



Module 1:

# Multiple Sclerosis Disease Overview

Speaker:  
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# Objectives

<b>Define</b>	What MS is and what happens in MS
<b>Understand</b>	Who gets MS and what causes MS
<b>Explain</b>	How MS is diagnosed
<b>Describe</b>	The types of MS and MS symptoms



# What is MS?

- Immune mediated disease
  - Immune system causes damage in the central nervous system (CNS – brain, optic nerves and spinal cord)
- Primary CNS targets
  - Myelin coating around the nerves
  - Nerve fibers (axons)
  - Cells that make myelin (oligodendrocytes)

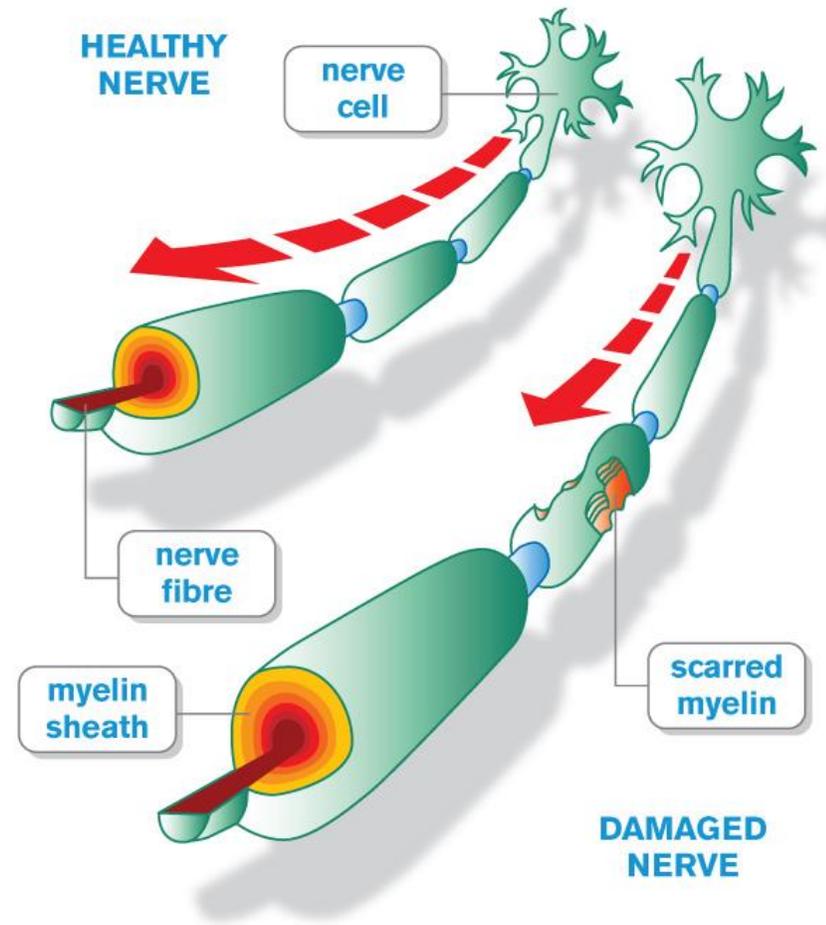
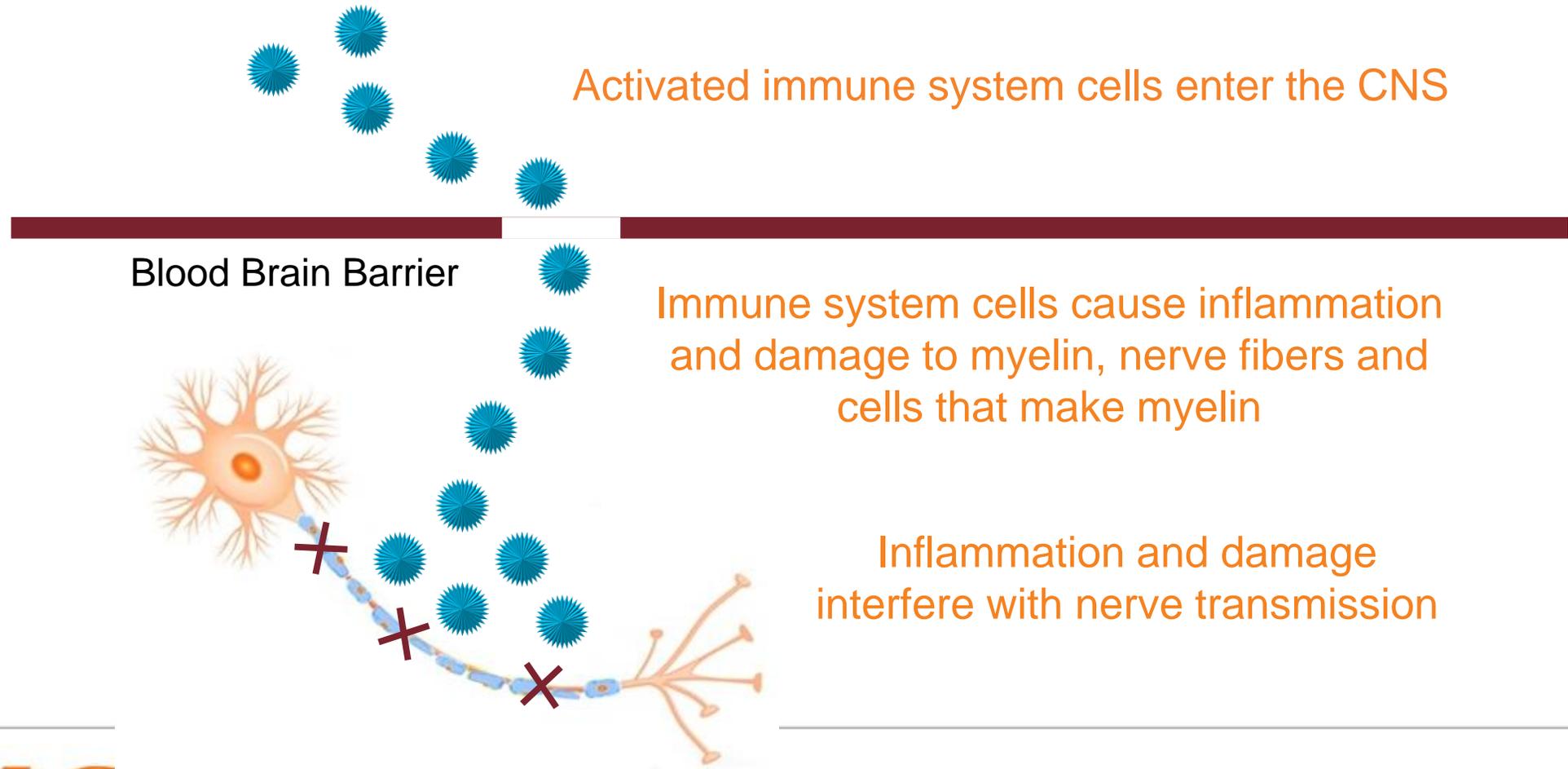


