

## MS Journal Appendix for MRI methodology

Hardware	
Field strength	1.5 Tesla or 3.0 Tesla
Manufacturer	Various scanners used by NeuroRX, Montreal, Canada, H2X 3P9
Model	Various software used by NeuroRX, Montreal, Canada, H2X 3P9
Coil type (e.g. head, surface)	
Number of coil channels	

Acquisition sequence	
Type (e.g. FLAIR, DIR, DTI, fMRI)	PD-weighted, T2-weighted, FLAIR
Acquisition time	
Orientation	True mid-line sagittal
Alignment (e.g. anterior commissure/poster commissure line)	Indicated lesions were checked for correspondence to a lesion on at least one of the appropriate images, and it was ensured that the lesion was completely within tissue
Voxel size	
TR	
TE	
TI	
Flip angle	
NEX	
Field of view	
Matrix size	
Parallel imaging	No
If used, parallel imaging method: (e.g. SENSE, GRAPPA)	
Cardiac gating	No
If used, cardiac gating method: (e.g. PPU or ECG)	
Contrast enhancement	No

**Acquisition sequence**

If used, provide name of contrast agent, dose and timing of scan post-contrast administration

N/A

Other parameters:

N/A

<b>Image analysis methods and outputs</b>	
<b>Lesions</b>	
Type (e.g. Gd-enhancing, T2-hyperintense, T1-hypointense)	T2 new/englarging, T2 lesion volume change
Analysis method	An initial segmentation of the scan was carried out based on a set of starting labels provided by software that employs a Bayesian classifier with anatomical prior knowledge
Analysis software	
Output measure (e.g. count or volume [ml])	
<b>Tissue volumes</b>	
Type (e.g. whole brain, grey matter, white matter, spinal cord)	Total brain, cortical grey matter, thalamic volume
Analysis method	
Analysis software	JacobianAtrophy software (Nakamura et al., 2013)
Output measure (e.g. absolute tissue volume in ml, tissue volume as a fraction of intracranial volume, percentage change in tissue volumes)	
<b>Tissue measures (e.g. MTR, DTI, T1-RT, T2-RT, T2*, T2', <sup>1</sup>H-MRS, perfusion, Na)</b>	
Type (e.g. whole brain, grey matter, white matter, spinal cord, normal-appearing grey matter or white matter)	N/A
Analysis method	
Analysis software	
Output measure	
<b>Other MRI measures (e.g. functional MRI)</b>	
Type (e.g. whole brain, grey matter, white matter, spinal cord, normal-appearing grey matter or white matter)	N/A
Analysis method	
Analysis software	
Output measure	

**Other analysis details:**