, early intervention, and multidisciplinary management.

In addition, the webinar will discuss current challenges and future perspectives related to data quality, patient adherence, regulatory considerations, and the implementation of digital tools in routine clinical practice. Real-world examples

and emerging trends in telemedicine and remote patient management will also be highlighted.

The final goal is to gain a practical understanding of how mHealth and telemonitoring approaches can enhance clinical decision-making, improve patient outcomes, and contribute to more efficient and accessible Parkinson's disease care.

MODULE 4: COMPUTATIONAL APPROACHES FOR MONITORING AND AUTOMATED DIAGNOSIS OF PARKINSON'S DISEASE AND MOVEMENT DISORDERS

Understanding computational approaches used for monitoring, analysis, and automated assistance in diagnosing Parkinson's and other movement disorders using data analysis and Artificial Intelligence. It aims to help the trainees:

- Understand basic principles of computational and algorithmic approaches in medical analysis of motor data.
- Know data sources such as motion sensors, wearable devices, and clinical databases.
- Familiarize themselves with machine learning and signal processing techniques for detection (tremor, bradykinesia, and dyskinesia analysis).
- Understand the use of predictive models for evaluating disease progression and supporting clinical decisions.
- Evaluate advantages and limitations of automated diagnosis systems.
- Perceive the importance of cooperation between clinical medicine and computational sciences

The final goal is to develop skills and acquiring knowledge for the application of computational tools in modern neurological practice.

DETAILED TIMELINE OF MODULES AND EVALUATION PROCEDURES

Parkinson's Decease	**Start Date**	**Completion Deadline**
Module 1	October 2, 2026	October 8, 2026
Module 2	October 9, 2026	October 15 ,2026
Modules3 και 4	October 16 Οκτωβρίου 2026	October 22 ,2026
Modules5 και 6	October 23, 2026	October 29 ,2026
Module 7	October 30, 2026	October 5 ,2026
Other Movement Disorders	**Start Date**	**Completion Deadline**
Modules1,2	November 6, 2026	November 12, 2026
Modules3,4 και 5	November 13 Νοεμβρίου 2026	November 19, 2026
Modules6, 7 και 8	November 20 Νοεμβρίου 2026	November 26, 2026
Extras	**Start Date**	**Completion Deadline**
Module 1	November 27, 2026	December 3, 2026
Module 2	December 4, 2026	December 9, 2026
Modules 3,4	December 10, 2026	December 14, 2026
Resit Examination	**December 15, 2026**	

10. IMPLEMENTATION DETAILS

10.1 Advantages:

- Exclusively online distance teaching.
- Daily instructor support via forum.
- ECTS credits according to legislation.
- Public University certificate.

10.2 Tuition Fees:

- Total: 450 Euros.
- Students: 350 Euros.
- Installments: 250€ at registration; 200€ by November 1, 2026.

Refunds only if the University cancels the seminar.

10.3 Contact:

Secretariat: easpioti@uoi.gr / 0030 2651007514.

Technical: mariadavip@gmail.com.

Academic: skonitso@uoi.gr.

Response time for forum/email is two working days.

Certificates Issued: Certificate of Continuing Education and Certificate Supplement