

# Initial highly effective therapy for MS

## A strong start

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### Related Article

#### Initial high-efficacy disease-modifying therapy in multiple sclerosis

A nationwide cohort study

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### How was this study done and why is it important?

In this issue of *Neurology*®, Buron et al.<sup>1</sup> present an article titled “Initial high-efficacy disease-modifying therapy in multiple sclerosis: A nationwide cohort study.” The goal of this study was to determine the best way to start therapy in patients with multiple sclerosis (MS). The authors examined starting patients on treatment known to be highly effective for MS known as high-efficacy disease-modifying therapies (heDMTs). They wanted to know if this approach is better than beginning with more moderate treatments (known as medium-efficacy disease-modifying therapies [meDMTs]) and intensifying treatment later if needed.

The study was performed in Denmark, and the authors used the Danish MS Registry (DMSR) to identify and follow patients. Health care in Denmark is financed by the government and is free for all citizens. The Danish government requires clinical data related to MS to be reported to the DMSR. Because of this, the DMSR includes nearly every patient in the country treated with a disease-modifying therapy (DMT). For this study, the researchers identified all patients listed in the DMSR who started their treatment with an heDMT, and compared their health outcomes with similar patients who started their treatment with an meDMT.

The current guidelines for MS treatment often recommend starting with an meDMT for patients with average disease activity. Later, an heDMT can be used if the patient has a poor response to the meDMT. An heDMT is often only used as the first therapy for patients thought to have more severe disease. To date, there is not much evidence to show that using more intensive therapy (heDMT) at the beginning of the treatment plan leads to better outcomes.

### What were the main findings?

A total of 388 patients with MS were enrolled in the study, and they were divided into 2 groups of 194 patients each. One group received initial therapy with heDMT. The other

received meDMTs at the beginning of their therapy. Most patients in the heDMT group were taking natalizumab (69%) or fingolimod (30%), 2 high-efficacy medications commonly used in MS treatment. Some other examples of heDMT medications that are currently used for MS include alemtuzumab, cladribine, and ocrelizumab.<sup>3</sup> The authors followed patients for 4 years, and found higher likelihood of disability progression in the medium efficacy group (30%) than the high efficacy group (17%). Patients starting heDMT also had a 50% lower chance of a first relapse of their MS. In short, this study showed that the group of patients who received an heDMT at the beginning of their treatment had better outcomes overall than patients who received an meDMT at the beginning of treatment.

The authors did not evaluate side effects or major risks such as infections related to DMT use in this study. Also, the race or ethnicity of the study population was not reported. These may be important factors that were not accounted for.

## What does this mean for patients with MS?

This study was based on data from a reliable MS registry in a health system that allows for universal access to health care, including DMTs. The results show that more effective therapy given to a person with MS early in treatment will likely improve disease outcomes over the long term. There also appeared to be a higher benefit of treatment with heDMTs for patients with the most active form of the disease.

These results are encouraging, but patients must still weigh the risks and benefits when choosing a DMT. Several DMTs have serious side effects that must be considered. We also need to know more about how treatment choice affects long-term MS progression.

Many health insurance plans in the United States have specific DMT guidelines or restrictions on DMT use. Patients therefore may not have access to heDMTs early in their disease course. Patients and their health care providers may have to advocate for more choice.

# About multiple sclerosis

## What is multiple sclerosis?

Multiple sclerosis (MS) is the most common progressive neurologic condition in young adults. It affects 914,000 people in the United States.<sup>1</sup> It has become more prevalent in North America over the last 50 years, partly because of longer survival in patients with MS, as well as the use of disease-modifying therapies (DMTs). The number of new cases has grown in minority populations long thought to be unlikely to develop MS. The cause of MS remains unknown, but current evidence points to early-life environmental triggers and genetics as being important factors.

MS is a chronic inflammatory disease that affects the CNS (brain and spinal cord). When a person has MS, the immune system malfunctions. It launches an attack on the material that insulates the nerves in the brain and spinal cord. These attacks are what cause the person's disease symptoms. These symptoms can include loss of vision, weakness, and numbness. Few risk factors have been identified that predict long-term outcomes.

For most people with MS, the disease starts when they are around 30 years of age, and it typically spans 40 years. Relapsing-remitting MS is the most common MS subtype. Primary progressive MS (slow progression without relapses) is the least common subtype. MS is 2–3 times more common in women than men. Men and Black patients with MS tend to have more rapid early disease progression.<sup>2,3</sup>

## Disease-modifying therapy in MS

There are currently 20 individual DMTs approved for the treatment of MS by the Food and Drug Administration (FDA). This group of medications has been shown to reduce new relapses, delay progression of disability, and limit new areas of inflammation in the CNS. Most DMTs are approved for relapsing forms of MS. One DMT, ocrelizumab, has been approved for primary progressive MS. There are 8 DMTs that are taken orally, and 4 that are given by infusion. The MS Coalition has recently summarized the current evidence about DMTs in the treatment of MS, and provides support for broad and sustained access to these treatments.<sup>3</sup>

Some key treatment considerations for clinicians who treat patients with MS are as follows:

- Early treatment with an FDA-approved DMT as soon as possible after a diagnosis of relapsing-remitting MS

- Prescribing high-efficacy medication for people newly diagnosed with highly active MS
- Prescribing high-efficacy medication for individuals experiencing relapses on their current DMT

There are a variety of possible side effects related to DMTs. These range from mild injection site skin reactions to serious infections that are potentially lethal. Because of this, safety considerations are critical when making a DMT choice. Both the potential benefits and potential risks must be weighed for each patient.

Another factor influencing the choice of a DMT is cost. In the United States, patients often share this cost with insurance providers in the form of copays. The high and increasing cost of MS therapies has received a great deal of attention.<sup>4</sup> These trends are disturbing, and more broad, reasonable solutions should be sought by providers, payers, and pharmaceutical manufacturers.

Overall, the factors affecting the choice of which DMTs to use to treat a patient with MS at any point during the course of the disease are complex. Thus they are most appropriately addressed through a shared decision-making process between the patient and the clinician prescribing treatment.

## For more information

### Brain and Life

[brainandlife.org/](http://brainandlife.org/)

### National MS Society

[nationalmssociety.org/Treating-MS](http://nationalmssociety.org/Treating-MS)

### MS Coalition

[ms-coalition.org/](http://ms-coalition.org/)

## References

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