

Supplementary Table 1 - MRI Acquisition Protocols

<b>STUDY</b>	<b>OBI - ONDRI</b>		
<b>SEQUENCE</b>	<b>3DT1</b>		
<b>Protocol</b>			
Vendor	GE	Philips	Siemens
Field Strength	3T	3T	3T
Model	Discovery	Achieva	Skyra/Trio/Prisma
Version	22	3.2.3	
Sequence Name	3D FAST SPGR	3D TFE	3D MP-RAGE
Imaging Options	IrP- Asset	Fast (Sense)	iPat
<b>Pulse Timing</b>			
TE (ms)	Min full	Min (3.3)	2.98
TR (ms)	Min	Min (7.3)	2300
Flip Angle (°)	11	9	9
TI (ms)	400	945	900
<b>Scan Range</b>			
FOV (in-plane) (mm)	256 x 256	256 x 248	256 x 256
Slice Thickness (mm)	1	1	1
Gap Between Slices (mm)	0	0	0
No. Slices	176	176	176
<b>Acquisition</b>			
Orientation	Sagittal	Sagittal	Sagittal
Matrix Size	256 x 256	256 x 248	256 x 256
Voxel Size [L/R x A/P x I/S]	1 x 1 x 1	1 x 1 x 1	1 x 1 x 1
NEX	1	1	1
Acceleration Factor (Parallel factor*)	2	2	2
<b>Other</b>			
Fat Suppression	None	None	None
Bandwidth	31.25 (kHz)	228 (Hz/px)	240 (Hz/px)
Echo Train Length	-	-	-
<b>Coil Type</b>			
Head	X	X	X
Channel	8-12 (HNS)	8	12(Trio) 20 (Prisma)
<b>Time</b>			
<b>PRESCAN TIME+</b>	00:30	00:30	00:30
<b>SCAN TIME</b>	04:52	06:17	05:21
<b>TOTAL TIME (MIN)</b>	05:22	06:47	05:51

<b>STUDY</b>	<b>OBI - ONDRI</b>		
<b>SEQUENCE</b>	<b>PD/T2</b>		
<b>Protocol</b>			
Vendor	GE	Philips	Siemens
Field Strength	3T	3T	3T
Model	Discovery	Achieva	Skyra/Trio/Prisma
Version	22	3.2.3	
Sequence Name	FSE-XL	TSE	TSE
Imaging Options	EDR, Asset	Fast (Sense)	iPat
<b>Pulse Timing</b>			
TE (ms) (2 echo scan)	Min full/86	13/100	10/93
TR (ms)	3000	3000	3000
Flip Angle (°)	125	90	165
TI (ms)	-	-	-
<b>Scan Range</b>			
FOV (in-plane) (mm)	240 x 240	240 x 240	240 x 240
Phase FOV	75%	75%	81%
Slice Thickness (mm)	3	3	3
Gap Between Slices (mm)	0	0	0
No. Slices	48	48	48
<b>Acquisition</b>			
Orientation	Oblique Axial	Oblique Axial	Oblique Axial
Matrix Size	256 x 256	256 x 254	256 x 256
Voxel Size [L/R x A/P x I/S]	0.94 x 0.94 x 3	0.94x 0.94 x 3	0.94 x 0.94 x 3
NEX	1	1	1
Acceleration Factor (Parallel factor*)	2	2	2
<b>Other</b>			
Fat Suppression	Yes (FAT-SAT)	Yes	Yes
Bandwidth	20 (kHz)	222 (Hz/px)	181 (Hz/px)
Echo Train Length	12	12	14
<b>Coil Type</b>			
Head	X	X	X
Channel	8-12 (HNS)	8	12(Trio) 20 (Prisma)
<b>Time</b>			
<b>PRESCAN TIME+</b>	00:30	00:30	00:30
<b>SCAN TIME</b>	02:43	04:12	03:11
<b>TOTAL TIME (MIN)</b>	03:13	04:42	03:41

