What is the significance of brain volume loss (atrophy) in MS? [1]

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The coming decade gives hope of exciting advancements in medical research and treatment across a breadth of diseases. One rapidly emerging area is the role of brain volume loss in multiple sclerosis (MS), an autoimmune disease that affects **2.5 million people** [2] around the world.

Brain atrophy, measured as brain volume loss on MRI, occurs naturally with aging, but MS patients lose brain volume around three to five times faster [3] than people without MS, starting in the earliest, clinically silent stages of the disease. In MS, just as in other debilitating neurological conditions such as Alzheimer’s or Parkinson’s, atrophy has been associated with both cognitive impairment and disability, and the more atrophy an MS patient has, the worse their disability is, and is likely to be. Once lost, brain tissue cannot be recovered.

Measuring and assessing changes [4] in brain volume is becoming an increasingly important [5] consideration in monitoring MS treatment effects, and there are now several studies that show how brain volume loss can be one of the best indicators of disability progression over the long term in MS. Increasingly, research focus is on treatments that will reduce the rate of brain volume loss, and there are now therapies available that show promising effects on brain volume loss.

Here at Novartis, the goal is to change the lives of people with this devastating disease. As part of this, Novartis is dedicated to understanding the process of MS, and this includes the significance of brain atrophy. Novartis is committed to developing therapies and programs that address all aspects of the disease by understanding the unmet needs of people with MS and also the medical community.

**Resources:**

- Multiple Sclerosis Foundation – MS statistics [8]
- Novartis Pinterest – MS Infographic [8]
- Read “Brain atrophy and lesion load predict long term disability in multiple sclerosis” [9]

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**Links**
