Fatigue is a common symptom of multiple sclerosis (MS), affecting >75% patients. For most patients, fatigue constitutes one of the worst and most distressing symptoms of the disorder. Fatigue may occur in all clinical phenotypes of MS and affects patients of all ages. This symptom is an integral part of the disease process, usually is present at the time of diagnosis, and may be a primary presenting complaint. Fatigue is not closely related to physical signs of disability or magnetic resonance imaging markers of disease activity, but it may increase when the patient experiences a relapse. The etiology and pathophysiology of MS-related fatigue are unknown. Studies have not demonstrated an association between MS-related fatigue and the level of disability, clinical disease subtype, or sex.

Management strategies include medication, exercise, and behavioral therapy. There have been reports of beneficial effects of immunomodulatory drugs on fatigue; however, the efficacy of treatment remains disappointing.

The potential benefits of nonpharmacologic magnetic-field therapy, as reported in a recent meta-analysis, warranted further investigation, even though the mechanism of modulating MS-related fatigue is unknown. Therefore, we previously performed a randomized, double-blind controlled trial on the effect of a specific electromagnetic-therapy device (Bio-Electro-Magnetic-Energy-Regulation [BEMER], Innomed International AG, Triesen, Liechtenstein), which uses broadband, extremely weak, low-frequency pulsed electromagnetic fields (EMF), on patients with relapsing-remitting MS with major fatigue in an outpatient setting. The previous study showed that the level of fatigue, as measured by different fatigue scales, was significantly lower in the treatment than the placebo group after 12 weeks of treatment.