

# Motor Neuron Diseases

National Institute of Neurological Disorders and Stroke (NINDS)

## Source

*National Institute of Neurological Disorders and Stroke (NINDS). [Motor Neuron Diseases Information Page](#).*

The motor neuron diseases (MNDs) are a group of progressive neurological disorders that destroy cells that control essential muscle activity such as speaking, walking, breathing, and swallowing. Normally, messages from nerve cells in the brain (called *upper motor neurons*) are transmitted to nerve cells in the brain stem and spinal cord (called *lower motor neurons*) and from them to particular muscles. When there are disruptions in these signals, the result can be gradual muscle weakening, wasting away, and uncontrollable twitching (called fasciculations). Eventually, the ability to control voluntary movement can be lost. MNDs may be inherited or acquired, and they occur in all age groups. MNDs occur more commonly in men than in women, and symptoms may appear after age 40. In children, particularly in inherited or familial forms of the disease, symptoms can be present at birth or appear before the child learns to walk.

The causes of sporadic (noninherited) MNDs are not known, but environmental, toxic, viral, or genetic factors may be implicated. Common MNDs include amyotrophic lateral sclerosis (ALS), progressive bulbar palsy, primary lateral sclerosis, and progressive muscular atrophy. Other MNDs include the many inherited forms of spinal muscular atrophy and post-polio syndrome, a condition that can strike polio survivors decades after their recovery from poliomyelitis.