

SYLLABUS

SUBJECT

Physiotherapy in neurological disorders

TEACHER

Ewa Lenart-Domka

COURSE DESCRIPTION

The course is focused on the following issues :

1. brief repetition of neuroanatomy: divisions of the nervous system properties of nerve and muscle, cerebral cortex nerve conduction and muscle, mechanisms of reflex activity, mixed spinal nerve, motor units, peripheral ganglions and nerves
2. proper muscle tone (postural tone, reciprocal innervation etc.), abnormal tone and movement (flaccidity, rigidity, spasticity, ataxia), muscle strength (paresis, plegia), normal and abnormal gait pattern
3. neuroplasticity in rehabilitation
4. consciousness problems (Glasgow scale), dementia and depression symptoms (MMSE, Beck scale), abnormalities of communication in CNS lesions
5. developmental nervous system defects: microcephaly, hydrocephalus, cerebral palsy, spina bifida, Down's syndrome, Autism Spectrum disorders, Prader-Willi syndrome
6. cerebrovascular brain diseases: ischaemic stroke, SAH, intracranial and intracerebral haematoma, malformations of brain veins and arteries
7. cranial and brain injuries, brain tumors, brain oedema, posttraumatic epilepsy
8. spinal cord lesions, injuries and tumors
9. Parkinson's disease, SLA
10. multiple sclerosis
11. overview of functional outcome measures: Barthel index, Berg index, Rivermead mobility index, 10 m walk, Frenchay arm test, Gross motor function index, Oswestry neck and low back pain questionnaire
12. overview of approaches to physiotherapy management: motor relearning/movement science approach PNF, Bobath, Brunnstrom, biofeedback training principles, functional step electrotherapy (FES)
13. Basic principles of physiotherapy management of patients with CNS lesions:

- care of unconscious patient
- positioning of paretic limbs to discourage onset of spasticity
- care of a hemiplegic shoulder
- importance of early intervention following CNS incidents and traumatic brain injury
- relevance of using functional activities in rehabilitation
- prosthetics and orthotics in neurorehabilitation

14. peripheral nerve lesions, peripheral neuropathies – principles of rehabilitation

15. principles of treatment of physiological and neuropathic pain

16. physiotherapy management in neck and low back pain: McKenzie method, physical therapy, relevance of cognitive psychological approach

LEARNING OUTCOMES

By the end of the course students are expected to :

- Identify the most significant CNS and peripheral neurological disorders and pathologies
- Know the physiotherapeutic methods of treating patients with neurological disorders

GRADING POLICY

- Short written exam + practical exam
- Attendance and active participation in both theoretical and practical part of the course

TIMETABLE

3 hour per week. Exact timetable will be given at the first meeting.

TEXTBOOK AND REQUIRED MATERIALS

1. Darcy Ann Umphred PT PhD, Neurological Rehabilitation

2. Maria Stokes PhD MCPS , Physical Management in Neurological Rehabilitation

(Physiotherapy Essentials)

3. Sharon A. Gutman PhD, Quick Reference Neuroscience for Rehabilitation Professionals:

The Essential Neurological Principles Underlying Rehabilitation Professionals

PREREQUISITES:

Basic knowledge of human anatomy and physiology