

**2010 Revised McDonald Diagnostic Criteria for MS<sup>1</sup>**

Diagnosis of MS requires elimination of more likely diagnoses and demonstration of dissemination of lesions in space and time

CLINICAL (ATTACKS)	LESIONS	ADDITIONAL CRITERIA TO MAKE DX
2 or more	Objective clinical evidence of 2 or more lesions or objective clinical evidence of 1 lesion with reasonable historical evidence of a prior attack	None. Clinical evidence alone will suffice; additional evidence desirable but must be consistent with MS
2 or more	Objective clinical evidence of 1 lesion	Dissemination in space, demonstrated by ➤ ≥ 1T2 lesion in at least two MS typical CNS regions (periventricular, juxtacortical, infratentorial, spinal cord); <b>OR</b> ➤ Await further clinical attack implicating a different CNS site
1	Objective clinical evidence of 2 or more lesions	Dissemination in time, demonstrated by ➤ Simultaneous asymptomatic contrast-enhancing and non-enhancing lesions at any time ; <b>OR</b> ➤ A new T2 and/or contrast-enhancing lesions(s) on follow-up MRI, irrespective of its timing; <b>OR</b> ➤ Await a second clinical attack
1	Objective clinical evidence of 1 lesion	Dissemination in space, demonstrated by ➤ ≥ 1T2 lesion in at least two MS typical CNS regions (periventricular, juxtacortical, infratentorial, spinal cord); <b>OR</b> ➤ Await further clinical attack implicating a different CNS site <b>AND</b> Dissemination in time, demonstrated by ➤ Simultaneous asymptomatic contrast-enhancing and non-enhancing lesions at any time; <b>OR</b> ➤ A new T2 and/or contrast-enhancing lesions(s) on follow-up MRI, irrespective of its timing; <b>OR</b> ➤ Await a second clinical attack
0 (progression from onset)		One year of disease progression (retrospective or prospective) <b>AND</b> at least 2 out of 3 criteria: ➤ Dissemination in space in the brain based on ≥1 T2 lesion in periventricular, juxtacortical or infratentorial regions; ➤ Dissemination in space in the spinal cord based on ≥2 T2 lesions; <b>OR</b> ➤ Positive CSF

<sup>1</sup>Polman C et al. *Annals of Neurology* (2011;69:292-302) <http://onlinelibrary.wiley.com/doi/10.1002/ana.22366/abstract>

## Further Information on Diagnosing MS<sup>1</sup>

### What Is An Attack?

- Neurological disturbance of kind seen in MS
- Subjective report or objective observation
- At least 24 hours duration in absence of fever or infection
- Excludes pseudoattacks, single paroxysmal symptoms (multiple episodes of paroxysmal symptoms occurring over 24 hours or more are acceptable as evidence)
- Some historical events with symptoms and pattern typical for MS can provide reasonable evidence of previous demyelinating event(s), even in the absence of objective findings

### Determining Time Between Attacks

- 30 days between onset of event 1 and onset of event 2

### What Provides Evidence for Dissemination in Space?<sup>2</sup>

≥ 1 T2 lesion in at least two out of four areas of the CNS: periventricular, juxtacortical, infratentorial, or spinal cord

- Gadolinium enhancement of lesions is not required for DIS
- If a subject has a brainstem or spinal cord syndrome, the symptomatic lesions are excluded and do not contribute to lesion count

### What Provides MRI Evidence of Dissemination in Time?<sup>3</sup>

- A new T2 and/or gadolinium-enhancing lesion(s) on follow-up MRI, with reference to a baseline scan, irrespective of the timing of the baseline MRI **OR**
- Simultaneous presence of asymptomatic gadolinium-enhancing and non-enhancing lesions at any time

### What is Positive CSF?

Oligoclonal IgG bands in CSF (and not serum) **or** elevated IgG index

<sup>1</sup>Polman C et al. *Annals of Neurology* (2011;69:292-302) <http://onlinelibrary.wiley.com/doi/10.1002/ana.22366/abstract>

<sup>2</sup>Swanton KL et al. *Lancet Neurology* 2007;6:677-686 /Swanton KL et al. *J Neurol Neurosurg Psychiatry* 2006;77:830-833.

<sup>3</sup>Montalban X, et al. *Neurology* 2010;74:427-434