How is Multiple Sclerosis Diagnosed?

There is no single diagnostic test that is proof-positive for multiple sclerosis. There is a set of accepted criteria for MS diagnosis, but even this system is imperfect. Since diagnosing MS can be very difficult, it must be done by a neurologist who specializes in treating MS. As many as 10 percent of people diagnosed with multiple sclerosis actually have some other condition that mimics MS.

Examples of other conditions that masquerade as MS include inflammation in the blood vessels, multiple strokes, vitamin deficiency, and brain infection. Sometimes stress-related disorders can lead to a misdiagnosis of MS.

What are the accepted criteria for diagnosis?

- Onset usually between 10 and 60 years of age
- Symptoms and signs indicating lesions of central nervous system white matter
- Evidence of two or more lesions upon examination by MRI scan (see below)
- Objective evidence of central nervous system disease on neurological examination
- A course following one of two patterns: two or more episodes lasting at least 24 hours and occurring at least one month apart, or a progressive course of signs and symptoms over at least six months
- No other explanation for the symptoms

How will I be diagnosed?

An accurate diagnosis is based on your medical history and neurological examination using tests of nervous system function. Much depends on the skill of the doctor in asking the right questions to uncover information and to properly evaluate the signs and symptoms of a malfunctioning nervous system.

In addition to a thorough medical history and neurological examination, a variety of specialized procedures are helpful – although not always necessary – in accurately diagnosing MS. These include imaging techniques such as magnetic resonance imaging (MRI), spinal taps (examination of the cerebrospinal fluid that runs through the spinal column), evoked potentials (electrical tests to determine if MS affects nerve pathways), and laboratory analysis of blood samples.

What does an MRI show?

The precise image produced by MRI gives the neurologist clear evidence of scar tissue in the deep parts of the brain or spinal cord that is characteristic of MS.

However, abnormal spots on the brain MRI can be caused by other conditions, so these images
must be interpreted by the neurologist in light of all information about the patient. Similar lesions can be seen in elderly people or people with migraine headaches or high blood pressure. Confirming a diagnosis of MS and ruling out other possible causes requires expert interpretation of the MRI scan.

**Will I need a spinal tap?**
Performing a spinal tap to examine the cerebrospinal fluid might be helpful in diagnosing MS in some people, but it is no longer considered necessary in all instances. An experienced MS team will be able to determine if you need this test to confirm a suspected diagnosis of MS, particularly if your history and physical examination suggest the presence of the disease. Abnormalities that might appear in the cerebrospinal fluid can be very helpful in establishing a diagnosis but, like other tests, spinal taps are not foolproof in diagnosing MS.

**What other tests might be done?**
Electrical tests of the nerve pathways, known as evoked potentials, are very helpful in confirming whether MS has affected the visual, auditory, or sensory pathways. These tests are done by placing wires on the scalp to test the brain’s response to certain types of stimulation, such as watching a pattern on a video screen, hearing a series of clicks, or receiving electrical impulses in your arm or leg.

Your doctor might order a blood test to help rule out conditions that imitate multiple sclerosis, but the presence of MS cannot be detected in the blood.