Image: [https://www.va.gov/MS/Veterans/about\\_MS/index.asp](https://www.va.gov/MS/Veterans/about_MS/index.asp)

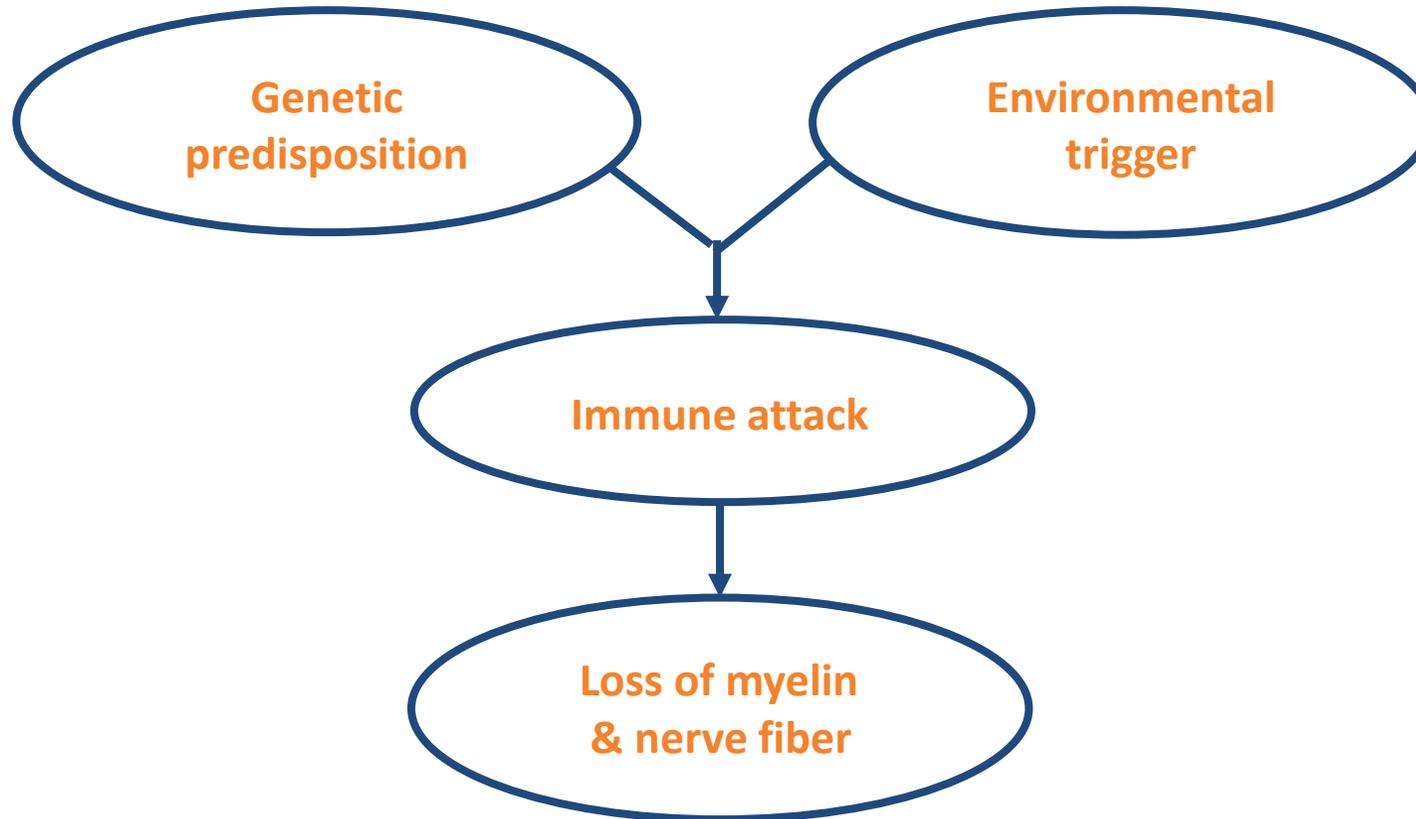
