



## NEUTRALIZING ANTIBODIES TO INTERFERON BETA

People with multiple sclerosis (MS) may be treated with interferon beta to reduce relapse rates and limit disability. As a result of treatment with interferon beta over time, some patients develop high levels of antibodies (NAbs) which might reduce the effectiveness of the treatment.

This is a summary of the evidence report from the American Academy of Neurology reviewing all available evidence on assessing the clinical and radiographic impact of neutralizing antibodies to interferon beta. The AAN represents over 20,000 neuroscience professionals worldwide. Neurologists are doctors who identify and treat diseases of the nervous system (made up of the brain, spinal cord, and nerves).

### QUESTIONS PATIENTS OFTEN ASK

**Q: Why is interferon beta used to treat MS patients?**

A: This is one of several treatments used for MS. Exactly how interferon beta works is not yet known, but we do know that the proteins created as a result of interferon beta treatment work to reduce inflammation. These proteins help reduce relapse rates and limit disability.

**Q: What are NAbs?**

A: NAbs are neutralizing antibodies that occur in some people who are treated with interferon beta. NAbs make the interferon treatment for MS less effective.

**Q: What happens once a patient is determined to be NAb-positive?**

A: In some patients, NAbs go away after a period of time. When NAbs are present at high levels and you are not responding well to the interferon beta treatment, your neurologist may decide to change your treatment.

**Q: Do NAbs interfere with the treatment and do higher levels of interferon beta result in high levels of antibodies?**

A: It is probable that the presence of antibodies, especially in high numbers, interferes with the effectiveness of treatment.

**Q: Is there a difference in the level of NAbs production among the most often prescribed interferon beta products?**

A: It is probable that NAb production occurs less with interferon beta-1a (Avonex and Rebif) than with interferon beta-1b (Betaseron). Of the two interferon beta-1a products, Avonex has been found to produce fewer antibodies. NAbs often disappear over time in most patients, even with continued treatment.

### CONCLUSION

High levels of NAbs have been associated with a reduction in interferon beta's effectiveness on multiple sclerosis. While there is not sufficient evidence-based information to make specific recommendations concerning NAb testing, this issue should be discussed with your physician. Ultimately, the decision to test for NAb status in a person treated with interferon is at the discretion of your doctor.

This is an educational service of the American Academy of Neurology. It is designed to provide members with evidence report recommendations to assist with decision-making in patient care. It is based on an assessment of current scientific and clinical information and is not intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on the circumstances involved. Physicians are encouraged to carefully review the full AAN evidence report so they understand all recommendations associated with care of these patients.

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(651) 695-1940