2010 Revised McDonald Diagnostic Criteria for MS\textsuperscript{1}

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

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

Further Information on Diagnosing MS\(^1\)

**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?\(^2\)**
≥ 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?\(^3\)**
- 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

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\(^3\)Montalban X, et al. *Neurology* 2010;74:427-434