

# UNDERSTANDING MULTIPLE SCLEROSIS (MS)

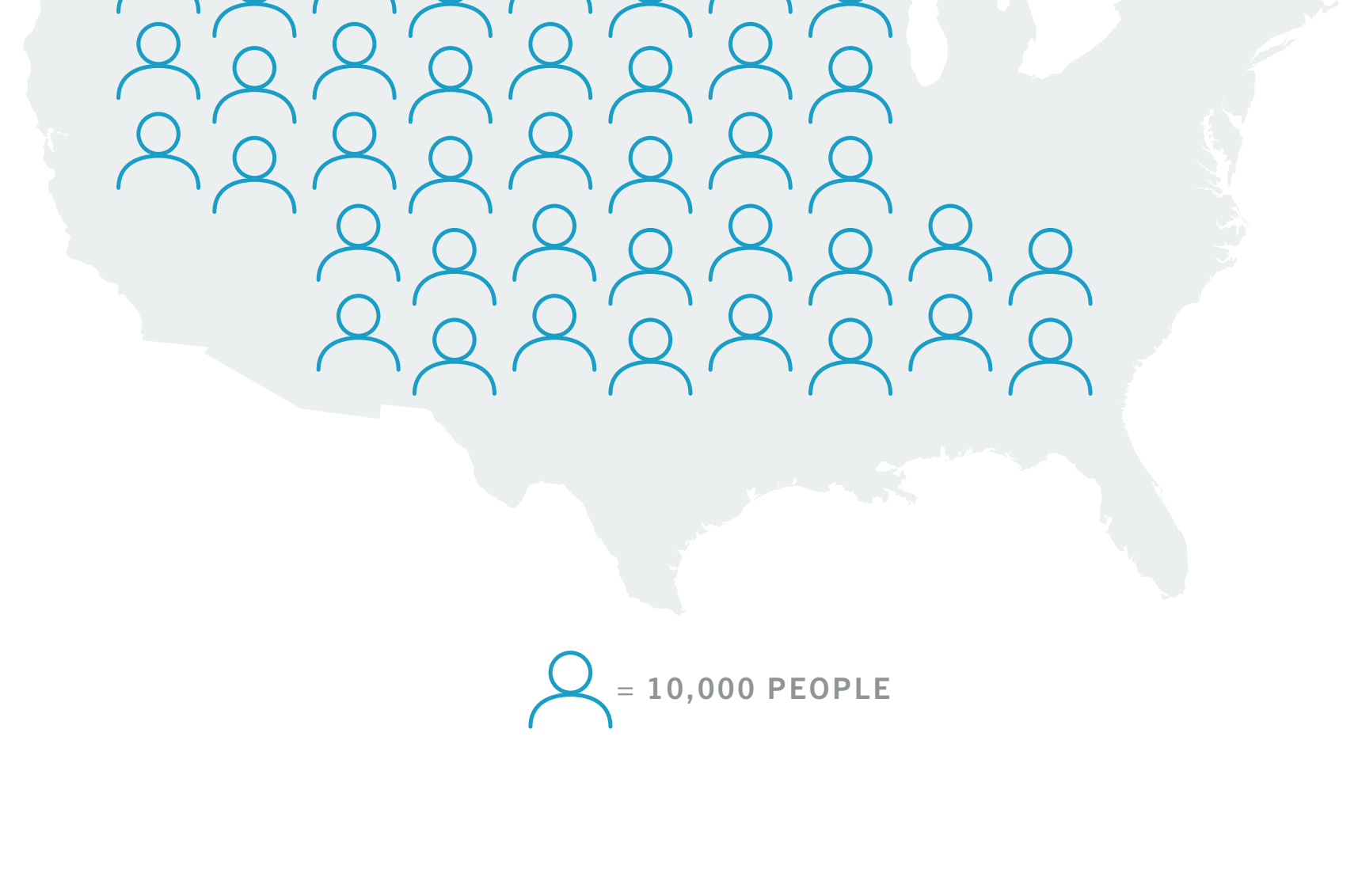
MS is a disease of the central nervous system (CNS), which includes the brain, spinal cord and optic nerves. It is one disease, but its course and symptoms vary from person to person.

