In this article, we will discuss about the disorders of movement and their biological bases. These disorders include amyotrophic lateral sclerosis, apraxia, Huntington's disease, myasthenia gravis, and Parkinson's disease.

**Amyotrophic Lateral Sclerosis**

Also known as Lou Gehrig's Disease, amyotrophic lateral sclerosis (ALS) is a movement disorder that results from the degeneration of the ventral horns of the spinal cord as well as the corticobulbar and corticospinal tracts. When these parts of the nervous system collapse, the person is unable to control most voluntary muscles. ALS is a terminal disease with no known treatment, and its management is only symptomatic.

**Apraxia**

Apraxia is a condition in which voluntary actions are either lost or inappropriate. Patients with apraxia also experience paralysis and motor impairment. There are three types of apraxia. One is constructional apraxia, in which the affected person has a damaged right parietal lobe, and is unable to assemble objects or draw pictures. The second one is limb apraxia. Patients with limb apraxia are unable to control voluntary limb actions due to damaged corpus callosum and/or left parietal lobe of the brain. Lastly, apraxia of speech impairs a person's speech abilities due to their damaged Broca's area.

**Huntington's Disease**

One of the movement disorders with proven genetic origin, Huntington's disease is a condition possibly caused by damage to the neurons located in the basal ganglia, as well as the thinning and shrinkage of the cerebral cortex. As a result, the symptoms of Huntington's disease include poor cognition, decline of motor control, inappropriate involuntary movements, and deterioration of emotion.

**Myasthenia Gravis**

An autoimmune disorder, myasthenia gravis is a condition caused by the destruction of the cholinergic receptors situated at the neuromuscular junctions. Because the neurotransmitter acetylcholine is unable to travel at the junctions, patients with myasthenia gravis frequently experience muscular fatigue. Suppression of the acetylcholinesterase, an enzyme that catalyses acetylcholine, is a major part of the treatment plan.

**Parkinson's Disease**

Parkinson's disease, also known as shaking palsy, is a movement disorder in which the affected person experiences difficulty initiating voluntary movement. Muscle tremors and muscular rigidity are also present. Research shows that Parkinson's disease is caused by the degeneration of dopamine-producing neurons located in the substantia nigra. Decreased dopamine levels result to inability to produce voluntary movement and maintain muscle tone. Because of this, the treatment plan involves dopamine agonists such as L-dopa and cabido. In the absence of dopamine, the dopamine agonists activate the dopamine receptors.