<b>STUDY</b>	<b>OBI - ONDRI</b>		
<b>SEQUENCE</b>	<b>2D FLAIR</b>		
<b>Protocol</b>			
Vendor	GE	Philips	Siemens
Field Strength	3T	3T	3T
Model	Discovery	Achieva	Skyra/Trio/Prisma
Version	22	3.2.3	
Sequence Name	2D T2FLAIR	2D IR TSE	2D IR TDF
Imaging Options	EDR, IR	Fast (Sense)	iPat
<b>Pulse Timing</b>			
TE (ms)	140	125	120
TR (ms)	9000	9000	9000
Flip Angle (°)	125	90 (150 refocus)	165
TI (ms)	2250	2500	2500
<b>Scan Range</b>			
FOV (in-plane) (mm)	240 x 240	240 x 240	240 x 240
Slice Thickness (mm)	3	3	3
Gap Between Slices (mm)	0	0	0
No. Slices	48	48	48
<b>Acquisition</b>			
Orientation	Oblique Axial	Oblique Axial	Oblique Axial
Matrix Size	256 x 256	256 x 242	256 x 256
Voxel Size [L/R x A/P x I/S]	0.94 x 0.94 x 3	0.94 x 0.99 x 3	0.94 x 0.94 x 3
NEX	1	1	1
Acceleration Factor (Parallel factor*)	No Asset	2 (SENSE)	2
<b>Other</b>			
Fat Suppression	None	None	None
Bandwidth	25 (kHz)	242 (Hz/px)	220 (Hz/px)
Echo Train Length		19	19
<b>Coil Type</b>			
Head	X	X	X
Channel	8-12 (HNS)	8	12(Trio) 20 (Prisma)
<b>Time</b>			
<b>PRESCAN TIME+</b>	00:30	00:30	00:30
<b>SCAN TIME</b>	04:32	03:45	02:44
<b>TOTAL TIME (MIN)</b>	05:02	04:15	03:14

<b>STUDY</b>	<b>OBI - ONDRI</b>		
<b>SEQUENCE</b>	<b>T2-star</b>		
<b>Protocol</b>			
Vendor	GE	Philips	Siemens
Field Strength	3T	3T	3T
Model	Discovery	Achieva	Skyra/Trio/Prisma
Version	22	3.2.3	
Sequence Name	GRE	FFE	GRE
Imaging Options	-	Sense	iPat
<b>Pulse Timing</b>			
TE (ms)	20	21	20
TR (ms)	650	650	650
Flip Angle (°)	20	20	20
TI (ms)	-	-	-
<b>Scan Range</b>			
FOV (in-plane) (mm)	240 x 240	240 x 240	240 x 240
Phase FOV	75%	75%	75%
Slice Thickness (mm)	3	3	3
Gap Between Slices (mm)	0	0	0
No. Slices	48	48	48
<b>Acquisition</b>			
Orientation	Oblique Axial	Oblique Axial	Oblique Axial
Matrix Size	256 x 256	256 x 256	256 x 256
Voxel Size [L/R x A/P x I/S]	0.94 x 0.94 x 3	0.94 x 0.94 x 3	0.94 x 0.94 x 3
NEX	1	1	1
Acceleration Factor (Parallel factor*)	No Asset	2 (SENSE)	2
<b>Other</b>			
Fat Suppression	None	None	None
Bandwidth	19.23 (kHz)	217 (Hz/px)	200 (Hz/px)
Echo Train Length	1	1	1
CV act_te (GE only)	20000		
<b>Coil Type</b>			
Head	X	X	X
Channel	8-12 (HNS)	8	12(Trio) 20 (Prisma)
<b>Time</b>			
<b>PRESCAN TIME+</b>	00:30	00:30	00:30
<b>SCAN TIME</b>	02:15	02:52	03:04
<b>TOTAL TIME (MIN)</b>			