## Who Gets MS?

MS is a leading cause of non-traumatic disability for young people.<sup>1,2</sup>

# 400,000

APPROXIMATE NUMBER OF PEOPLE IN THE U.S. THAT HAVE MS<sup>2</sup>



# 20-40

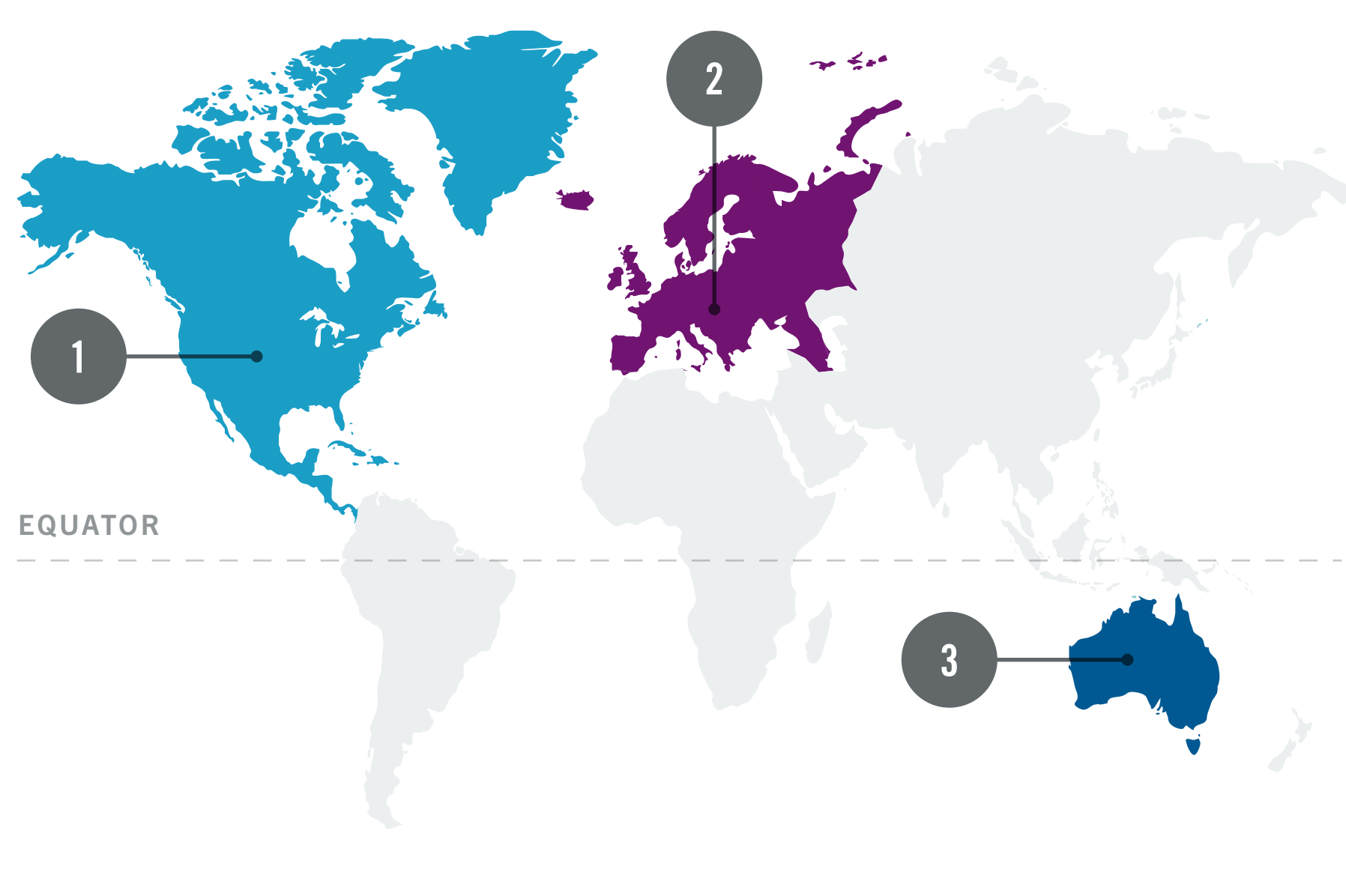
AGE RANGE IN WHICH MS IS COMMONLY DIAGNOSED<sup>3</sup>

