MS Journal Appendix for MRI methodology

Hardware	
Field strength	1.5T 3T
Manufacturer	GE / Siemens / Philips / Toshiba
Model	Siemens: Symphony 1.5T, Sonata 1.5T, Avanto 1.5T, TrioTim 3T Philips: Eclipse 1.5T, Achieva 3T GE: Genesis 1.5T, Excite 1.5T, Excite HD 1.5T, HDx 1.5T, HDxt 1.5T, HDxt 3T Toshiba: Atlas 1.5T
Coil type (e.g. head, surface)	Quadrature or Multichannel (*)
Number of coil channels	If multichannel: 4 to 8 (*)

Acquisition sequence		
Type (e.g. FLAIR, DIR, DTI, fMRI)	2D Turbo Spin Echo Proton Density weighted	
Acquisition time	2:30 to 5:00	
Orientation	Axial / Oblique	
Alignment (e.g. anterior commissure/poster commissure line)	AC-PC	
Voxel size	0.98 mm x 0.98 mm x 3mm (slice thickness)	
TR	2000ms to 3000ms (*)	
TE	7 to 15ms (*)	
TI	-	
Flip angle	120° to 180° (*)	
NEX	1	
Field of view	AP: 250mm RL: 187.5mm to 250mm (*)	
Matrix size	256	
Parallel imaging	~~Yes~~	No
If used, parallel imaging method: (e.g. SENSE, GRAPPA)		

Acquisition sequence		
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		
Other parameters:	Phase encoding direction: R/L 60 slices Turbo factor (ETL) = 3	

Acquisition sequence		
Type (e.g. FLAIR, DIR, DTI, fMRI)	2D Turbo Spin Echo T2 weighted	
Acquisition time	2:30 to 5:00	
Orientation	Axial / Oblique	
Alignment (e.g. anterior commissure/poster commissure line)	AC-PC	
Voxel size	0.98 mm x 0.98 mm x 3mm (slice thickness)	
TR	4264ms to 6330ms (*)	
TE	68ms to 91ms (*)	
TI	-	
Flip angle	120° to 180° (*)	
NEX	1	
Field of view	AP: 250mm RL: 187.5mm to 250mm (*)	
Matrix size	256	
Parallel imaging	~~Yes~~	No

Acquisition sequence		
If used, parallel imaging method: (e.g. SENSE, GRAPPA)		
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		
Other parameters:	Phase encoding direction: R/L 60 slices Turbo factor (ETL) = 7 to 11 (*)	

Acquisition sequence	
Type (e.g. FLAIR, DIR, DTI, fMRI)	3D spoiled gradient echo T1 weighted pre contrast
Acquisition time	4:14 to 7:20
Orientation	Axial / Oblique
Alignment (e.g. anterior commissure/poster commissure line)	AC-PC
Voxel size	0.98 mm x 0.98 mm x 3mm
TR	28-30 ms (*)
TE	4-11ms (*)
TI	-
Flip angle	27° or 30° (*)
NEX	1
Field of view	AP: 250mm RL: 187.5mm SI: 180mm

Acquisition sequence		
Matrix size	256	
Parallel imaging	~~Yes~~	No
If used, parallel imaging method: (e.g. SENSE, GRAPPA)		
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		
Other parameters:	Phase encoding direction: R/L 60 slabs	

Acquisition sequence	
Type (e.g. FLAIR, DIR, DTI, fMRI)	2D T2 Turbo Flair
Acquisition time	7min to 9 min
Orientation	Axial / Oblique
Alignment (e.g. anterior commissure/poster commissure line)	AC-PC
Voxel size	0.98 mm x 0.98 mm x 3mm (slice thickness)
TR	9000ms to 9820ms (*)
TE	59ms to 97ms (*)
TI	2000ms to 2500ms(*)
Flip angle	120° to 180° (*)
NEX	1

Acquisition sequence		
Field of view	AP: 250mm RL: 187.5mm to 250mm (*)	
Matrix size	256	
Parallel imaging	~~Yes~~	No
If used, parallel imaging method: (e.g. SENSE, GRAPPA)		
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	2D T2 Flair acquired during the 10' delay from the end of the injection to the start of the 3D T1 post contrast (see next sequence)	
Other parameters:	Phase encoding direction: R/L 60 slices Turbo factor (ETL) = 8 to 12(*)	

Acquisition sequence	
Type (e.g. FLAIR, DIR, DTI, fMRI)	3D spoiled gradient echo T1 weighted post contrast
Acquisition time	4:14 to 7:20
Orientation	Axial / Oblique
Alignment (e.g. anterior commissure/poster commissure line)	AC-PC
Voxel size	0.98 mm x 0.98 mm x 3mm
TR	28-30 ms (*)
TE	4-11ms (*)
TI	-

