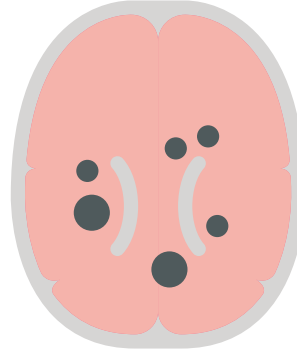


# SPOTLIGHT ON Multiple Sclerosis

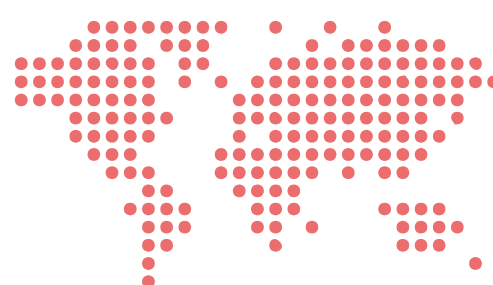


## AN OVERVIEW OF MULTIPLE SCLEROSIS



Multiple sclerosis (MS) is a chronic disorder that **disrupts the normal functioning of the brain, optic nerves and spinal cord** through inflammation and tissue loss<sup>1</sup>.

**2.3 MILLION** people worldwide are affected by MS<sup>2</sup>



MS patients can experience a **cumulative loss of physical (e.g. walking) and/or cognitive (e.g. memory) function over time**, which impacts their daily and working lives<sup>3</sup>. Symptoms can vary between the different types of MS.

People with MS can be diagnosed with relapsing-remitting MS (RRMS), secondary-progressive MS (SPMS) or with primary-progressive MS (PPMS).

**3**

## LET'S TAKE A CLOSER LOOK

### RRMS

**85%**

Around 85% of people with MS are initially diagnosed with RRMS<sup>4</sup>.



Average age of diagnosis is **20 to 40 years**<sup>5</sup>.



Women are affected **2-3 times more** often than men<sup>6</sup>.



Characterized by **attacks (relapses) with worsening symptoms**, followed by periods of remission where patients may partially or fully recover<sup>4</sup>.



Approximately 25% of RRMS patients **need assistance** with daily activities<sup>7</sup>.

There are a number of disease-modifying therapies (DMTs) available including **injections, infusions and oral formulations**<sup>8</sup>.



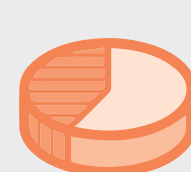
### SPMS



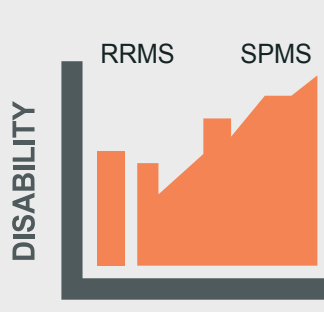
The majority of people with RRMS will develop SPMS over time (**25% by 10 years, 50% by 20 years, and >75% by 30 years**)<sup>9</sup>.



Women are affected **2-3 times more** often than men<sup>6</sup>.



Over time, 1/3 of people with SPMS will eventually be **unable to walk**<sup>11</sup>.

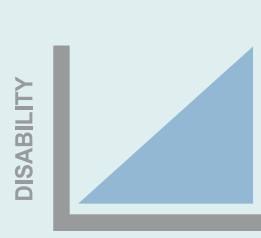


Characterized by **gradual worsening of symptoms and accumulation of disability** between attacks<sup>10</sup>.



Treatments available for SPMS are **limited**; there is still an unmet need for treatments to delay the progression of disability in SPMS<sup>12</sup>.

### PPMS



Approximately 10% of people with MS have PPMS, a **distinct and different disease** from relapsing forms of MS in terms of its **basic disease process, near-absence of acute relapses and fewer active MRI lesions**<sup>6,13</sup>.



PPMS is characterized by a **more rapid, continuous loss of function** over time<sup>13</sup>.

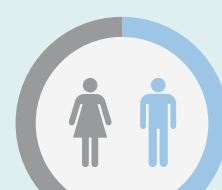


Average age of diagnosis is **typically later** at 40-50 years, and patients usually have higher level of disability<sup>6</sup>.



People with PPMS tend to **experience greater problems** with walking and remaining in work<sup>6</sup>.

Women and men are **affected equally**<sup>6</sup>.



Currently there are **no DMTs available**, and management focuses mainly on the treatment of symptoms<sup>13</sup>.



Approximately **84% of PPMS patients** need assistance with daily activities<sup>7</sup>.

#### References:

01. <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001747/>. Accessed August 2016.
02. MS in Focus January 2014 (<http://www.msif.org/wp-content/uploads/2014/09/MS-in-focus-23-Information-and-communication-English.pdf>) Accessed August 2016.
03. <http://www.nationalmssociety.org/Symptoms-Diagnosis/MS-Symptoms>. Accessed August 2016.
04. <http://www.mssociety.org.uk/what-is-ms/types-of-ms/relapsing-remitting-rms>. Accessed August 2016.
05. <http://ms-need.emory.org/content/factsheet.pdf>. Accessed August 2016.
06. <http://www.nationalmssociety.org/What-is-MS/Types-of-MS/Primary-progressive-MS>. Accessed August 2016.
07. Data on file. Novartis Pharmaceuticals.
08. <http://www.nationalmssociety.org/Treating-MS/Medications>. Accessed August 2016.
09. Tremlett H, et al. Mult Scler. 2008;14:314-324.
10. <http://www.mssociety.org.uk/what-is-ms/types-of-ms/secondary-progressive-spms>. Accessed August 2016.
11. <http://www.nationalmssociety.org/What-is-MS/Types-of-MS/Secondary-progressive-MS/Frequently-Asked-Questions-about-SPMS>. Accessed August 2016.
12. <http://www.nationalmssociety.org/What-is-MS/Types-of-MS/Secondary-progressive-MS/Treating-Secondary-Progressive-MS>. Accessed August 2016.
13. <http://www.mssociety.org.uk/what-is-ms/types-of-ms/primary-progressive-ppms>. Accessed August 2016.