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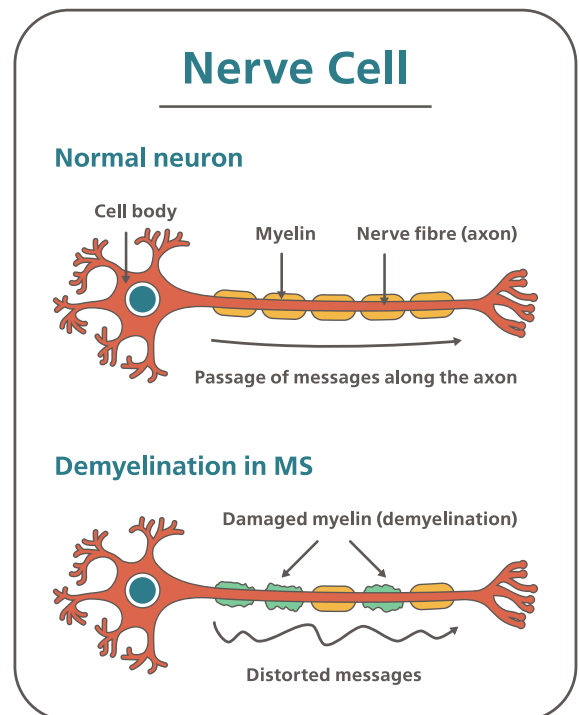


Multiple Sclerosis

What is Multiple Sclerosis?

Multiple sclerosis (MS) is believed to be an autoimmune disease in which the body mistakenly destroys its own myelin, the protective sheath that encases a nerve fiber (also called the axon) much like the insulation the surrounds electrical wire. A nerve's electrical impulses are transmitted to other nerve cells via its tail-like axon. The term "multiple sclerosis" comes from the multiple areas of scarring (sclerosis) that occurs when the nerve fibers of the brain or spinal cord lose sections of myelin. These scarred segments form hardened lesions blocking nerve impulse transmission.

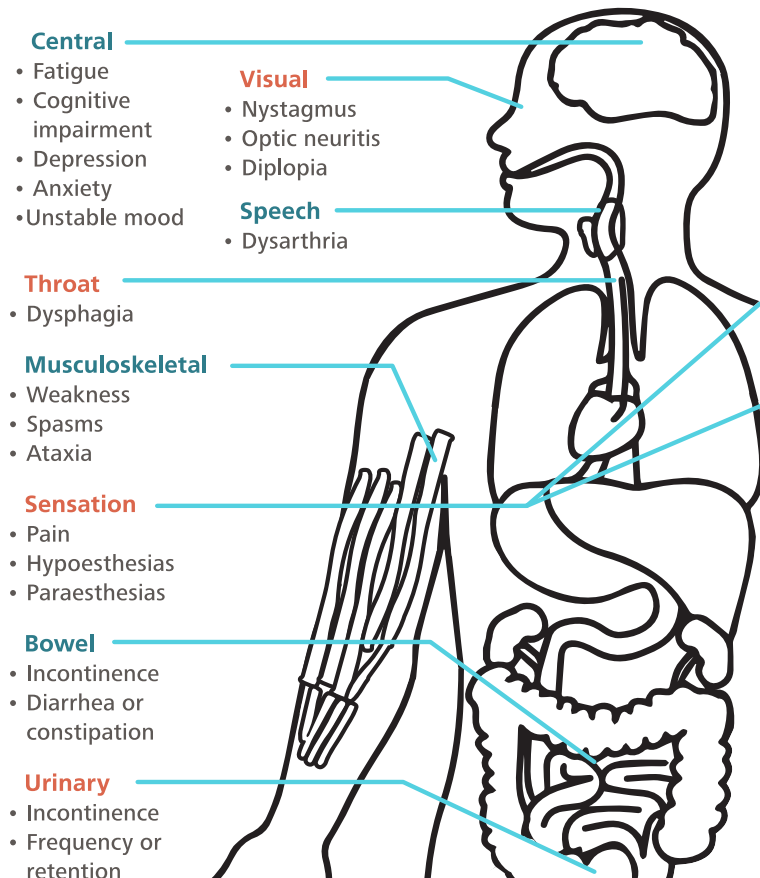
Multiple sclerosis is dialing, affecting the central nervous system (brain, spinal cord, and optic nerve). Multiple sclerosis is not a psychological disorder or mental disease, although in some cases cognitive dysfunction may occur.