<b>STUDY</b>	<b>OBI - ONDRI</b>		
<b>SEQUENCE</b>	<b>fMRI-RS</b>		
<b>Protocol</b>			
Vendor	GE	Philips	Siemens
Field Strength	3T	3T	3T
Model	Discovery	Achieva	Skyra/Trio/Prisma
Version	22	3.2.3	
Sequence Name	fMRI EPI	fMRI EPI	fMRI EPI
Imaging Options	EDR, "eyes open"	GRE EPI, CLEAR SENSE, "eyes open"	"eyes open"
<b>Pulse Timing</b>			
TE (ms)	30	30	30
TR (ms)	2400	2400	2400
Flip Angle (°)	70	70	70
TI (ms)	-	-	-
<b>Scan Range</b>			
FOV (in-plane) (mm)	224 x 224	224 x 224	224 x 224
Slice Thickness (mm)	3.5	3.5	3.5
Gap Between Slices (mm)	0	0	0
No. Slices	41	41	41
<b>Acquisition</b>			
Orientation	Oblique Axial	Oblique Axial	Oblique Axial
Matrix Size	64 x 64	64 x 64	64 x 64
Voxel Size [L/R x A/P x I/S]	3.5 x 3.5 x 3.5	3.5 x 3.5 x 3.5	3.5 x 3.5 x 3.5
NEX	1	1	1
Acceleration Factor (Parallel factor*)	2	2	2
Slice Order		Ascending	
<b>Other</b>			
Fat Suppression	Fat Sat.	Fat Sat. SPIR	Fat Sat.
Bandwidth (Hz/Px)	7812	2441	2440
Number of acquisitions	250	250	250
EPI Factor		35	31
<b>Coil Type</b>			
Head	X	X	X
Channel	8-12 (HNS)	8	12(Trio) 20 (Prisma)
<b>Time</b>			
<b>PRESCAN TIME+</b>	00:30	00:30	00:30
<b>SCAN TIME</b>	10:00	10:00	10:00
<b>TOTAL TIME (MIN)</b>	10:30	10:30	10:30

<b>STUDY</b>	<b>OBI - ONDRI</b>			
<b>SEQUENCE</b>	<b>DTI</b>			
<b>Protocol</b>				
Vendor	GE	Philips	Siemens	Siemens
Field Strength	3T	3T	3T	3T
Model	Discovery	Achieva	Skyra/Trio/Prisma	Skyra/Trio/Prisma
Version	22	3.2.3		17
Sequence Name	DWI	DWI	DWI	DWI
Imaging Options	ASSET	Sense	iPat	iPat
<b>Pulse Timing</b>				
TE (ms)	Min	100	96/ 63(Prisma)	96/ 64 (Prisma)
TR (ms)	9000	9931	9400	9400
Flip Angle (°)	90	90	90	90
TI (ms)	-	-	-	-
<b>Scan Range</b>				
FOV (in-plane) (mm)	256 x 256	256x 256	256 x 256	256 x 256
Slice Thickness (mm)	2	2	2	2
Gap Between slices (mm)	0	0	0	0
No. Slices	70	70	70	70
<b>Acquisition</b>				
Orientation	Oblique Axial	Oblique Axial	Oblique Axial	Oblique Axial
Matrix Size	128 x 128	128 x 128	128 x 128	128 x 128
Voxel Size (L/R x A/P x I/S)	2 x 2 x 2	2 x 2 x 2	2 x 2 x 2	2 x 2 x 2
NEX	1	1	1	1
Acceleration Factor (Parallel factor*)	2	2	2	2
<b>Diffusion</b>				
b-value 1	0	0	0	0
b-value 2	1000	1000	1000	
Number of Directions	30	32	30	1
<b>Other</b>				
Fat Suppression	FatSat	FatSat	FatSat	FatSat
Bandwidth (Hz/Px)		2045	2056	2056
T2 Images	3	3	3	
EPI Factor		67	128	128
Gradients			Monopolar (Prisma)	Monopolar (Prisma)
CV rhimsize (GE only)	128			
<b>Coil Type</b>				

Head	x	x	x	x
Channel	8-12 (HNS)	8	12(Trio) 20 (Prisma)	12(Trio) 20 (Prisma)
<b>Time</b>				
<b>PRESCAN TIME+</b>	00:30	00:30	00:30	00:30
<b>SCAN TIME</b>	05:06	0:6:58	05:21	00:39
<b>TOTAL TIME (MIN)</b>	05:36	07:28	05:33	01:08

**Core Protocol Scan Time Estimates**

	<i>GE</i>	<i>Philips</i>	<i>Siemens</i>
Set up	05:00	05:00	05:00
3DT1	05:22	06:47	05:51
PD/T2	02:49	04:42	03:41
2D FLAIR	05:02	04:15	03:14
T2-star or T2-star_PM or T2-star_PMRI	03:45	03:22	03:34
RS-fMRI	10:30	10:30	10:30
DTI	06:30	07:28	06:41
Set down	02:30	02:30	02:30
<b>Total scan time</b>	33:58	37:04	33:31
<b>Total session time</b>	<b>41:28</b>	<b>44:34</b>	<b>41:01</b>