

**МЕДИЦИНА, ПЕДАГОГИКА И ТЕХНОЛОГИЯ:
ТЕОРИЯ И ПРАКТИКА**

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**BIOCHEMICAL FOUNDATIONS OF HEREDITARY DISEASES
OF THE NERVOUS SYSTEM**

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Abstract: *This article discusses the causes and significance of hereditary diseases of the nervous system. It also discusses the most widely recognized neurological diseases in medicine and the conditions that accompany any disorder of the nervous system.*

Key words: *nervous system , symptoms, neuropsychology, hereditary diseases, physiotherapy, modern medicine, Motor, Sensory, Meningitis , Migraine, Myelitis, Brain.*

Let's first understand what neurological diseases are. Neurological diseases are conditions that occur with any disorder of the nervous system. Structural, biochemical, or electrical abnormalities in the brain, spinal cord, or other nerves can lead to a number of symptoms. These include paralysis, muscle weakness, poor coordination, loss of sensation, convulsions, confusion, pain, and changes in consciousness. There are many recognized neurological diseases in medicine, some of which are relatively common, while others present with very rare symptoms. They can be assessed through neurological examination and studied and treated within the specialties of neurology and clinical neuropsychology. Interventions for neurological diseases include preventive measures, lifestyle changes, physiotherapy or other therapies, neurorehabilitation, pain management, medications, surgery performed by neurosurgeons, or a specific diet. The World Health Organization estimated in 2006 that neurological disorders and their consequences (direct consequences) affect about one billion people worldwide, and identified health inequalities and social stigma/discrimination as major factors leading to disability and its impact. The brain and spinal cord are enclosed by tough membranes. However, when the brain is surrounded by the bones of the

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skull and spinal cord and its chemical insulation by the blood-brain barrier is disrupted, the brain becomes more vulnerable. Nerves lie deep beneath the skin, but they can be injured at any time. Individual neurons, neural circuits, and the nerves they form are susceptible to electrochemical and structural damage. Neuroregeneration can occur in the peripheral nervous system, and thus can overcome or repair injuries to some extent, but this is a rare occurrence in the brain and spinal cord. The specific causes of neurological problems can vary. However, they are classified as genetic disorders, congenital anomalies or diseases, infections, lifestyle or environmental health problems, including malnutrition, brain injury, spinal cord injury, nerve damage, or gluten sensitivity (with or without intestinal damage or digestive symptoms). Metal poisoning, in which metals accumulate in the human body and disrupt biological processes, has been reported to cause neurological problems, at least in the case of lead. A neurological problem may begin in another body system that interacts with the nervous system. For example, cerebrovascular disease involves brain damage caused by problems with the blood vessels that supply the brain (the cardiovascular system); autoimmune diseases involve damage caused by the body's own immune system; and lysosomal storage diseases, such as Niemann-Pick disease, can lead to neurological disorders. In a small number of cases of neurological symptoms, no neurological cause can be identified using current testing procedures. In general, many neurological diseases may be caused by a previous, clinically unrecognized viral infection. For example, it is thought that initially asymptomatic infection with Hepatitis E virus can trigger neurological diseases. Insufficient repair of DNA damage can lead directly to cell death and neuronal loss, as well as to disruption of the pattern of epigenetic modifications required for normal neuronal function.

Modern medicine has in its arsenal many methods of diagnosing diseases to combat nervous diseases. The following are most often used to diagnose a disease on a nervous basis: electroneuromyography, magnetic resonance imaging, electroencephalography, polysomnography and much more. Today, the most common complaints associated with diseases of the nervous system are: back and neck pain, fainting, chronic headaches, memory impairment, convulsions, poor sleep, various memory problems. But it should not be forgotten that one of the most important areas of neurology is the prevention of strokes and

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other heart diseases caused by nerves. Nervous diseases are very dangerous for human health and life. It is worth remembering some dependencies: heart disease on a nervous basis inevitably leads to a deterioration in the functioning of other organs and systems, and vice versa. It should also be remembered that a nervous disease may appear, which at first glance is completely unrelated to nervous diseases. Nervous heart disease, the names of which are listed below, develops slowly (and the patient does not initially pay attention to any symptoms) or, conversely, very quickly. Infections, the development of traumatic tumors, vascular diseases and severe heredity are the main factors that increase the risk of developing dangerous diseases arising from nerves.

What are the symptoms of nervous diseases? Symptoms vary:

a) Motor: paralysis, paresis, lack of coordination of movements, tremor of the limbs. b) Sensory: prolonged headaches (migraines), pain in the section spine, back, as well as neck, impaired vision, taste, hearing. c) Others: hysterical and epileptic seizures, fatigue, sleep disorders, fainting, speech disorders, etc.

Now let's look at the names of nervous diseases, as well as their symptoms. The most common nervous diseases In the field of medicine, there are many different diseases caused by nervous tension, stress and depression. What are the most common neurological diseases? We will answer this question below.

1) Arachnoiditis is a disease that occurs on a nervous basis, which is characterized by an inflammatory process in the network of vessels covering the human brain - a kind of arachnoid membrane in the brain. The causes of this nervous disease are: various traumatic brain injuries, intoxication of the body and infection that has entered the membrane of the cerebral cortex. Arachnoiditis is divided into several types: anterior and posterior cranial, basal and spinal.

2) Meningitis is an acute inflammatory process in the mucous membrane of the brain, which is included in the category of nervous diseases in women and men. Symptoms are: fever, unbearable headache, vomiting and nausea that do not bring relief, muscle tone disorders. At the first symptomatology, urgent hospitalization of the patient is necessary! After that, the patient is given a spinal puncture with subsequent strict treatment of the disease. Meningitis is a very serious disease that requires urgent treatment.