# What happens in MS?



# What happens to the myelin and nerve fibers?

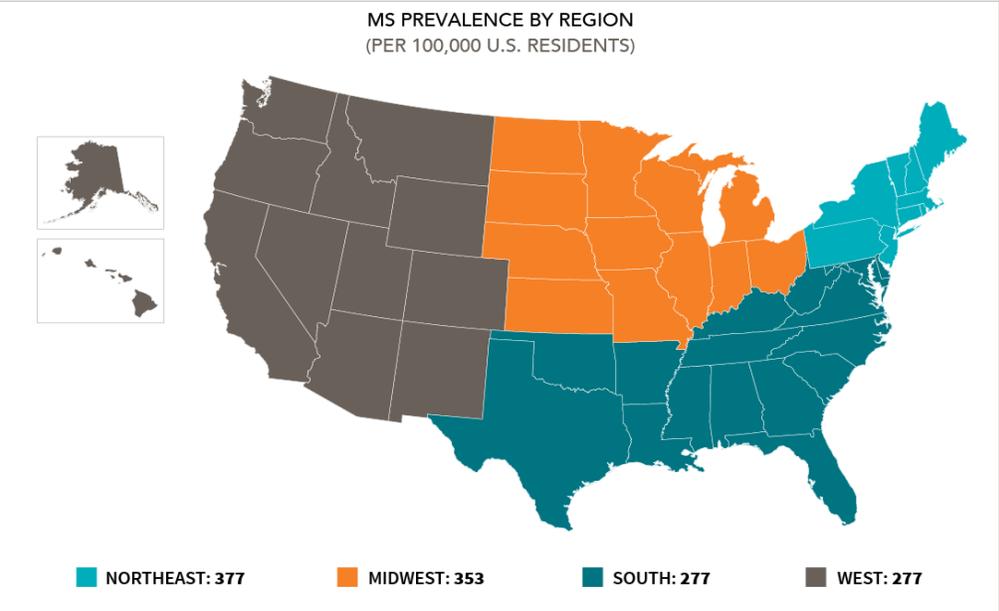
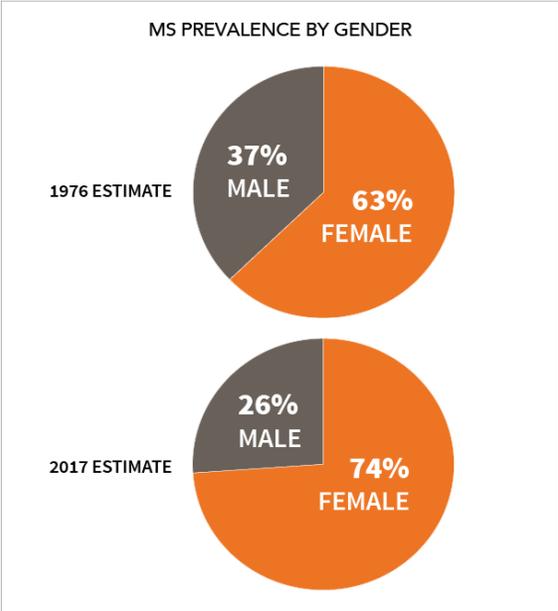