# 2x

WOMEN ARE MORE LIKELY THAN MEN TO HAVE MS<sup>2</sup>



PEOPLE LIKELY TO HAVE MS



MS prevalence is **highest** in countries **furthest** from the equator<sup>4</sup>

# 1

 Approximately 1 in 710 people in North America have MS<sup>2</sup>

# 2

 Approximately 1 in 925 people in Europe have MS<sup>2</sup>

# 3

 Approximately 1 in 1050 people in Australia have MS<sup>2</sup>

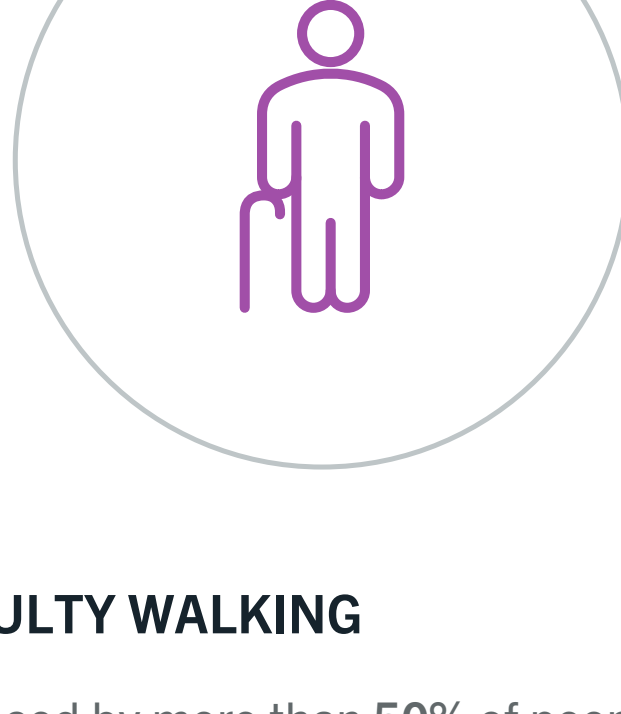
## Symptoms Can Affect Nearly Every Part of the Body and the Mind

