

Nervous System Disorders

Your Monthly Dose of Neurological Wellness

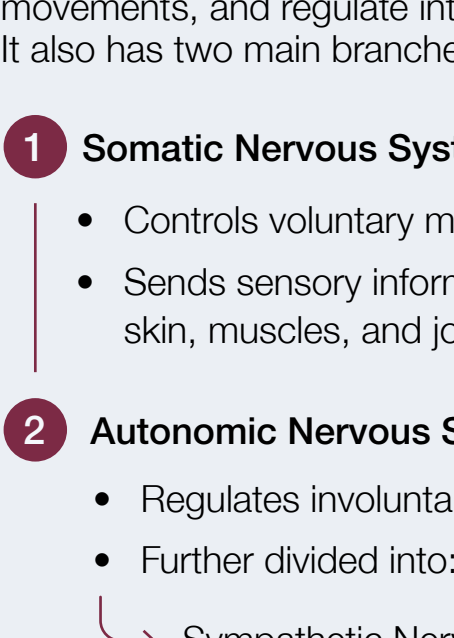
What is the nervous system?

The nervous system is the body's communication and control centre. It is a complex network of nerves and cells that carry messages between the brain, spinal cord, and the rest of the body. It helps you think, feel, move, and respond to your environment.

Main functions:

- Sensation: Detects changes inside and outside the body (like temperature, pain, or light).
- Integration: Processes and interprets sensory input and makes decisions.
- Response: Triggers actions in muscles or glands (e.g., moving your hand away from something hot).

Structure and function of the nervous system:

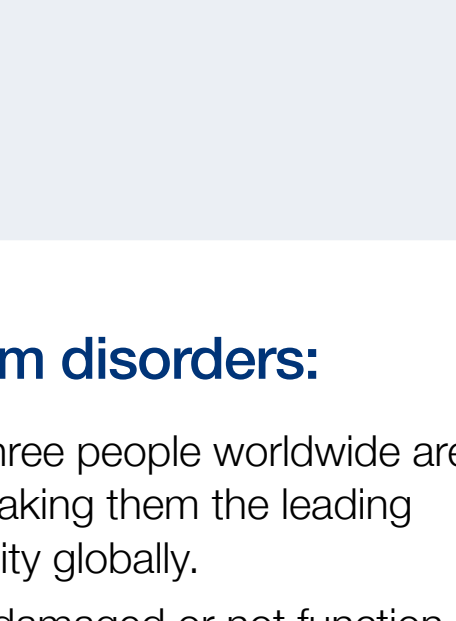


Central Nervous System

- Brain: Controls thoughts, memory, emotions, and voluntary movement.
- Spinal Cord: Transmits signals between the brain and the body; also handles reflexes.

Peripheral Nervous System

The PNS serves as a vital communication link between the central nervous system (CNS) and the rest of the body. It enables us to detect stimuli, control muscle movements, and regulate internal organs. It also has two main branches:



1 Somatic Nervous System (SNS):

- Controls voluntary movements of skeletal muscles.
- Sends sensory information (like touch, pain, temperature) from the skin, muscles, and joints to the CNS

2 Autonomic Nervous System (ANS):

- Regulates involuntary functions like heart rate, digestion, and breathing.
- Further divided into:

↳ Sympathetic Nervous System ("fight or flight")

Parasympathetic Nervous System ("rest and digest")

[Read more](#)

Common nervous system disorders:

According to WHO studies, over one in three people worldwide are affected by neurological conditions, making them the leading cause of illness and disability globally.

When any part of the nervous system is damaged or not functioning properly, it can lead to serious disorders that impact movement, sensation, cognition, and other vital functions.