# What Causes MS?



# Who gets MS?

**2x** SOCIETY-LED STUDY CONFIRMS  
**NEARLY 1 MILLION**  
PEOPLE LIVING WITH MS  
IN THE UNITED STATES



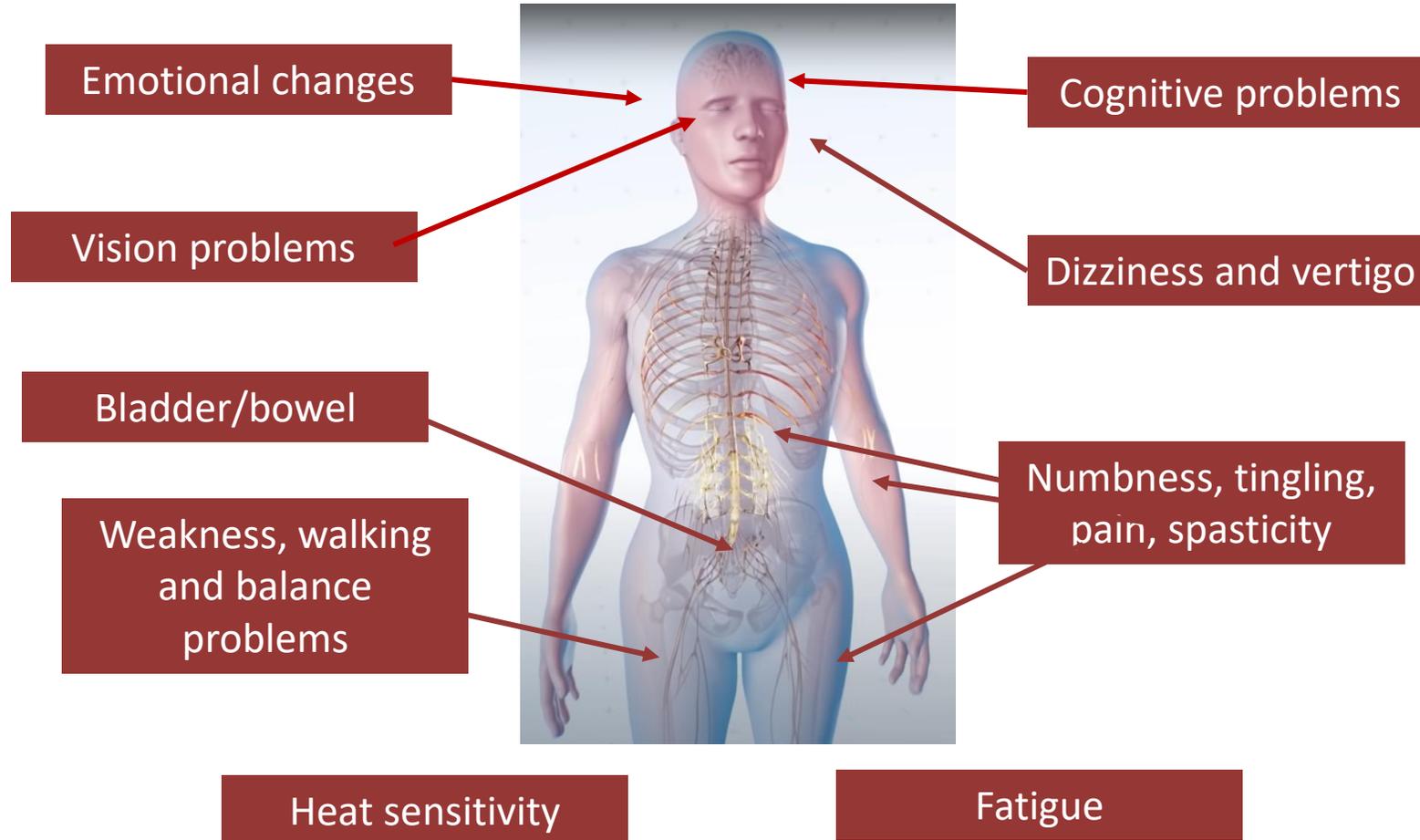
Source: Wallin, Mitchell T. "The prevalence of MS in the United States: A population-based estimate using health claims data." *Neurology*. February 2019. *Neurology Journal Web*. <http://n.neurology.org/lookup/doi/10.1212/WNL.0000000000007035>  
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# How is MS diagnosed?