People with MS can experience many types of symptoms.<sup>5</sup>



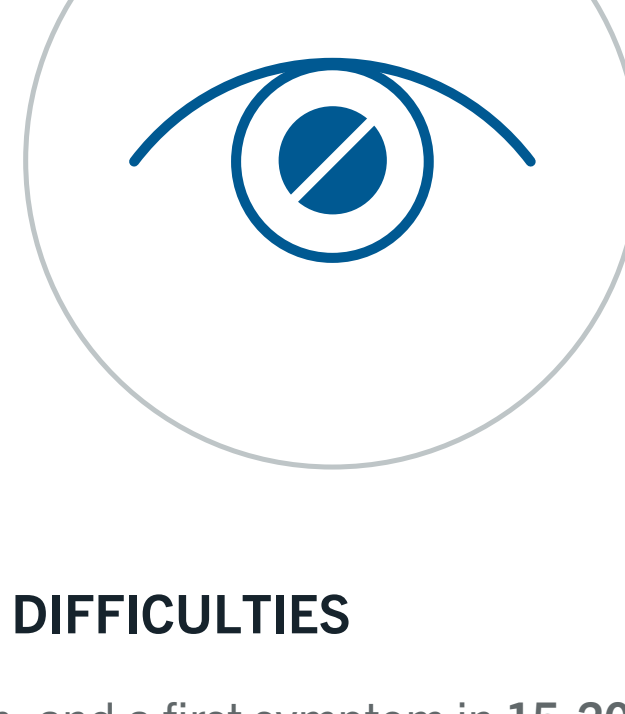
### FATIGUE

Experienced by up to 90% of people with MS<sup>6</sup>



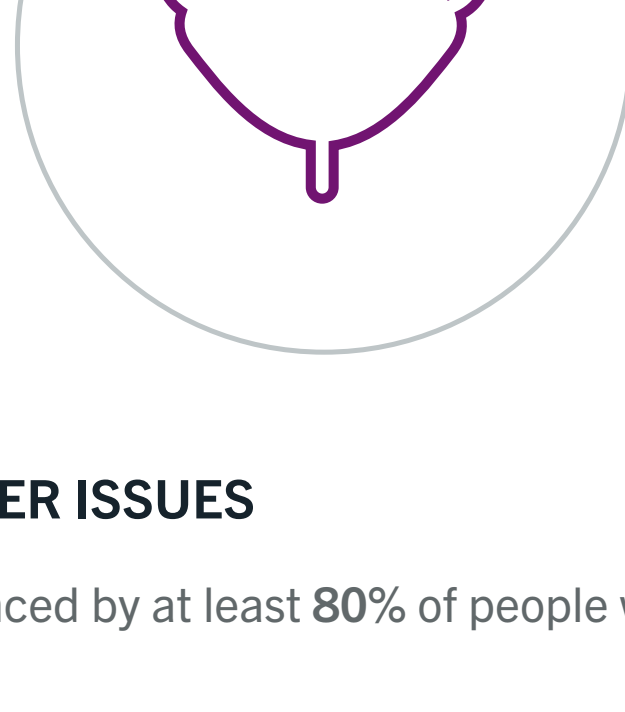
### DIFFICULTY WALKING

Experienced by more than 50% of people with MS within 15 years of onset<sup>5,7,8</sup>



