The Role of Exercise in Multiple Sclerosis
By Amy Newhart

According to the Mayo Foundation for Medical Education and Research, Multiple Sclerosis (MS) is a chronic, potentially debilitating disease that affects the central nervous system (the brain and spinal cord). MS causes an inflammation and breakdown of the myelin sheath that normally surrounds and protects nerve fibers in the central nervous system. The underlying nerve fiber may also be damaged. The result of the inflammation, injury to the sheath and nerve may be multiple scarring (sclerosis). The damage slows or blocks muscle coordination, visual sensation and other nerve signals. It is similar to an electrical wiring short circuit.

Symptoms/Warning Signs

The disease is more likely diagnosed in women than men with onset typically occuring from ages 20-40. Various symptoms and warning signs of the central nervous system dysfunction characterize the disease. Most common symptoms range from numbness and tingling in the extremities or face, tingling, muscle spasms, poor bladder control, poor vision, paralysis, and more. MS can also affect the ability to remember, solve problems, or concentrate. MS symptoms may come and go, or become permanent.

MS is a “relapsing-remitting” disease. Commonly, there are flare-ups or relapses when symptoms become worse, followed by remissions or recovery when symptoms lessen. Relapses, if they occur, generally happen in the beginning stages of the illness. Most people experience a more steadily progressive form of the disease with few or no relapses. Depending on the individual, this takes place over months or years. All forms of MS may stabilize at any time.

Diagnosis

According to the Merck Manual of Diagnosis and Therapy, “Diagnosis is indirect, by deduction from clinical and laboratory features. Typical cases can usually be diagnosed confidently on clinical grounds. The diagnosis can be suspected after a first attack. Later, a history of remissions and exacerbations and clinical evidence of the Central Nervous System lesions disseminated in more than one area are highly suggestive. In the event you are experiencing some of the symptoms listed above, do not hesitate to contact your physician. Your internist will more than likely recommend you see a neurologist who will then perform a series of tests. Based on those results, an MRI may be the next step. An MRI, the most sensitive imaging technique may show treatable lesions on your spinal cord and the brain indicating the cause of your symptoms. MS lesions may also be detected on a contrast- enhanced CT scan. Following the recommended tests by your physician, a consultation regarding the findings will take place. Once the diagnosis has been confirmed, your physician will present treatment options.

Treatment

Unannounced remissions and fluctuating symptoms can make evaluation of treatments difficult. Today, there are “disease-modifying” medications, according to the National Multiple Sclerosis society, that can help slow down the process of MS. However, none of them cures MS. In most cases, it is best to begin treatment as soon as possible. Depending on the stage of the disease, higher doses of medications may delay the onset of MS. The drug “Interferon has been shown to reduce the frequency of relapses in MS and may delay eventual disability", according to the Merck Manual of Diagnosis and Treatment. The patient should maintain as normal and active a lifestyle as possible but should avoid fatigue, overwork,

and exposure to excess heat. The National Multiple Sclerosis Society and the Merck Manual of Diagnosis and Treatment recommend “regular exercise” even for patients with a more advanced stage of the disease.” What kind of exercise should be your next question? Be sure to ask your physician for information about all current treatments for MS and for any symptoms you may be experiencing. A list of Multiple Sclerosis resources is provided at the end of this article.

The Role Exercise Plays for People Living with Multiple Sclerosis

We hear it everywhere - regular exercise is good for the body, mind and spirit. Exercise reduces the risk of cardiovascular disease, lowers blood pressure, raises the good HDL cholesterol, helps to control weight, and cuts the risk of diabetes. It helps to protect against osteoporosis, and certain types of cancer. Exercise has been proven to even reduce stress.

However, what does it mean to someone living with MS, when fatigue and weakness are everyday facts of life? Consult with your physician prior to beginning an exercise routine, with a thorough understanding of special cautions and instructions. Exercise only with a physician's approval. Choose something you like to do, you will be more apt to stick with it. Start slowly, increase your activity level only when you feel your body is ready, and don’t overdo it.

Research provided by the National MS Society shows,
“A study taken in 1996, people with mild to moderate disability from MS, conducted under the supervision of Jack Petajan, MD, PhD, an MS specialist at the University of Utah, demonstrated the payoffs.” “Regular aerobic exercise – exercise vigorous enough to raise the pulse and respiration rate – increased fitness, arm and leg strength, workout capacity, and improved the participants’ bladder and bowel control. People in the study also reported reduced depression, reduced muscle atrophy, fatigue, and anger.” Other studies have shown, people with MS-related problems, and have benefited from reduced spasticity and poor balance when having exercised. In addition, strength training builds a reserve of muscle strength, in the event of an attack and calls for a time out from exercise; there is a reserve of strength available.

Types of Training

- Cardiovascular (i.e., swimming, walking, stationary or recumbent bicycle) to increase stamina, circulation, and respiration
- Strength Training to improve function, and decrease muscle atrophy
- Stretching to reduce muscle tightness and increase flexibility
- Yoga to focus on breathing with movements that can stimulate and calm the body
- Balance programs with a qualified instructor
- Recreation exercises such as rowing, sailing benefits include periods of rest
- Adaptive sports such as golf and tennis with modified rules

Important Considerations When Exercising

Each person living with MS is affected differently from the very beginning. From the severity of the symptoms to how your body reacts to exercising, remember to work within your limitations and stay positive! Exercise is hard for everyone, including those people who have been spared by this disease.

- Safety is important. Learn how to exercise correctly, work within your own limitations physically and when it comes to knowledge and ability.
- Don't overdo it. Start slowly and increase your activity level gradually. Overdoing it can bring about fatigue and increase your risk of injury. Avoid exhaustion. Stop and take a break for a while, then proceed later or another day.
- Heat Sensitivity can induce fatigue, loss of balance, and visual blurring. Heat leads to poor nerve conduction. Work in a cool environment, if outdoors, exercise in the morning. Wear appropriate clothing.
- Drink water and stay hydrated. Sports drinks are recommended when problems with incontinence occur.
- Incontinence: Loss of bladder and bowel control. Empty bladder before exercising
- Spasticity/ Tremors: Be sure to choose supportive equipment, like a recumbent (seated) bicycle or when strength training use machines instead of free weights. Avoid gyms that are not air-conditioned.
- Balance/Coordination: Problems in this area can lead to dangerous falls choose exercises that will help to support you.
- Ask for help from a professional.
- Medication: Beware of the side affects of you medication. Medication has been shown to affect muscle strength, muscle coordination, and energy level.
- Warm up and Cool down: Warm ups start blood flow to the muscles and alerts your body your getting ready to use it.

Some people may experience numbness, tingling, or blurred vision, these symptoms are temporary. Be aware and stop exercising if you have to. For general cardiovascular guidelines refer to the resources on the last page of this article. There are plenty of resources and support groups available to help with any questions, such as how to deal with fluctuating symptoms or tremors. Ask questions and remember you're not alone. There is reason to take it slowly and don't fight the body to overcome weakness. We all have an opportunity to do what we can to live in good health.