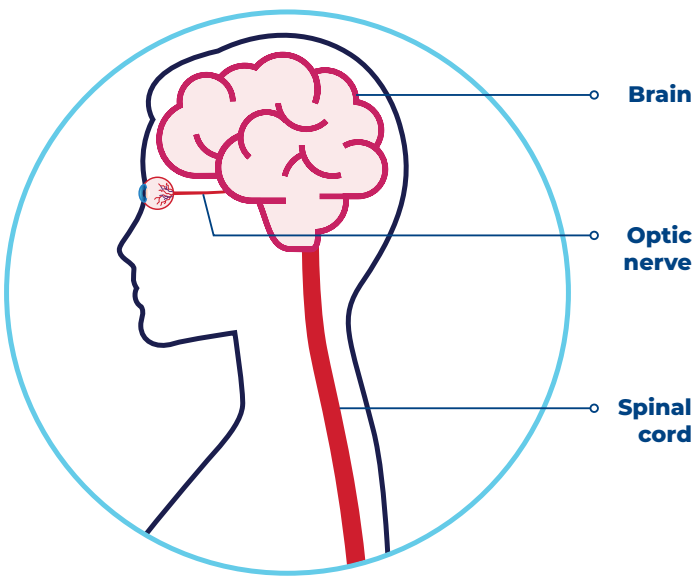
Neuromyelitis Optica Spectrum Disorder (NMOSD)

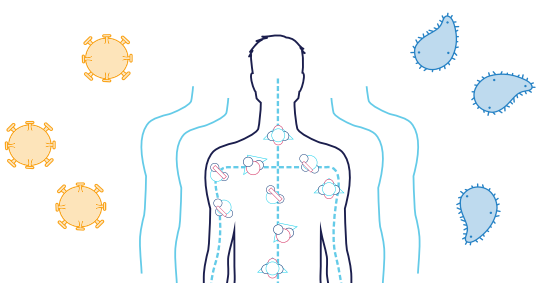
WHAT IS NEUROMYELITIS OPTICA SPECTRUM DISORDER?

NMOSD is a **rare disease** in which the immune system is inappropriately activated to target healthy tissues and cells in the central nervous system (CNS).[1]

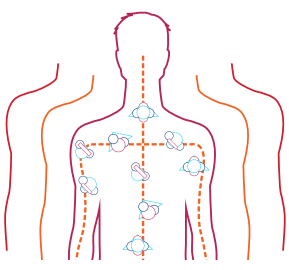
Approximately three-quarters of people with NMOSD are anti-aquaporin-4 (AQP4) antibody-positive, meaning they produce antibodies that bind to the AQP4 protein. This binding can inappropriately activate the complement system to **destroy cells** in the **optic nerve**, **spinal cord** and **brain**.[2-4]



THE COMPLEMENT SYSTEM



The complement system is a part of the immune system and is **essential to the body's defence against infection**.[5]



When the system is **thrown out of balance**, or dysregulated, these proteins can **trigger a dangerous, uncontrolled cascade of reactions** that attack cells and tissues resulting in **harmful inflammation** and the **destruction of healthy cells**.[5]

Diagnosed prevalence in adults is

~16K[6] **~6K**[6] **~5K**[6] **~4K**[6]

NMOSD most commonly **affects women** and begins in the **mid-30s**. **Men and children** may also develop NMOSD, but it is even more rare.[7, 8-10]

Patients with NMOSD may experience[11]

Vision problems, including vision loss

Intense pain

Loss of bladder/ bowel function

Fatigue

Abnormal skin sensations (e.g., tingling, prickling or sensitivity to heat/cold)

Impact on coordination and/or movement, including paralysis

Nausea and/or uncontrolled vomiting

Hiccups

Most people living with NMOSD experience **unpredictable attacks, known as relapses**. Each relapse can result in cumulative disability including **vision loss**, **paralysis** and sometimes **premature death**.[4,11]

HOW IS NMOSD DIAGNOSED?

The journey to diagnosis can be long, with the disease **sometimes misdiagnosed**. NMOSD is a **distinct disease from other CNS diseases**, including multiple sclerosis (MS).[1,12]

A **neurologist or neuro-ophthalmologist** diagnoses NMOSD by one or more of the following:[1,8]

- ☑ **Evidence of a blood test for the NMOSD-specific biomarker**
- ☑ **At least 1-2 core manifestations of the disease (e.g., inflammation of the optic nerve or spinal cord)**
- ☑ **Magnetic resonance imaging (MRI) of the brain, spinal cord or optic nerve**
- ☑ **Identification of certain patterns in how the disease presents (such as length and location of the lesions caused by tissue damage)**

Content created by Alexion, AstraZeneca Rare Disease

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