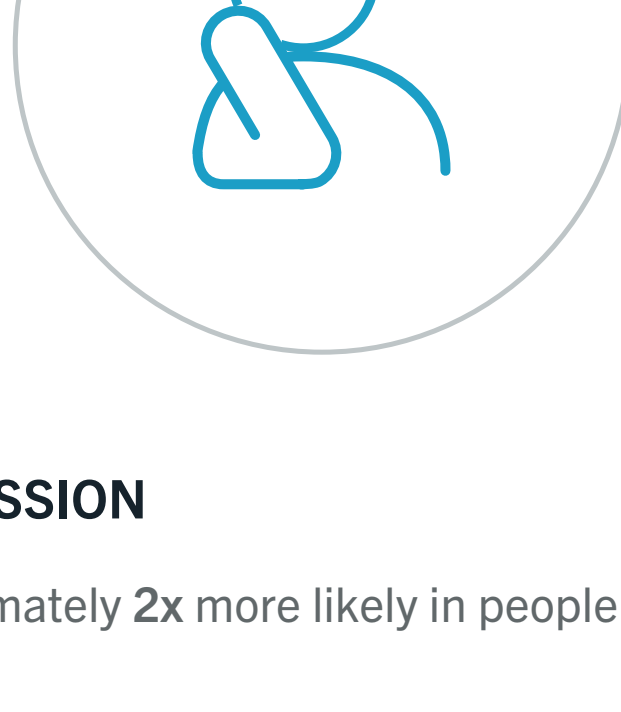
### VISION DIFFICULTIES

Common, and a first symptom in 15-20% of people with MS<sup>9</sup>



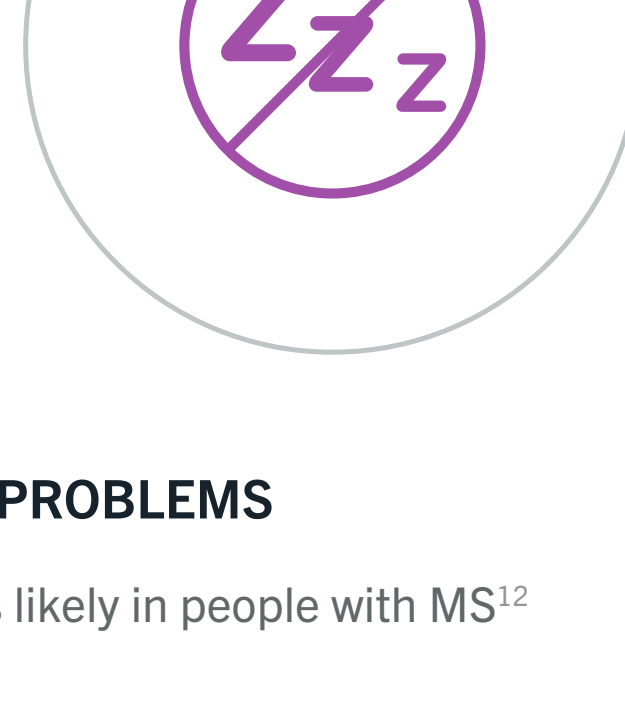
### BLADDER ISSUES

Experienced by at least 80% of people with MS<sup>10</sup>



### DEPRESSION

Approximately 2x more likely in people with MS<sup>11</sup>



### SLEEP PROBLEMS

Twice as likely in people with MS<sup>12</sup>

## MS has Different Disease Courses

MS is categorized into courses based on how the disease generally behaves and whether or not there is disease activity and a steady increase in disability over time. For explanation of disease courses, please visit the [National Multiple Sclerosis Society](#).<sup>13</sup>