Below are some of the most common nervous system disorders:



Stroke (Cerebrovascular Accident)

Description: Sudden interruption of blood supply to the brain

Symptoms:

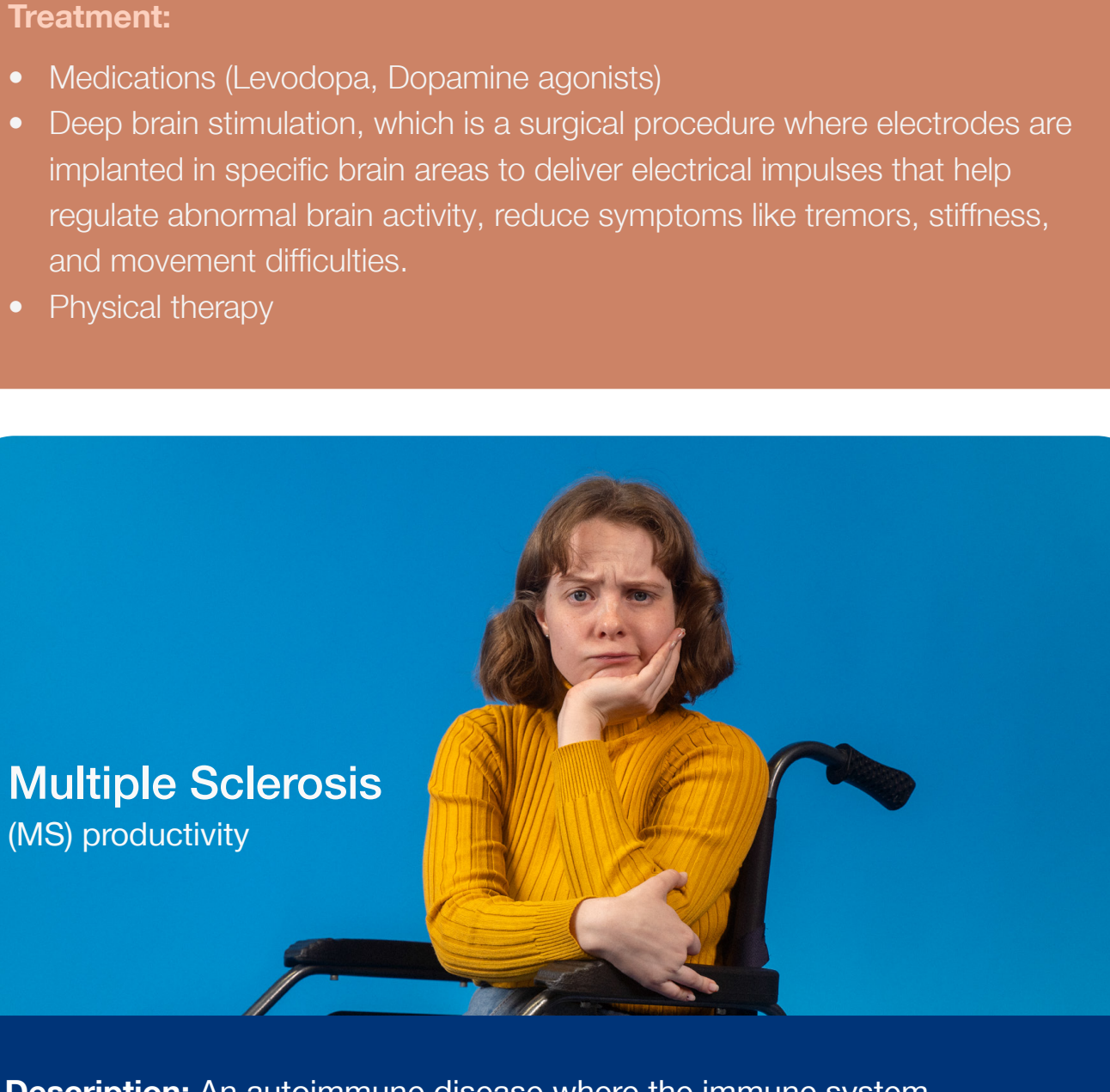
- Sudden numbness or weakness (especially on one side)
- Confusion, slurred speech
- Loss of balance or coordination

Causes:

- Blood clot (ischemic stroke)
- Bleeding in the brain (haemorrhagic stroke)

Treatment:

- Clot-busting medications
- Surgery (for haemorrhagic stroke)
- Rehabilitation therapy



Epilepsy

Description: A neurological disorder marked by recurrent seizures

Symptoms:

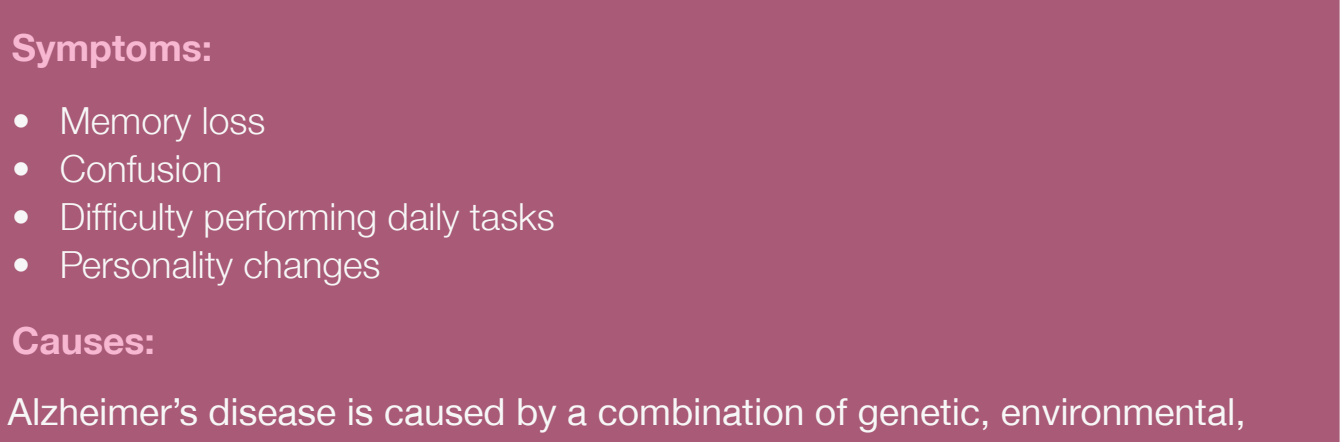
- Uncontrolled muscle movements
- Loss of consciousness
- Sensory disturbances

Causes:

- Genetic factors
- Brain injury
- Infections (e.g., meningitis)

Treatment:

- Antiepileptic medications that help prevent or reduce the frequency of seizures.
- Surgery (in some cases) is suitable for localised (focal) epilepsy with a clearly identified seizure focus.
- Vagus nerve stimulation to reduce seizure frequency and severity over time.



Parkinson's disease

Description: A progressive brain disorder affecting movement

Symptoms:

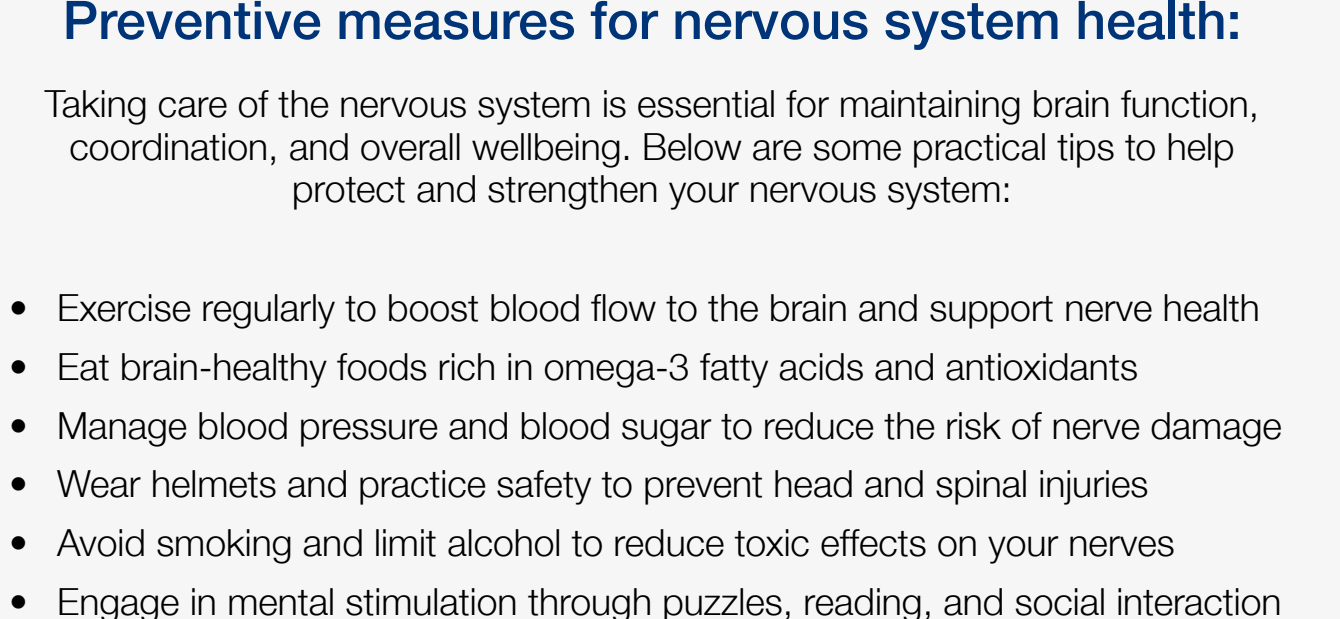
- Tremors at rest
- Muscle stiffness
- Slow movement (bradykinesia)
- Balance problems

