NMOSD occurs in individuals of all races. The prevalence of NMOSD is approximately 1-10 per 100,000 individuals and seems to be similar worldwide, although somewhat higher rates have been reported in countries with a higher proportion of individuals of African ancestry. Relative to MS that it mimics, it occurs with greater frequency in individuals of Asian and African descent, but the majority of patients with this illness in Western countries are Caucasian. Individuals of any age may be affected, but typically NMOSD, especially cases seropositive for AQP4-IgG, occur in late middle-aged women. Equal numbers of men and women have the form that does not recur after the initial flurry of attacks, but women, especially those with AQP4-IgG, are four or five times more likely to be affected than men by the recurring (relapsing) form. Children represent may also be affected by this condition; children more commonly develop brain symptoms at onset and seem to have a higher frequency of monophasic presentation than adults. A diagnosis of NMOSD is made based upon a detailed patient history, a thorough clinical evaluation, identification of characteristic physical findings, and a variety of specialized tests. Such tests include blood tests, examination of cerebrospinal fluid (CSF), spinal taps, or x-ray procedures such as magnetic resonance imaging (MRIs) or computed tomography (CT or CAT) scans. A blood test, AQP4-IgG, is highly specific and moderately sensitive for NMOSD. It has been shown that it detects antibodies that are specific for an astrocyte protein, aquaporin-4. This is very helpful to request this test at the first significant suspicion of NMOSD, as it is frequently positive at the time of the very first symptom even before a confident clinical diagnosis is possible. A recently discovered antibody, MOG-IgG, is present in about half of those who do not have AQP4-IgG; while it seems specific for a form of NMOSD, and is rarely seen in typical MS, it also occurs in some patients with recurrent optic neuritis and in some patients with acute disseminated encephalomyelitis; in the latter patients, it is often transient. Successful diagnosis of NMOSD depends on distinguishing it from MS.