# RRMS

RELAPSING-REMITTING MS

# SPMS

SECONDARY PROGRESSIVE MS

# PPMS

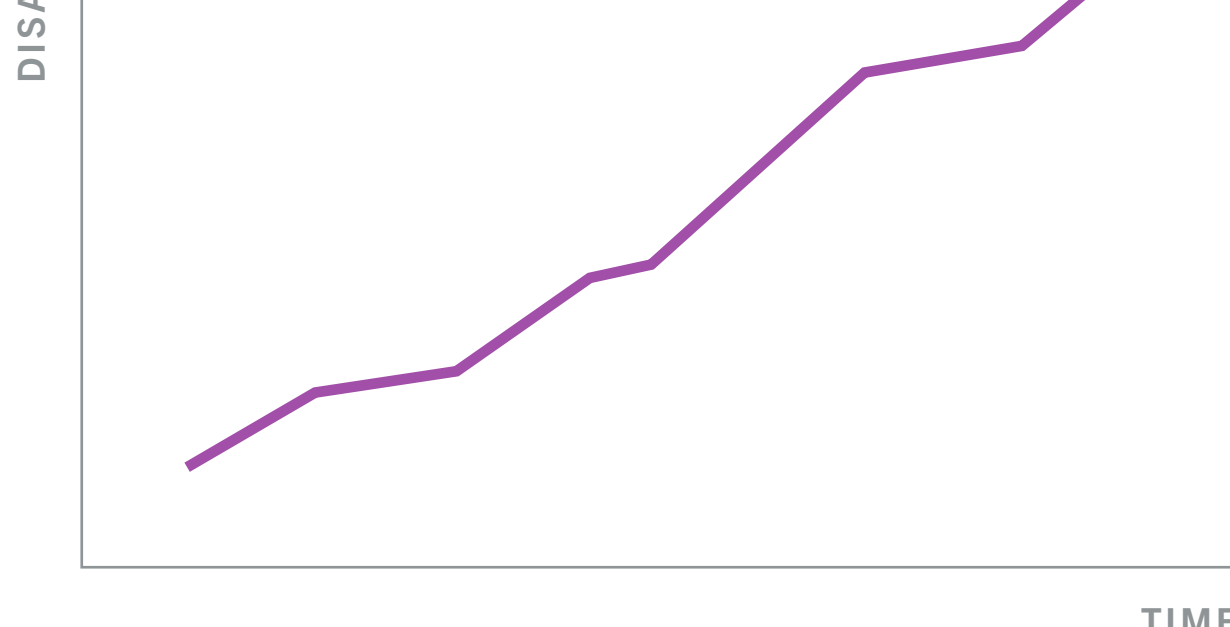
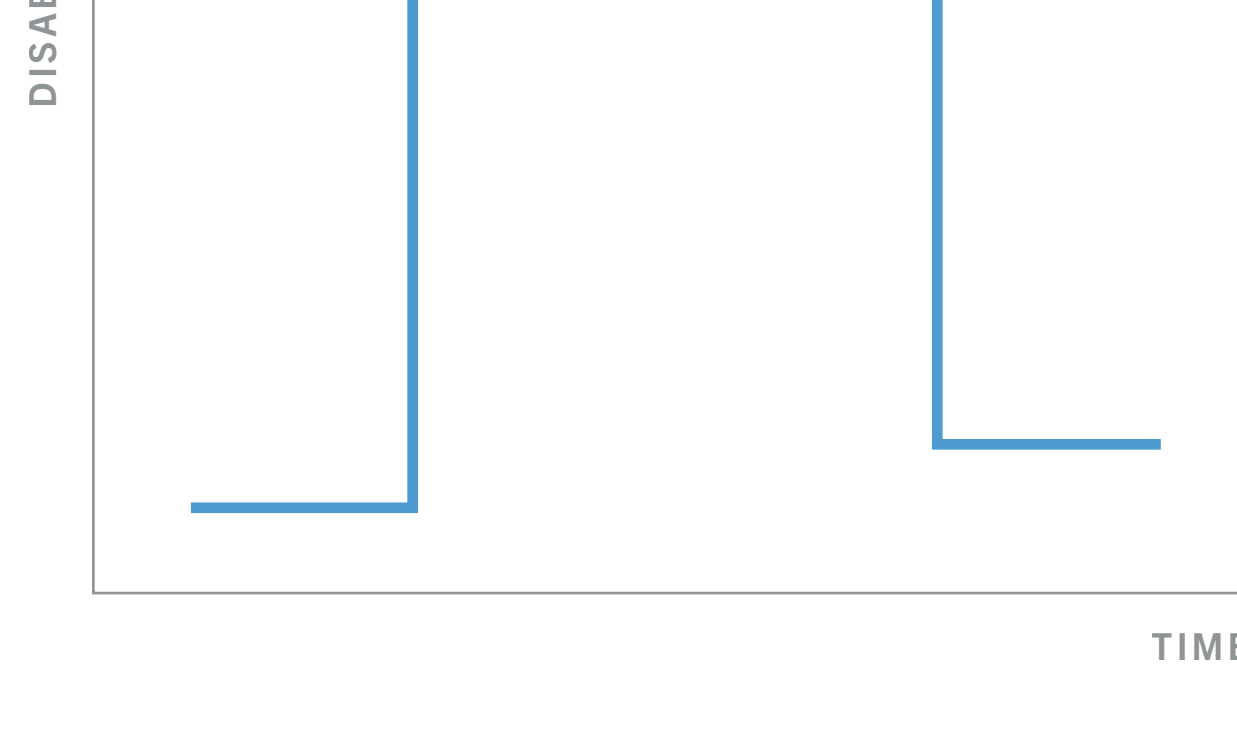
PRIMARY PROGRESSIVE MS

## Disease Activity can be Measured

No matter what course of MS a person has, relapsing or progressive forms of MS may be **active** or **inactive** at different points in time.<sup>14</sup> Disease activity may be **outwardly apparent** with new or worsening signs or symptoms (relapses or disability progression). There can also be **underlying** disease activity that is detected with special equipment like magnetic resonance imaging (MRI).

## Relapse

A relapse, or exacerbation of MS (also known as an attack or flare-up), causes new symptoms or the worsening of old symptoms.<sup>15</sup> The attack must last at least 24 hours and be separated from the previous attack by at least one month. Most relapses last from a few days to several weeks or even months, and can be followed by an incomplete or full recovery.