Causes:

- Loss of dopamine-producing brain cells
- Likely genetic and environmental triggers

Treatment:

- Medications (Levodopa, Dopamine agonists)
- Deep brain stimulation, which is a surgical procedure where electrodes are implanted in specific brain areas to deliver electrical impulses that help regulate abnormal brain activity, reduce symptoms like tremors, stiffness, and movement difficulties.
- Physical therapy



Multiple Sclerosis (MS) productivity

Description: An autoimmune disease where the immune system attacks the protective covering of nerves.

Symptoms:

- Vision problems
- Muscle weakness
- Fatigue
- Numbness or tingling

Causes:

- Exact cause unknown (likely genetic + environmental)

Treatment:

- Immunomodulatory medications to reduce brain inflammation and immune overactivity.
- Corticosteroids to manage co-existing inflammation.
- Physical therapy that helps maintain mobility, balance, and strength.

Alzheimer's disease

Description: A progressive disease that destroys memory and cognitive functions Symptoms:

Symptoms:

- Memory loss
- Confusion
- Difficulty performing daily tasks
- Personality changes

Causes:

Alzheimer's disease is caused by a combination of genetic, environmental, and lifestyle factors. Key contributors include aging, family history, accumulation of harmful brain proteins (amyloid plaques and tau tangles), cardiovascular issues (like high blood pressure and diabetes), head injuries, chronic inflammation, poor lifestyle habits (such as smoking and lack of exercise), and sleep disorders.

Treatment:

- Cholinesterase inhibitors: Medications work by increasing levels of acetylcholine, a brain chemical important for memory and thinking. They help improve or stabilise symptoms in mild to moderate Alzheimer's cases.
- Support programmes: To help patients stay independent and improve quality of life through routines, reminders, mental exercises, and caregiver guidance.
- Cognitive therapy: A form of mental training that stimulates thinking, memory, and communication skills. It includes activities like puzzles, conversation, and problem-solving tasks to slow cognitive decline and support brain function.

Other notable disorders:



Migraine

Chronic headaches with visual disturbances



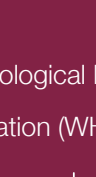
Peripheral Neuropathy

Nerve damage causing pain and numbness in limbs



Meningitis

Inflammation of the brain/spinal cord membranes



Amyotrophic Lateral Sclerosis (ALS)

Motor neuron degeneration

Preventive measures for nervous system health:

Taking care of the nervous system is essential for maintaining brain function, coordination, and overall wellbeing. Below are some practical tips to help protect and strengthen your nervous system:

- Exercise regularly to boost blood flow to the brain and support nerve health
- Eat brain-healthy foods rich in omega-3 fatty acids and antioxidants
- Manage blood pressure and blood sugar to reduce the risk of nerve damage
- Wear helmets and practice safety to prevent head and spinal injuries
- Avoid smoking and limit alcohol to reduce toxic effects on your nerves
- Engage in mental stimulation through puzzles, reading, and social interaction
- Get regular checkups for early detection of any neurological issues

Mental health & the nervous system

Chronic stress, depression, and anxiety directly impact the nervous system by increasing cortisol levels, reducing neurogenesis, and altering brain structure over time.

Tip:

Practice mindfulness, get adequate sleep, and seek help when needed. Neurological disorders can affect anyone at any age. Understanding them is the first step toward prevention, early detection, and management. Stay informed and take proactive steps to protect your nervous system.

References:

National Institute of Neurological Disorders and Stroke (NINDS)

World Health Organization (WHO): Neurological Disorders

Alzheimer's Association

Multiple Sclerosis Society

Overview of Nervous System Disorders

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