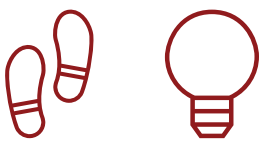
‘No Evidence of Disease Activity’ in Relapsing Multiple Sclerosis

Relapsing multiple sclerosis (RMS) is a type of MS characterized by attacks (relapses) where there is a sudden appearance of previous and/or new symptoms. There are two types of RMS: relapsing-remitting MS and secondary progressive MS[1,2].

RMS disrupts the normal functioning of the **brain, optic nerves and spinal cord**. This is caused by inflammation and tissue loss[3].



It can cause a range of **physical** (e.g. walking) **and cognitive** (e.g. memory) **problems**...

...that significantly impair the **quality of life** of the individual and their families[4,5].

Physicians use **four key measures to assess disease activity in RMS**:

- ☑ **Relapses**
- ☑ **Magnetic resonance imaging (MRI) lesions**
- ☑ **Disability progression**
- ☑ **Brain shrinkage (brain volume loss)[6,7]**

When these four key measures are **effectively impacted by treatment**, the patient is said to have reached a status of ‘**no evidence of disease activity**’ (NEDA-4).

NEDA-4 helps give physicians a more complete picture of a patient’s disease activity and response to treatment, which is **crucial to identify the most appropriate treatment approach**.

Relapses

What are they?

The appearance of new symptoms, or the return of old symptoms for a period of 24 hours or more - in the absence of a change in core body temperature or infection[1].

Why do they matter?

Incomplete recovery from a relapse can significantly advance the level of disability[8].

When patients achieve NEDA-4, they have no confirmed relapses[7].

MRI lesions

What are they?

In RMS, damage resulting in the loss of neurons and brain tissue is driven by distinct inflammatory lesions (focal damage)[9].

Why do they matter?

Distinct inflammatory lesion damage is associated with relapses and disability progression[10].

When patients achieve NEDA-4, they have no new MRI lesions[7].

Brain shrinkage

What is it?

Brain shrinkage (brain volume loss) reflects the loss of brain tissue and is a result of both focal inflammatory damage and widespread neurodegenerative processes (diffuse damage)[11,12].

Why does it matter?

Brain shrinkage is associated with the loss of physical and cognitive function and can predict a patient’s disability progression over time[13].

When patients achieve NEDA-4, their annual brain volume loss is equal to or less than 0.4%[7].

Disability progression

What is it?

The rate at which a person’s disability has worsened over time.

Why does it matter?

Accumulation of disability impacts a patient’s mobility and independence[14].

When patients achieve NEDA-4, they have no confirmed disability progression as measured by the Expanded Disability Status Scale (EDSS)[7].

Addressing these four measures through early and effective treatment is important to impact the course of RMS and preserve what matters most to patients: their physical and cognitive function.

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