Advanced Neurological Splinting

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VENUE: ΔΩΜΑ-10ος ΟΡΟΦΟΣ ΝΟΣΟΚΟΜΕΙΟ ΕΥΑΓΓΕΛΙΣΜΟΣ -ΑΘΗΝΑ

ΚΟΣΤΟΣ : ΜΕΛΗ ΤΟΥΤΜΗΜΑΤΟΣ ΑΝΩ ΑΚΡΟΥ 150 ε
ΜΕΛΗ ΕΕΕΦ ΚΑΙ ΦΟΙΤΗΤΕΣ 200 ε
ΜΗ ΜΕΛΗ 250 ε

Date:	**Time**:	**Location(s):**	**Tutors Names:**	
Saturday 24/05/2025 Sunday 25/05/2025	Saturday 09.00 – 17.00 Sunday 09.00 – 17.00	Athens, Greece	**Eskarlett Pereira** Angeliki Vervainioti George Mazis	

Course Aims:
The **Advanced Neurological Splinting** course aims to equip rehabilitation professionals with specialized expertise in managing upper limb neurological conditions through advanced splinting techniques. Participants will develop a comprehensive understanding of upper limb pathologies, focusing on neurological deformities and functional impairments. The course provides critical insights into diagnostic clinical examinations, European guidelines for conservative treatment, and evidence-based splinting strategies. Designed for physiotherapists and occupational therapists aspiring to advance in hand therapy, this training ensures practitioners remain up to date with the latest advancements in neurological rehabilitation.

A key focus of the course is the integration of **splinting as a primary rehabilitation tool**, addressing both preventive and corrective needs. Participants will master the design and fabrication of essential neurological splints, gaining hands-on experience with low-temperature thermoplastic materials, synthetic plaster, and neoprene. They will refine their ability to create **customized splints** that align with individual pathology and rehabilitation goals, ensuring adaptability as conditions evolve. Additionally, the course emphasizes **clinical decision-making** in splint application, material selection, and patient compliance, equipping therapists with the confidence to integrate splinting seamlessly into their rehabilitation plans.

By the end of the course, participants will have constructed six essential rehabilitation splints, reinforcing their technical proficiency and practical expertise. They will be able to apply, adjust, and optimize splinting interventions to enhance patient outcomes in **stroke, spinal cord injury, cerebral palsy, and other neurological conditions**. With a strong

Target Audience:
Hand therapists, occupational therapists, physiotherapists, and other rehabilitation professionals specializing in upper extremity care for neurological conditions.

Venue & Logistics:
- Hands-on workshop space with adequate splinting stations
- All necessary splinting materials and tools provided by sponsors
- Refreshments and lunch for tutors included

emphasis on functional application and adaptability, this course ensures that rehabilitation professionals are well-prepared to utilize splinting as a core intervention in neurological hand therapy.

Key Learning Outcomes:

- Precision in Custom Splinting: Master the principles of designing and fabricating individualized splints that align with both the specific pathology and the patient's functional needs, ensuring optimal rehabilitation outcomes.
- Dynamic Adaptability in Rehabilitation: Develop the ability to rapidly apply, modify, and adapt splints based on the evolving nature of neurological conditions and changing therapeutic goals.

Advanced Material Knowledge: Gain in-depth understanding of thermoplastic materials, their biomechanical properties, and their application in constructing static and dynamic splints tailored for neurological rehabilitation.

- Splinting as a Core Rehabilitation Strategy: Enhance the ability to integrate splinting as both a primary and adjunctive rehabilitation tool, maximizing therapeutic efficacy in upper limb neurorehabilitation.
- Hands-On Practical Expertise: Engage in comprehensive hands-on training, constructing six essential rehabilitation splints using thermoplastic, synthetic plaster, and neoprene, equipping participants with the skills to apply these techniques effectively in clinical settings.

This advanced course ensures that participants emerge with the confidence and technical proficiency required to utilize splinting as a fundamental intervention in neurological hand therapy.

