

Neuromyelitis Optica  
Spectrum Disorder (NMOSD):

## JUST THE FACTS

### SYMPTOMS OF NMOSD CAN INCLUDE<sup>1</sup>

- Double vision
- Pain upon eye movement
- Loss of vision in one eye
- Sudden vision loss
- Intense nerve pain
- Feeling of banding or tightening around the waist
- Abnormal skin sensations (e.g., tingling, prickling or sensitivity to heat/cold)
- Loss of sensation in arms and/or legs
- Lack of coordination
- Paralysis of limbs
- Loss of bladder/bowel function



## MECHANISM OF NMOSD

In NMOSD, the immune system malfunctions and attacks the central nervous system (CNS). These attacks lead to inflammation in the tissues of the CNS damaging the optic nerve and/or spinal cord, which can cause blindness, paralysis and sometimes premature death.<sup>2-5</sup>

Complement activation is one of the underlying causes of damage in NMOSD.<sup>2,3,4</sup> The complement system is a vital component of the immune system and helps to protect against infection.<sup>6</sup>

In NMOSD, complement activation triggered by auto-antibodies against a specific protein (aquaporin-4 [AQP4]) present on certain cells in the CNS leads to inflammatory damage and neuronal destruction.<sup>2,7</sup>

**“NO MATTER WHICH WAY I TURNED, THERE WAS NO WAY OUT BECAUSE I DIDN’T EVEN KNOW WHAT WAS GOING ON.”**

-NMOSD Patient

Patients often visit numerous doctors and specialists, who may be unfamiliar with NMOSD, and undergo many rounds of testing, misdiagnosis and complications. NMOSD is often misdiagnosed as multiple sclerosis (MS) even though they are two distinct diseases.<sup>2,8</sup>

In a study of 21 patients with NMOSD, the majority reported at least some problems with mobility (66.7%), pain/discomfort (76.2%) and/or anxiety/depression (71.4%).<sup>9</sup>

**“I WISH THAT THIS WAS A BETTER UNDERSTOOD DISEASE.”**

-NMOSD Patient

A neurologist or neuro-ophthalmologist diagnoses NMOSD by one or more of the following:<sup>10</sup>

- NMO IgG/AQP4 test\*
- At least 1 core clinical characteristic, which may include optic neuritis or acute myelitis
- MRI (of brain, spinal cord, optic nerve)
- For those who are AQP4-IgG negative, diagnosis is often confirmed by process of elimination of careful study of location and length of lesions.

\* IgG, Immunoglobulin G; NMO, Neuromyelitis Optica

**“I FEEL LIKE AS SOON AS I RELAX I’M GOING TO HAVE AN ATTACK. IT’S A WAITING GAME.”**

-NMOSD Patient

Relapses are unpredictable, and each relapse can result in permanent cumulative disability.<sup>8</sup>

In a study of 106 patients with anti-AQP4 antibody-positive NMOSD:<sup>5</sup>

- Within ~6 years of disease onset:
  - **34%** sustained permanent motor disability
  - **23%** became wheelchair-dependent
  - **18%** suffered permanent visual disability
- Within ~8 years of disease onset:
  - **9%** died

# NEUROMYELITIS OPTICA SPECTRUM DISORDER

Neuromyelitis optica spectrum disorder (NMOSD) is a rare, severe, neurological condition that attacks the central nervous system without warning. Attacks, referred to as relapses, can cause irreversible damage primarily to the optic nerve and spinal cord, which could lead to long-term disability.<sup>2,8,11,12</sup> Approximately three-quarters of all patients with NMOSD have anti-AQP4 auto-antibodies.<sup>13</sup>

IN AQP4-IgG+ NMOSD PATIENTS AT 5 YEARS AFTER ONSET,

**41% WERE EXPECTED TO BE LEGALLY BLIND IN AT LEAST 1 EYE**

AND 9% TO HAVE BILATERAL BLINDNESS<sup>12</sup>

NMOSD PRIMARILY AFFECTS

**WOMEN IN THE PRIME OF THEIR LIVES<sup>2,14</sup>**

PEOPLE OF **AFRICAN HERITAGE, INCLUDING AFRICAN AMERICANS,** ARE DISPROPORTIONATELY AFFECTED COMPARED TO THE GENERAL NMOSD POPULATION<sup>14,15</sup>

THE MEDIAN

**AGE OF ONSET IS 39 YEARS OLD<sup>2</sup>**

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