Acquisition sequence		
Flip angle	27° or 30° (*)	
NEX	1	
Field of view	AP: 250mm RL: 187.5mm SI: 180mm	
Matrix size	256	
Parallel imaging	~~Yes~~	No
If used, parallel imaging method: (e.g. SENSE, GRAPPA)		
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	10' post contrast dose: according to the weight of the participant (0.1mmol/kg). Contrast agent could be: prohance / magnevist / optimark / omniscan / multihance / Gadovist (*)	
Other parameters:	Phase encoding direction: R/L 60 slabs	

(*) Note that when a range or several values are provided, each individual scanner uses a fixed value.

Image analysis methods and outputs	
Lesions	
Type (e.g. Gd-enhancing, T2-hyperintense, T1-hypointense)	
Analysis method	
Analysis software	
Output measure (e.g. count or volume [ml])	
Tissue volumes	
Type (e.g. whole brain, grey matter, white matter, spinal cord)	
Analysis method	
Analysis software	
Output measure (e.g. absolute tissue volume in ml, tissue volume as a fraction of intracranial volume, percentage change in tissue volumes)	
Tissue measures (e.g. MTR, DTI, T1-RT, T2-RT, T2*, T2', ^{1}H-MRS, perfusion, Na)	
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 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:

CONSORT 2010 checklist of information to include when reporting a randomised trial*

Section/Topic	Item No	Checklist item	Reported on page No
Title and abstract			
	1a	Identification as a randomised trial in the title	1
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts)	2
Introduction			
Background and objectives	2a	Scientific background and explanation of rationale	3
	2b	Specific objectives or hypotheses	2
Methods			
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio	4-5
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons	n/a
Participants	4a	Eligibility criteria for participants	4
	4b	Settings and locations where the data were collected	4
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered	5
Outcomes	6a	Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed	5-7
	6b	Any changes to trial outcomes after the trial commenced, with reasons	n/a
Sample size	7a	How sample size was determined	12
	7b	When applicable, explanation of any interim analyses and stopping guidelines	n/a
Randomisation:			
Sequence generation	8a	Method used to generate the random allocation sequence	n/a
	8b	Type of randomisation; details of any restriction (such as blocking and block size)	4-5
Allocation concealment mechanism	9	Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned	n/a
Implementation	10	Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions	n/a
Blinding	11a	If done, who was blinded after assignment to interventions (for example, participants, care providers, those	4

		assessing outcomes) and how	
	11b	If relevant, description of the similarity of interventions	n/a
Statistical methods	12a	Statistical methods used to compare groups for primary and secondary outcomes	7-8
	12b	Methods for additional analyses, such as subgroup analyses and adjusted analyses	7-8
Results			
Participant flow (a diagram is strongly recommended)	13a	For each group, the numbers of participants who were randomly assigned, received intended treatment, and were analysed for the primary outcome	8-9, Figure 1
	13b	For each group, losses and exclusions after randomisation, together with reasons	8-10, Figure 1
Recruitment	14a	Dates defining the periods of recruitment and follow-up	4
	14b	Why the trial ended or was stopped	4, 12
Baseline data	15	A table showing baseline demographic and clinical characteristics for each group	Table 1
Numbers analysed	16	For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups	Figure 1, Tables 2, 3, and 4
Outcomes and estimation	17a	For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% confidence interval)	Tables 2, 3, and 4
	17b	For binary outcomes, presentation of both absolute and relative effect sizes is recommended	n/a
Ancillary analyses	18	Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory	10, Table 2
Harms	19	All important harms or unintended effects in each group (for specific guidance see CONSORT for harms)	11, Table 4
Discussion			
Limitations	20	Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses	11-12
Generalisability	21	Generalisability (external validity, applicability) of the trial findings	11-13
Interpretation	22	Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence	11-13
Other information			
Registration	23	Registration number and name of trial registry	4
Protocol	24	Where the full trial protocol can be accessed, if available	n/a
Funding	25	Sources of funding and other support (such as supply of drugs), role of funders	14

*We strongly recommend reading this statement in conjunction with the CONSORT 2010 Explanation and Elaboration for important clarifications on all the items. If relevant, we also recommend reading CONSORT extensions for cluster randomised trials, non-inferiority and equivalence trials, non-pharmacological treatments, herbal interventions, and pragmatic trials. Additional extensions are forthcoming: for those and for up to date references relevant to this checklist, see www.consort-statement.org.