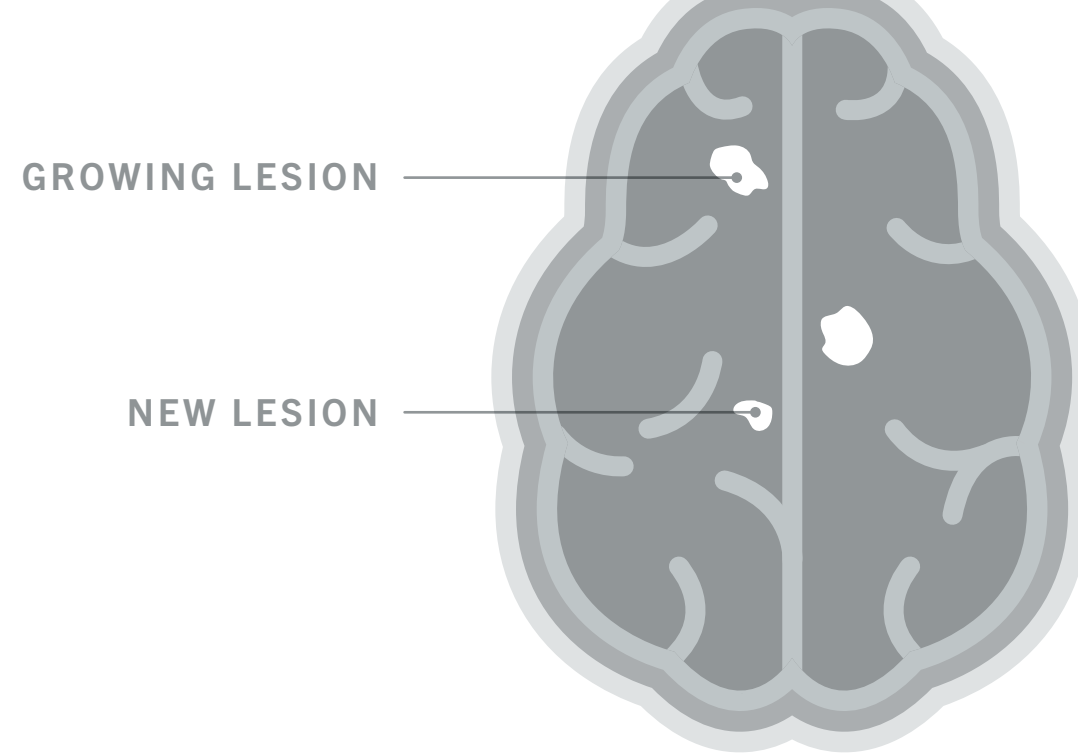


## Disability Progression

How fast or slow disability worsens may vary, but progression is a sustained increase in disability over time.

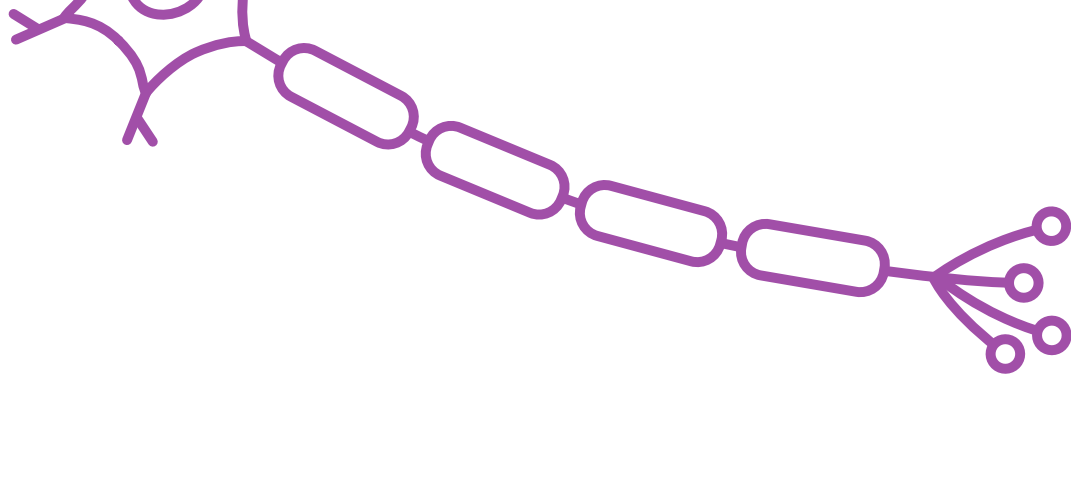
## MRI Activity

Lesions are inflamed or damaged areas of the CNS that can be seen with MRI. Lesions may appear or grow larger without immediately noticeable consequences, but can be a sign of irreversible damage that may lead to disability progression.<sup>16</sup>

