

## LEARNING OBJECTIVES 1

### The student

- \* is able to take a neurological patient's history and appropriately target clinical neurological research
- \* is able to apply the principles of neurological level diagnostics
- \* is able to perform preliminary differential diagnosis of neurological symptoms
- \* is able to evaluate the urgency of neurological symptoms and illnesses
- \* knows the neurological treatment chains agreed in their domain
- \* knows basic health care functions in rehabilitation of neurological diseases
- \* is aware of the prognosis of neurological diseases and its effects on the patient's work, activity and ability to drive, and psychological and social coping/performance
- \* knows the principles of rehabilitation of neurological conditions
- \* is familiar with ethical questions and guidelines of neurological diseases

### Examinations

- \* knows the indications, contraindications and risks of lumbar puncture, and can perform a lumbar puncture and interpret the results of acute studies
- \* identify the most common findings of the acute/emergency CT study (stroke, different types of cerebral haemorrhage, cerebral contusion and hydrocephalus)
- \* identifies indications, contraindications and risks of brain CT
- \* knows the indications of ENMG and understands the meaning of the ENMG statement / result
- \* knows the indications for ultrasound examination of the neck arteries and the EEG
- \* knows the indications of the magnetic resonance imaging, contraindications and risks
- \* understands the significance of the most common EEG findings

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Red= student knows well how to manage, how to use or apply

Blue = student has to know, identify, understand

## Motor functions

- \* detects different components and types of motor disorders (tendon reflexes, muscle weakness, Babinski sign, muscle atrophy, muscle tone, coordination, ataxia, tremor, other movement disorders)
- \* identifies upper and lower motor neuron injury/ function disorder
- \* recognizes most common eye movement disorders and pupil motor disorders
- \* distinguishes spasticity and rigidity
- \* identifies central and peripheral facial paresis
- \* recognizes cervical dystonia (neurological torticollis)

## Sensory functions

- \* can locate the lack of sensation at the level of peripheral nerve, nerve root, spinal cord or brain
- \* recognizes the most common visual field defects
- \* is able to diagnose the most common disorders causing dizziness
- \* recognizes different components of sensory disorders (touch-, pain-, cold/warm-, position and vibration sense)

## Integrated basic functions

- \* recognizes major walking disorders
- \* identifies abnormal reflexes (main ones) and understands their significance
- \* can distinguish the causes of imbalance
- \* knows the symptoms of extrapyramidal disorders

## Cognition

- \* recognizes motor and sensory dysfunction / aphasia
- \* recognizes frontal lobe dysfunction (behavioral and executive function/activity control disorders)
- \* knows early symptoms of memory disorders and can distinguish them from common/normal age changes and depression

## Consciousness

- \* is able to determine the level of consciousness on the basis of a clinical study (verbally or according to Glasgow coma scale)
- \* knows the principles of diagnostics and acute care of an unconscious patient

## Headache

- \* knows differential diagnostics of headache in outpatient care
- \* recognizes need of urgent research / treatment in headache cases
- \* knows how to diagnose and treat migraine and tension type headache
- \* knows the indications of headache patient imaging studies
- \* knows the clinical features of trigeminal neuralgia and atypical facial pain
- \* knows the clinical features of Horton/cluster headache
- \* knows the indications for use of different painkiller groups, contraindications and the most important side effects

## Cerebrovascular disorders

- \* knows the risk factors for cerebrovascular disorders
- \* is able to carry out secondary prevention of cerebrovascular disorders
- \* recognizes TIA syndromes (including amaurosis fugax) and is able to arrange appropriate acute studies
- \* is able to identify typical ischemic stroke, cerebral haemorrhage and typical SAV clinical symptoms
- \* identifies the clinical features of a sudden ischaemic stroke/ brain infarction and knows principles of acute ischaemic stroke treatment including thrombolysis treatment
- \* knows the principles of cerebrovascular disease rehabilitation

## Syncope and epilepsy

- \* recognizes syncope, generalized epileptic seizure, and most common partial seizure types

- \* is able to recognize the clinical features of prolonged epileptic seizure and begins to treat it

- \* knows the principles of epilepsy drug treatment

- \* knows the chain for treatment of epilepsy (principles and responsibilities of treatment in specialist health care and primary health care)

#### Movement disorders

- \* knows how to diagnose and treat essential tremor

- \* can diagnose restless legs syndrome and start treatment

- \* knows the principles of Parkinson's disease treatment

- \* knows the principles of spasticity

- \* knows where the ataxia can be caused

#### Memory disorders and dementia

- \* knows basic disorders of memory disorders

- \* knows the diagnostics of major progressive memory diseases

- \* manages the comprehensive treatment of Alzheimer's disease

- \* recognizes the most common causes of delirium

- \* knows the principles of delirium treatment

- \* knows the preventive and risk factors of memory disorders

- \* knows the principles of treatment of other progressive memory diseases

- \* knows the neurobiological basis of other advanced memory diseases

#### Central nervous system tumors

- \* knows the most common neurological symptoms caused by nervous system tumors and metastases

- \* knows the clinical features of meningioma and glioma

- \* knows the general principles of treatment of central nervous system tumors

#### Central nervous system injuries

- \* is able to identify and document the unconsciousness and memory loss associated with the acute phase of the head injury, and to estimate the degree of severity of the brain injury
- \* can diagnose and treat acute mild brain injury (concussion)
- \* identify subdural and epidural hematoma diseases and imaging findings
- \* know the principles of treatment of acute brain and spinal cord injury

#### Central nervous system infections

- \* knows how to diagnose bacterial meningitis and start treatment
- \* is able to diagnose and treat encephalitis and viral meningitis

#### MS disease

- \* can suspect MS disease on the basis of clinical symptoms
- \* knows the treatment principles of exacerbation of MS disease
- \* knows the principles of MS patient care
- \* knows the principles of diagnosis of MS disease
- \* knows immunomodulating treatments for MS disease

#### Spinal diseases and ALS

- \* recognizes para- and tetraparesis requiring urgent treatment and is able to send the patient to acute treatment
- \* recognizes the clinical picture of spinal stenosis
- \* knows the clinical picture of ALS (motoneuron disease)

#### Peripheral Nervous System

- \* is able to diagnose the most important nerve root symptoms, cauda equina syndrome and the most common peripheral nerve compression symptoms
- \* can suspect polyneuropathy on the basis of a clinical picture
- \* knows the most common etiological factors of polyneuropathy

- \* can suspect polyradiculitis based on clinical picture

#### Musculoskeletal disorders

- \* recognizes myasthenia gravis disease
- \* knows the precautionary treatment for myasthenia patient
- \* knows the main causes of rhabdomyolysis, complications and treatment principles
- \* knows the myositis picture and the most common causes

#### Alcohol and drugs

- \* identifies major alcohol-induced neurological symptoms and illnesses
- \* identifies and manages alcohol withdrawal symptoms (including delirium tremens, alcohol cramps)

#### Sleep and alertness

- \* knows the most common causes of insomnia
- \* recognizes the clinical picture of obstructive sleep apnea
- \* knows the principles of obstructive sleep apnea

#### Neurological problems associated with general diseases

- \* knows neurological manifestations of diabetes
- \* knows the most common metabolic disorders associated with neurological problems
- \* knows neurological problems associated with common connective tissue disorders
- \* knows neurological problems associated with sarcoidosis and vasculitis