Multiple sclerosis is rarely fatal, although people with advanced cases may be more susceptible to infections and other complications which could cause premature death. The projected life span for most people with multiple sclerosis is 93% of the non-MS population.

Multiple Sclerosis | Cause and Symptoms

MAIN SYMPTOMS OF MS



What Does Multiple Sclerosis Feel Like?

Signs of multiple sclerosis can be very different from person to person. They may even change over time in the same person. Symptoms often include one or more of the following: muscle stiffness / spasm, tremor, discordination, weakness, burning, numbness, memory loss, and tingling in the face and/ or limbs, paralysis, bowel, bladder or sexual dysfunction and/or vision changes such as blurred, partial or complete loss.

Causes of Multiple Sclerosis

No one knows what causes multiple sclerosis or triggers the immune system's response. MS sometimes runs in families. Researchers theorize that people pre-disposed to MS may develop the ailment years after exposure to a virus or other environmental factors.

Who Gets Multiple Sclerosis?

Twice as many women as men develop multiple sclerosis. Approximately two-thirds of those people who have MS experience their first symptoms between the ages of twenty and forty. Less frequently, diagnosis is not made until the person is in his or her forties, fifties or later. The disease is also found more among people of Western European heritage and in temperate, rather than tropical, climates. Multiple sclerosis is not contagious.

Multiple Sclerosis | Patterns and Testing

Disease Patterns:

There are four distinct patterns of progression of multiple sclerosis:

Relapsing-remitting:

Characterized by clearly defined acute attacks with full recovery or with sequelae and residual deficit upon recovery. Patient experiences periods between disease relapses characterized by a lack of disease progression.

Primary progressive:

Characterized by showing progression of disability from onset without plateaus or remissions or with occasional plateaus and temporary minor improvements.

Secondary progressive:

Begins with an initial relapsing-remitting disease course, followed by progression of variable rate which may also include occasional relapses, minor remissions and plateaus.

Progressive-relapsing:

Shows progression from onset but with clear cut relapses with or without full recovery.

Two thirds of people who have MS **will not lose the ability to walk**, though many of these people will eventually require some mobility to get around.

Around 85% of people with MS have **Relapsing-remitting MS**

Around 400,000 Americans, and 2.5 million people globally, live with MS. It is most commonly diagnosed in adults in ages 20 to 40.

Testing

Diagnostic tools available to diagnosis and monitor multiple sclerosis would include:

Magnetic Resonance Scans (MRI)

which provides images of the brain and can show evidence of tumor, stroke, scarring or injury.

Visual Evoked Response (VER)

measures electrical response to a stimulus where as the optic nerve function is evaluated by either a strobe light or a screen with a checkerboard pattern.

Optical Coherence Tomography (OCT)

Non-invasive imaging test using light waves to take cross-section pictures of your retina to evaluate and monitor disease progression.

Lumbar Puncture (LP) or Spinal Tap

is a procedure whereas a needle is inserted into the spinal canal to withdraw cerebrospinal fluid which is analyzed to help diagnose infections of the brain or spinal column.

Multiple Sclerosis | Coping and Treatment

Coping with Multiple Sclerosis

Multiple sclerosis is a lifelong illness; its unpredictable nature makes it difficult to deal with. Keeping up connections to other people, continuing to work where possible and staying active are very important.



Treatment

There is no cure for multiple sclerosis.

Treatment goals for MS are to:

- 1) Reduce the length and severity of attacks
- 2) Decrease the number of attacks and slow disease progression
- 3) Manage symptoms associated with MS.

Medications have been developed which may slow the progression of the disease in some patients. There are many choices for treatment of MS, including both oral and injectable medications. These medications are delivered via either by subcutaneous or intramuscular injection. Side effects to these medications may include fever, chills, sweating, muscle aches, fatigue and injection site reactions (burning/redness/swelling). Other medications provide symptomatic relief during exacerbation: Prednisone, Amantadine, Ritalin, Baclofen, Zanaflex and others.

Resources

We encourage all patients to access information and learn more about their illness.

For additional information you may visit our website www.cnmri.com/multiple-sclerosis/