LAY SUMMARY

TAXONOMY, TREATMENT, TARGETS AND REMISSION

CAN A BLOOD TEST HELP GUIDE DECISIONS IN MULTIPLE SCLEROSIS?

Original publication: *Original Publication: van Lierop ZY, Wessels MH, Lekranty WM, et al. Impact of serum neurofilament light on clinical decisions in a tertiary multiple sclerosis clinic. Multiple Sclerosis Journal. 2024;30(13):1620-1629. doi:10.1177/13524585241277044*

RESEARCH BACKGROUND

Multiple sclerosis (MS) is a chronic condition affecting the brain and spinal cord. People with MS can experience periods of new disease activity, and doctors regularly need to decide whether further tests or changes in treatment are needed.

Doctors currently rely on symptoms, clinical examinations and MRI scans to monitor MS. Researchers are also studying **serum neurofilament light (sNfL)**, a protein that can be measured in the blood. Higher levels can be a sign of damage to nerve fibres and have been linked to MS disease activity and treatment response. In this study, sNfL was measured from a blood sample using a specific laboratory test.

Although sNfL has been widely studied in MS, it is not yet routinely used in MS care. Researchers therefore investigated whether knowing a patient's sNfL level actually influences doctors' decisions in everyday clinical practice.

KEY FINDINGS

Researchers studied **166 consultations** at a specialist MS clinic. Doctors recorded their decisions before and after receiving the patient's sNfL result.

They found that:

- Knowing the sNfL result **changed the clinical decision in almost 1 in 5 cases.**
- The greatest impact was seen when patients reported **new symptoms**, with decisions changing in 38% of these cases.
- After seeing the blood test result, doctors were generally **more confident in their clinical decisions.**

TAXONOMY, TREATMENT, TARGETS AND REMISSION

- sNfL results also influenced how likely doctors thought it was that a later MRI scan would show new MS disease activity.

- Higher sNfL levels were more often associated with a change in the doctor's original decision.



RESEARCH IMPACT

The findings suggest that an sNfL blood test could provide doctors with **additional information when making decisions about MS care**, particularly when a patient develops new symptoms.

For people living with MS, this could mean that an sNfL result provides their healthcare team with another piece of information when deciding what to do next. In the study, knowing the sNfL result sometimes changed decisions such as whether an additional MRI scan should be considered or whether a change in MS treatment may be needed. The effect was particularly noticeable when patients reported new symptoms.

Because it only requires a blood sample, sNfL could complement existing tools such as clinical examinations. It may also help doctors decide when further investigation or changes in care are needed and potentially save costs.

However, sNfL is **not proposed as a replacement for MRI or other clinical assessments.** This study was carried out at one specialty MS centre, and further research in larger and different clinical settings is needed to establish when and how the test should be used routinely.

Ultimately, clearer guidance on using sNfL could help clinicians make more informed and confident decisions while supporting more personalised monitoring of people living with MS.

www.3tr-imi.eu

This project has received funding from the Innovative Medicines Initiative 2 Joint Undertaking (JU) under grant agreement No 831434.
The JU receives support from the European Union's Horizon 2020 research and innovation programme and EFPIA.