3) Migraine: What is a neurological disease that causes frequent headaches? Most likely, in this case we are talking about migraine - a neurological disease

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that manifests itself as sharp and severe pain in one half of the head, although bilateral migraines can also occur. Symptoms of this neurological disease include: irritability, drowsiness, which are replaced by unbearable sharp headaches, nausea and frequent vomiting, as well as numbness of the limbs. Note that migraine can become one of the most complex diseases of the nervous system. Currently, there are no radical methods of treating migraine, for this disease a specialist prescribes special medications.

4) Myelitis is a disease that occurs when the inflammatory process in the spinal cord affects the white and gray matter. Symptoms of myelitis include: high fever, malaise, weakness, pain in the spine, legs, back, urination disorders. Diagnosis and further therapy are determined by the doctor after passing all the necessary tests.

5) Stroke is the final stage in the development of a disease of the nervous system, which involves impaired blood circulation in the brain. During this disease, blood flow to some areas of the brain decreases or completely stops going there. At the same time, experts indicate that there are two types of stroke: Ischemic, which occurs as a result of a violation of the passage of blood through the arteries to the brain cells.

6) Stroke is the final stage of the development of a disease of the nervous system, which involves impaired blood circulation in the brain. During this disease, blood flow to some areas of the brain decreases or completely stops going there. At the same time, experts indicate that there are two types of stroke: ischemic, which occurs as a result of a violation of the passage of blood through the arteries to the brain cells. Hemorrhagic, which occurs due to bleeding in the brain.

Symptoms of a stroke include: headache, accompanied by nausea and vomiting, palpitations, disorientation in space and time, loss of consciousness, excessive sweating, a feeling of heat. Treatment of the disease is aimed at preventing relapse and normalizing blood flow to the brain. The hemorrhagic type of stroke requires only surgical intervention.

Peripheral nervous system disorders: An important issue in neurology is diseases of the peripheral nervous system. Such a disease occurs in almost half of patients who complain of nervous disorders. Depending on the affected areas, diseases of the peripheral nervous system are divided into the following types:

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- a) Sciatica: diseases of the roots located in the spinal cord.
- b) Plexitis - a violation of the functioning of the nerve plexuses.
- c) Ganglionitis - a disease associated with the sensory nerve nodes.
- e) Neuritis - inflammation of the cranial and spinal nerves.

Neuropathy is: Neuropathy (neuritis) is a nerve disease that develops as a result of an inflammatory process in the nerve. There are several types of the disease: neuritis of the facial nerve, small radial and tibial nerves. The main symptom of this disease of the nervous system is numbness of the face or upper or lower extremities. Most often it develops from hypothermia, the cause of the disease is also compression or inflammation of the nerve.

To prevent diseases of the peripheral nervous system, you should carefully monitor your health: do not get cold often, avoid injuries, limit the effects of pesticides on the body, and also do not abuse tobacco and alcohol.

Neuropsychiatric diseases: It is also necessary to highlight mental and related nervous diseases. The features and their symptoms are discussed in detail below.

Psychoses: Psychosis is a type of neuropsychiatric disease that develops when receiving mental trauma. In addition, they can develop after infectious diseases, overwork, insomnia, and head injuries. In this case, patients require hospitalization, special care, and treatment with special psychotropic drugs.

Epilepsy: Epilepsy is a nervous disease caused by changes in the brain. Signs of this mental disease: confusion, foaming at the mouth, convulsive (epileptic) seizures. Treatment is carried out with the help of medications and special therapeutic procedures.

Brain edema: Mental disorders can occur, the basis of which is the formation of edema in the body. Patients with such mental and nervous diseases may experience severe fatigue, memory impairment, headaches, speech disorders, and even loss of consciousness. Patients need special constant care, therapy is carried out by neurosurgical methods. Progressive paralysis: Progressive paralysis is a disease that manifests itself when the brain is damaged by pale spirochetes. At the initial stage of the disease, the following symptoms are observed: deterioration of performance and memory, fatigue, speech disorders, irritability, the development of dementia. If you start progressive

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paralysis, after a few years the disease will lead to a state of insanity, and then death.

Specifics of diagnosis and treatment

Of course, if you open a wound, you will contact a specialist, not a psychologist. And the same thing with migraines: doctors, of course, often suspect a psychosomatic nature in this disease, but there can be a lot of reasons for headaches. Sometimes a simple runny nose is just a runny nose. In general, organic diseases should be excluded. As a rule, good therapists and specialized doctors should work with a patient with a nervous disease or functional disorders in conjunction with a neurologist or psychotherapist (and maybe even a psychiatrist). If we talk specifically about the diagnosis and treatment of diseases that arise on a nervous basis, then the methods are always different. As mentioned above, in most cases, if such diseases are suspected, specialists prescribe their patients to undergo an MRI of the brain, a general blood test. Based on the studies obtained, a diagnosis should be made. Only after that a qualified doctor will prescribe the appropriate treatment, prescribe medications, vitamin complexes and prescribe some physiotherapy procedures. Often with such a pathology, patients turn to a psychotherapist or psychologist.

Conclusion: In conclusion, it is worth noting that the symptoms and signs of nervous diseases should not be ignored. Sometimes even a simple headache can indicate the development of a serious disease that has a nervous basis. In this case, do not ignore the problem, otherwise the consequences will be even worse.

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