

Neuropsychological disorders

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Epilepsy

- ▶ chronic neurological condition characterized by temporary changes in the electrical function of the brain
 - ▶ Abnormal electrical patterns in the brain activity result in seizures
 - ▶ The cause of epilepsy is unknown in about 80% of cases. Common causes for the other 20% include head trauma, tumors, infections, strokes, anoxia, and lead poisoning.
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Types of seizures

- ▶ The most common types of seizures are generalized tonic clonic, absence, and complex partial. Other less common forms of seizures include simple partial, partial seizures with secondary generalization, tonic, atonic, myoclonic, and unclassified forms.

Generalized tonic clonic (grand mal)

- ▶ Loss of consciousness, sudden cry, fall, rigidity (tonic), erratic muscle contractions of jerks, possible incontinence, rapid heart rate, and cyanotic with blue lips or fingernails.

Absence (petit mal)

- ▶ It may include a blank stare, grimace, chewing, rapid eye blinks, or lack of awareness of surroundings.

Complex partial (psychomotor or temporal lobe)

- may include an aura, blank stare, chewing, lack of awareness of surroundings, wandering, acting dazed, mumbling, picking at clothing, trying to remove clothes, of being afraid and struggling.

Diagnostics and Treatment

- ▶ blood tests
 - ▶ CT scan
 - ▶ EEG
 - ▶ magnetic resonance, imaging (MRI)

 - ▶ Medications
 - ▶ vagus nerve stimulation
 - ▶ surgery
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Physical activity

- ▶ Persons with seizures can participate in almost all sports and physical activities. The critical factor is that seizures be kept under control. Regular exercise often inhibits seizure activity. This phenomenon is potentially caused by lowered blood pH, beta-endorphin release, increased mental alertness and attention suppress the electrical activity.
- ▶ They should avoid sports where is higher possibility of trauma (racing cars, skydivings).

Degenerative brain disease – Alzheimer's Disease

- ▶ ~~Chronic degenerative disease.~~
- ▶ In the region attacked by Alzheimer's disease, nerve cells or neurons degenerate, losing their connections of synapses with other neurons. Atrophy of the cerebral cortex results in intellectual impairment, which progresses from increasing loss of memory to total disability.

Physical activity

- ▶ Corrective exercises for maintaining proper posture, physical activity aimed at developing cognitive and memory functions, psychomotor exercises and games aimed at developing self-sufficiency.

Attention deficit hyperactivity disorder

- ▶ is a developmental disorder. ADHD is diagnosed in about 2 to 16 percent of school aged children and two to four times more frequently in boys than in girls. The disability is caused by delayed brain development (immaturity)

Physical activity

- ▶ concentration games
- ▶ physical concentration games
- ▶ fast and explosive games
- ▶ psychomotor exercises and games

Cerebral palsy

- ▶ Nonprogressive lesion of the brain occurring before, at, or soon after birth that interferes with the normal development of the brain.
- ▶ Characterized by limited ability to move and maintain balance and posture because of the damage to areas of the brain that control muscle tone and spinal reflexes.

Physical activity

- ▶ Muscular strength
- ▶ Flexibility (reduction of severity of symptoms – spasticity, athetosis)
- ▶ Aerobic endurance
- ▶ Psychomotor games and exercises