

What is a Pseudoexacerbation?

A pseudoexacerbation is a temporary worsening of symptoms without actual myelin inflammation or damage, brought on by other influences. Examples include other illnesses or infection, exercise, a warm environment, depression, exhaustion, and stress. When symptoms flare, checking for a fever is important, since even a minor infection and slight increase in temperature can cause symptoms to appear.

Urinary tract infection (UTI) is the most common type of infection to cause a pseudoexacerbation. Additionally, people with “heat-sensitive” MS will experience a temporary increase in symptoms when their body temperature rises, often after exercise. Heat-sensitive individuals should avoid hot tubs, saunas, or other situations that can raise the body’s temperature.

If you experience a worsening of symptoms, or the appearance of new ones, try to keep in mind the different factors that can cause a pseudoexacerbation. Consider how you have been feeling (including illness, depression, exhaustion, or stress), the various activities you have been doing (such as exercise or over-activity), and if you have been in a warmer environment.

The information in this brochure was reviewed by MSAA Chief Medical Officer Jack Burks, MD and by MSAA Healthcare Advisory Council Member Amy Perrin Ross, APN, MSN, CNRN, MSCN.

This brochure provides a basic overview of MS relapses and treatment options. Additionally, individuals who experience relapses usually respond well to one of the FDA-approved disease-modifying therapies for MS, which often reduces the frequency and severity of MS relapses. Information about these therapies and questions to ask your doctor may be found on MSAA’s website at mysaa.org.

MSAA is a leading resource for the entire MS community, improving lives today through vital services and support.



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Understanding and Treating MS Relapses



What is a Relapse?

Relapses, also referred to as exacerbations, attacks, flare-ups, episodes, or bouts, are initially experienced by most people diagnosed with multiple sclerosis (MS). Relapses occur with relapsing-remitting, progressive-relapsing, and sometimes secondary-progressive forms of MS. Relapses do not occur with primary-progressive MS, although patients may experience day-to-day fluctuations in how they feel.

During a relapse, patients will have a temporary worsening or recurrence of existing symptoms and/or the appearance of new symptoms. Relapses range from a few days to a few months in length, followed by a complete or partial recovery (remission). Acute physical symptoms and neurological signs must be present for at least 24 to 48 hours, without any signs of infection or fever, before the treating physician may consider this type of flare-up to be a true relapse.

With relapses, inflammation is occurring along the nerves and the myelin. Myelin is the protective covering that insulates the nerves (axons) of the central nervous system (CNS) – a system that consists of the brain, spinal cord, and optic nerves. Magnetic resonance imaging (MRI) scans, enhanced by gadolinium (an injected dye), may show new active lesions and sometimes the reactivation of older lesions. This lesion activity indicates inflammation and the potential for damage to the myelin and nerves.

The information in this brochure is intended for general informational purposes only and it does not constitute medical advice. For diagnosis and treatment options, you are urged to consult your physician.



When to See Your Neurologist

Your neurologist may want to see you if your symptoms are severe or if your flare-up has continued for more than a day or two. The exam will typically include taking your temperature and a urine culture, to check for any signs of illness or infection. He or she will also perform a neurological exam to see what changes may have occurred since you were last seen.

If you have an illness or infection, this will need to be addressed before your symptoms will subside. If your neurologist determines that you are having a true relapse, he or she will then discuss possible treatment plans.

Although most relapses remit or resolve on their own over time, neurologists usually recommend treatment when the symptoms are severe enough to affect a person's ability to function normally. For instance, if you are having trouble with your vision, or if your mobility is greatly affected, these symptoms impact your daily activities. However, if you have less intrusive symptoms (as with a mild attack), such as numbness or slight spasticity, you and your neurologist may elect to use symptom-management strategies, reserving stronger treatments for a more severe relapse.

** The survey mentioned in the following section was conducted by the North American Research Committee on Multiple Sclerosis (NARCOMS).*

FDA-Approved Treatments

Relapses are usually treated with a high-dose course of powerful **corticosteroids** (a type of steroid) over a period of three to five days. These are given by intravenous (IV) infusion, providing the drug directly into the bloodstream for a quicker response. Administration may be performed in a hospital, infusion center, or sometimes at home.

As approved by the United States Food and Drug Administration (FDA), patients are often given methylprednisolone (Solu-Medrol®) to treat an MS relapse. In practice, doctors may sometimes prescribe the corticosteroid dexamethasone (Decadron®), in place of methylprednisolone. An oral steroid (prednisone) may be prescribed after the high-dose treatment to ease the patient off the treatment, tapered over one to two weeks. Corticosteroids work by reducing inflammation in the CNS. While they usually lessen the severity and duration of a relapse, they do not appear to affect the long-term progression of the disease.

Common side effects with short-term use of corticosteroids include increased blood sugar, water retention, acne, weight gain, anxiety, and difficulty sleeping. A temporary rise in energy may be experienced, along with an exaggerated feeling of happiness. Some individuals, however, may feel depressed. Long-term use is not recommended and can cause significant side effects, such as osteoporosis, decreased wound healing, and an increased risk of infections.

A patient survey* found that about one-third of patients do not respond adequately to corticosteroids. In such cases, individuals are encouraged to consult their neurologist about possible treatment options.

Acthar® Gel is also approved by the FDA to treat MS relapses and has been used as an alternative to corticosteroids for more than 30 years. This may be helpful for individuals who are not able to tolerate the side effects of steroids, who have found that previous treatments were not effective, or who may have difficulty getting timely medical support for IV infusions. Studies suggest that the effectiveness of Acthar Gel is similar to corticosteroids.

Acthar contains a highly purified form of the hormone adrenocorticotropin (ACTH) in gelatin. It is given once daily for two to three weeks and is injected either into the muscle or under the skin. This is then absorbed slowly into the bloodstream. Acthar works differently than corticosteroids by helping the body to produce its own natural steroid hormones that reduce inflammation and aid in recovery. Common side effects include infections, increased blood pressure, irritability, changes in appetite and weight, along with digestive problems.

Other Treatment Options

Plasmapheresis (plasma exchange or "PE") is not approved by the FDA specifically for MS relapses, but is sometimes used for individuals who are experiencing a severe relapse and are not responding to other treatments. With this procedure, blood is taken from the patient, cleansed of potentially toxic elements, and returned to the patient. More studies are needed to determine its effectiveness. A drop in blood pressure or fainting may occur during plasmapheresis.

Intravenous immunoglobulin (IVIG) therapy uses human immunoglobulin, an antibody derived from the blood of healthy donors. IVIG is not approved by the FDA specifically for the treatment of MS relapses. More studies are needed to determine its effectiveness. The precise mechanism by which IVIG suppresses harmful inflammation has not been definitively established. IVIG has a few rare but severe side effects.

Additional Treatment Information and Follow-Up

If symptoms of a relapse are mild, you may be able to cope with the flare-up by getting plenty of rest, using energy-saving strategies, and managing specific symptoms. If a relapse is more significant, your doctor will likely recommend treatment to quickly reduce symptoms and regain function.

Certain precautions need to be taken during and after treatment, such as monitoring blood sugar and blood pressure. Other plans should include arranging for assistance at home and for children, pets, and other important responsibilities. Consulting other professionals, if needed, in areas such as physical/occupational/speech rehabilitation, mental health, and continuing care, are all extremely helpful to put you safely and quickly on the road to recovery from a relapse.