1.Description of the Neurological Hand:

- Symptoms. Identify and understand the common symptoms associated with neurological hand conditions, including muscle weakness, spasticity, and loss of motor control.
- Anatomy of the Neuro-Muscular System of the Hand and Wrist:
  Study the detailed anatomy of the hand and wrist, focusing on the neuro-muscular system.

2. Neurological Hand Conditions and deformities:

By the end of the course, participants will be able to fabricate both static and dynamic splints tailored for various neurological hand conditions, including:

- Stroke-related Hemiparesis
- Cerebral Palsy Affecting Hand Function

Assessment & Certification:

- Pre- and post-course knowledge assessments
- Practical skills demonstration
- Course completion certificate (16 contact hours)

• Neuropathy Diseases: a. Neuropraxia b. Axonotmesis c. Neurotmesis • Ulnar Nerve – Claw Hand • Median Nerve – Hand of Benediction ape hand • Radial Nerve – Wrist Drop, Saturday Night Palsy • Hand Spasticity and Tremors in Multiple Sclerosis • The course will host Demonstration and guided practice in fabrication of 6 key splints for neurological patients.	

Saturday	Speaker	Topic
08.50 – 09.00		Registration
09.0 – 09.05		Introduction to neurological splinting • Overview of neurological conditions affecting the upper extremity • Role of splinting in neurorehabilitation • Current evidence-based practices
09.00 – 09.30		Biomechanics and Neurophysiology of the hand • Muscle tone and spasticity management • Overview causes and symptoms of the neurological hand • Joint integrity and positioning principles • Neuroplasticity and functional splinting concepts
09.30 – 10.00		Clinical reasoning on splint provision • Clinical assessment techniques • Functional outcome measures and patient-centered goals
10.00 – 11.30		Introduction to Spastic Hand Deformity Conditions • Stroke-related Hemiparesis • Cerebral Palsy Affecting Hand Function • Multiple Sclerosis with Hand Spasticity and Tremors
11.30 – 11.45		COFFEE BREAK

11.45 – 13.00		**Splinting session 1** Splint for Spastic Hand Deformity • Clinical reasoning • Analysis of different components of the splint • Demonstration and guided practice in fabrication of resting hand splint • Stroke and hemiparesis • Spinal cord injury and hand function • Cerebral palsy and pediatric considerations
13.00 – 13.45		LUNCH BREAK
13.45 – 14.45		Analysis of Neuropathy Diseases: • Neuropraxia • Axonotmesis • Neurotmesis • Ulnar Nerve – Claw Hand • Median Nerve – Hand of Benediction • Radial Nerve – Wrist Drop, Saturday night palsy
14.45 – 15.00	COFFEE BREAK	
15.00 – 16.30		**Splinting session 2** Splint fabrication for Hand of Benediction a. Neuropraxia b. Axonotmesis
16.30 – 17.30		**Splinting session 3** Splint fabrication for neuropathy conditions of Ulnar Nerve a. Claw hand b. Axonotmesis
16.45 -17.30		Conclusions of day 1

Sunday	Speaker	Topic
0900 – 10.30		**Splinting session 4** Neuropathy Diseases: thumb deformities • Thumb abduction splint
10.30 – 10.45	COFFEE BREAK	
10.45 – 12.00		**Splinting session 5** Radial nerve conditions • wrist drop • Saturday night palsy
12.00 – 13.00		Splinting challenges after botulinum injection • Physiological Effects of Botulinum Toxin on Muscle Tone • Timing of Splint Application • Selecting appropriate splint designs based on muscle response, rehabilitation goals, and patient needs. • Challenges in Fit and Comfort • Splint Adjustments Over Time
13.00 – 13.30	LUNCH BREAK	
13.30 – 15.00		**Splinting session 6** Advanced Splinting Techniques • Dynamic and static progressive splints • Functional splinting for ADLs and task-specific training • Dynamic splint fabrication for spasticity – drop hand and thumb
15.00 – 15.15	COFFEE BREAK	
15.15 – 16.00		**Clinical case** Case will be provided for live clinical splinting application **OR….** Patient Management and Compliance Strategies • Addressing barriers to splint use • Strategies for caregiver education and home programs • Monitoring and adjusting splints over time
16.00 – 17.00		Course conclusions – certificates