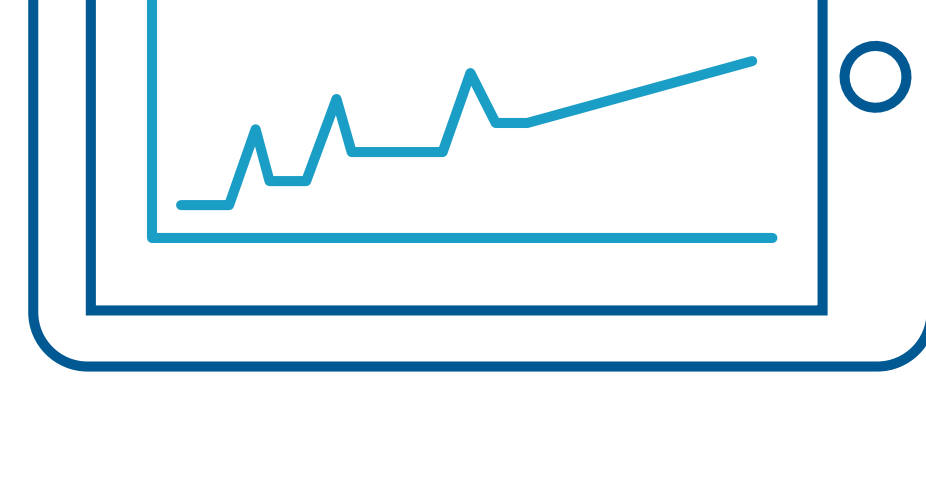


## More is Being Done

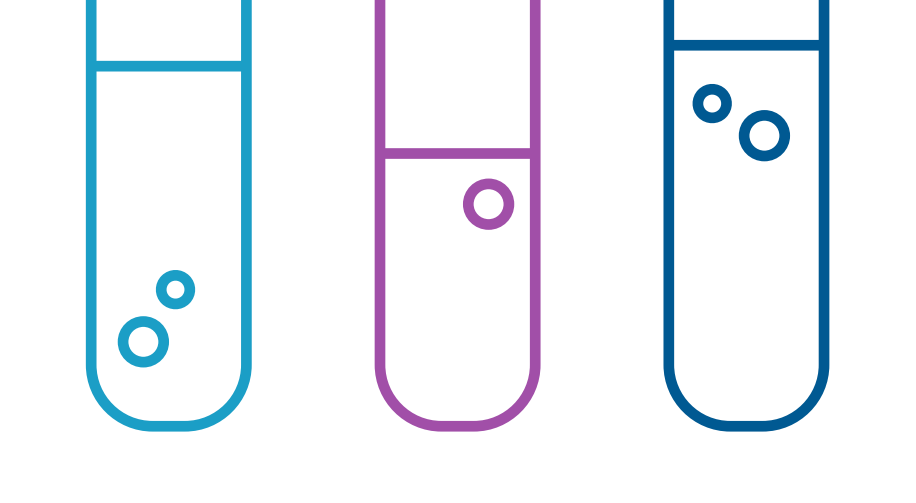
There is no cure for MS, but research continues to better understand and treat the disease.<sup>5</sup>



### WHAT CAUSES MS?



### WHAT NEW WAYS CAN DISEASE ACTIVITY BE MONITORED?



### HOW CAN WE BETTER STUDY NEW MEDICINES FOR MS?



### HOW CAN WE PREDICT WHICH PATIENTS WILL BENEFIT FROM A CERTAIN TREATMENT?

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