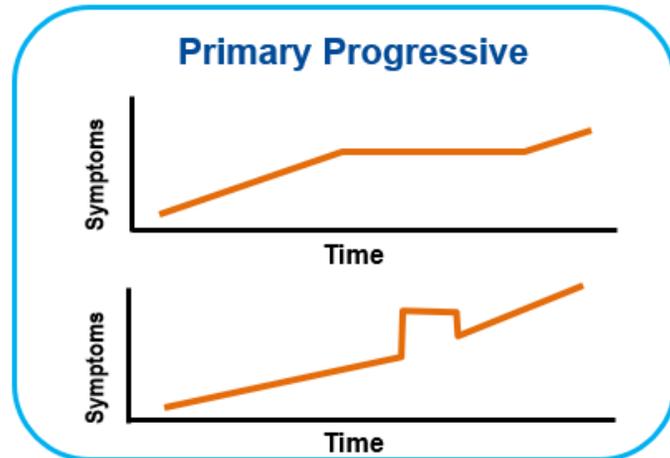
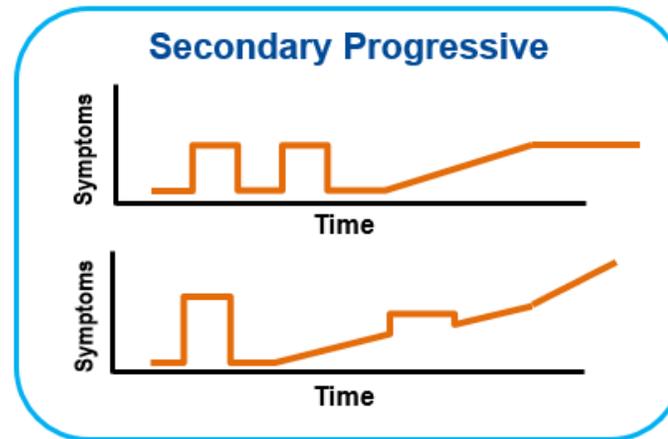
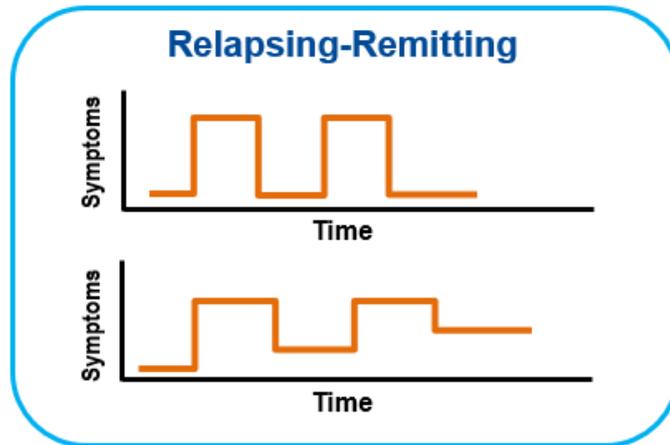
- **MS is a clinical diagnosis**
  - Medical history
  - Neurological exam findings
- **Tests provide support**
  - Magnetic resonance imaging (MRI)
  - Spinal fluid analysis (spinal tap)
- **Other tests exclude diagnoses that look like MS**
  - Blood tests for other autoimmune conditions, infections, vitamin deficiencies, familial conditions
- **Diagnostic criteria:**
  - Evidence that damage has occurred in at least two separate areas of the CNS at different points in time
  - There must be no other explanation



# What are the symptoms of MS?



# Disease courses of MS



**Relapsing course** can be:

- Active or Inactive
- Worsening or Not Worsening

**Progressive courses** can be:

- Active with or w/o progression
- Not active with or w/o progression

Lublin, et al. *Neurology* 2013



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# Up Next...

## Module 2

### Levels of Ability and Wellness in MS



L TO R: ANGELA, DIAGNOSED IN 2002  
NICK, DIAGNOSED IN 1998  
EMILY, DIAGNOSED IN 2005



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