

MS Journal Appendix for MRI methodology

Field strength	3.0 T
Manufacturer	Philips: 3.0 T
Model	Philips: Intera
Coil type (e.g. head, surface)	8-channel headcoil
Number of coil channels	Philips: 8-channel headcoil

Type (e.g. FLAIR, DIR, DTI, fMRI)	DE TSE, 3D T1 TFE, DTI	
Acquisition time	25 min	
Orientation	Axial	
Alignment (e.g. anterior commissure/posterior commissure line)	AC-PC	
Voxel size	DE TSE: 0.94x0.94x3 mm ² 3D T1 TFE: 1x1x1 mm ² DTI: 2.14x2.6x2.3 mm ²	
TR	DE TSE: TR=2599 ms 3D T1 TFE: TR=7 ms DTI: TR=8775 ms	
TE	DE TSE: TE=16/80 ms 3D T1 TFE: TE=3.5 ms DTI: TE=58 ms	
TI	3D T1 TFE: TI=1000 ms	
Flip angle	DE TSE: FA=90° 3D T1 TFE: FA=8° DTI: FA=90°	
NEX	NEX=1	
Field of view	DE TSE: FOV=240x240 mm ² 3D T1 TFE: FOV=256x256 mm ² DTI: FOV=240x231 mm ²	
Matrix size	DE TSE: Matrix=256x256 3D T1 FFE: Matrix=256x256 DTI: Matrix=112 x 88	
Parallel imaging	Yes	No
If used, parallel imaging method: (e.g. SENSE, GRAPPA)	SENSE	
Cardiac gating	Yes	No
If used, cardiac gating method: (e.g. PPU or ECG)		
Contrast enhancement	Yes	No
If used, provide name of contrast agent, dose and timing of scan post-contrast administration	N/A	

Other parameters:	None

Lesions	
Type (e.g. Gd-enhancing, T2-hyperintense, T1-hypointense)	T2-hyperintense, T1-hypointense
Analysis method	Local thresholding segmentation technique
Analysis software	Jim 6, Xinapse Systems Ltd. www.xinapse.com)
Output measure (e.g. count or volume [ml])	lesion volume
Tissue volumes	
Type (e.g. whole brain, grey matter, white matter, spinal cord)	Whole brain, gray matter and white matter
Analysis method	brain segmentation and skull based normalization
Analysis software	SIENAX
Output measure (e.g. absolute tissue volume in ml, tissue volume as a fraction of intracranial volume, percentage change in tissue volumes)	Normalized volumes
Tissue measures (e.g. MTR, DTI, T1-RT, T2-RT, T2*, T2', ¹H-MRS, perfusion, Na)	
Type (e.g. whole brain, grey matter, white matter, spinal cord, normal-appearing grey matter or white matter)	Structural connectivity
Analysis method	Diffusion tensor estimate Non-linear transformation to standard space Creation of connectivity atlas from healthy controls Atlas-derived connectivity matrices and lesion loads
Analysis software	FSL, Brain Connectivity toolbox
Output measure	network graph properties
Other MRI measures (e.g. functional MRI)	
Type (e.g. whole brain, grey matter, white matter, spinal cord, normal-appearing grey matter or white matter)	
Analysis method	
Analysis software	
Output measure	

Other analysis details: