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\\ROUTINE BJH

NEURO

A06A ARIA

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\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WWO\AAHead\_Scout \*

TA: 0:14 PM: ISO Voxel size: 1.6×1.6×1.6 mmPAT: 3 Rel. SNR: 1.00 : fl

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	On
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	128
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	3.15 ms
TE	1.37 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	HE1-4

**Contrast - Common**

TR	3.15 ms
TE	1.37 ms
Flip angle	8 deg

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

**Resolution - Common**

FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
Base resolution	160
Phase resolution	100 %
Slice resolution	69 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
Trajectory	Cartesian

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	24

**Resolution - iPAT**

Accel. factor 3D	1
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	128
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	3.15 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 P20.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

**Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H

**System - Miscellaneous**

Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Flip angle	8 deg
Measurements	1
Time to center	6.2 s

**Inline - Inline**

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	On
Dimension	3D
Asymmetric echo	Weak

**Sequence - Part 1**

Contrasts	1
Multi-slice mode	Sequential
Bandwidth	540 Hz/Px

**Sequence - Part 2**

RF pulse type	Fast
Gradient mode	Normal
Excitation	Non-sel.
RF spoiling	On

**Sequence - Assistant**

Mode	Off
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\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WWO\SAG FL2D \*

TA: 0:41 PM: ISO Voxel size: 1.0×1.0×4.0 mmPAT: 2 Rel. SNR: 1.00 : fl

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slice group	1
Slices	35
Dist. factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	40 %
FoV read	250 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	240.0 ms
TE	2.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	HE1-4

**Contrast - Common**

TR	240.0 ms
TE	2.46 ms
MTC	Off
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	250 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
Base resolution	256
Phase resolution	82 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	48
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	35
Dist. factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	250 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	240.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
AutoAlign	Head > Brain
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	None
Water suppr.	None
Special sat.	None

**Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	Head > Brain
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	240.0 ms
Concatenations	1
Segments	1

**Physio - Cardiac**

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	250 mm
FoV phase	100.0 %
Phase resolution	82 %

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Liver registration	Off

**Inline - Common**

Save original images	On
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**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Soft Tissue**

Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
Measurements	1

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	360 Hz/Px

**Sequence - Part 2**

Segments	1
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On

**Sequence - Assistant**

Mode	Off
Allowed delay	40 s

**\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WWO\TRA T2 TSE \***

TA: 0:51 PM: ISO Voxel size: 0.9×0.9×5.0 mmPAT: 3 Rel. SNR: 1.00 : tse

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slice group	1
Slices	25
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	230 mm
FoV phase	87.5 %
Slice thickness	5.0 mm
TR	5140.0 ms
TE	78 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	HE1-4

**Contrast - Common**

TR	5140.0 ms
TE	78 ms
TD	0.0 ms
MTC	Off
Magn. preparation	None
Flip angle	120 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	230 mm
FoV phase	87.5 %
Slice thickness	5.0 mm
Base resolution	256
Phase resolution	98 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	46
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	25
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
FoV read	230 mm
FoV phase	87.5 %
Slice thickness	5.0 mm
TR	5140.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	2

**Geometry - AutoAlign**

Slice group	1
AutoAlign	Head > Brain
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

**Geometry - Saturation**

Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Special sat.	None

**Geometry - Navigator****Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	Head > Brain
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	5140.0 ms
Concatenations	2

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	230 mm
FoV phase	87.5 %
Phase resolution	98 %
Trajectory	Cartesian

**Physio - PACE**

Resp. control	Off
Concatenations	2

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	On
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	11.1 ms
Bandwidth	260 Hz/Px

**Sequence - Part 2**

Define	Turbo factor
Echo trains per slice	4
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Low SAR
Gradient mode	Fast
Hyperecho	On
WARP	Off
Red. EC sensitivity	Off
Turbo factor	26

**Sequence - Assistant**

Mode	Off
Allowed delay	60 s

**\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WWO\t2\_tse\_tra\_dark-fluid ARIA \***

TA: 2:08 PM: REF Voxel size: 0.5×0.5×4.0 mmPAT: 3 Rel. SNR: 1.00 : tir

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	9000.0 ms
TE	96.0 ms
Averages	1
Concatenations	2
Filter	Prescan Normalize, Elliptical filter
Coil elements	HE1-4

**Contrast - Common**

TR	9000.0 ms
TE	96.0 ms
TD	0.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	2500 ms
Flip angle	150 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Water suppr.	None
Restore magn.	Off
Freeze suppressed tissue	On

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
Base resolution	256
Phase resolution	85 %

**Resolution - Common**

Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	On

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	34
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	9000.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	2

**Geometry - AutoAlign**

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

**Geometry - Saturation**

Fat suppr.	Fat sat.
Fat sat. mode	Strong
Water suppr.	None
Restore magn.	Off
Special sat.	None

**Geometry - Navigator**

**Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	240 mm
A >> P	240 mm
F >> H	155 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	9000.0 ms
Concatenations	2

**Physio - Cardiac**

Magn. preparation	Slice-sel. IR
TI	2500 ms
Fat suppr.	Fat sat.
Dark blood	Off
FoV read	240 mm
FoV phase	100.0 %
Phase resolution	85 %
Trajectory	Cartesian

**Physio - PACE**

Resp. control	Off
Concatenations	2

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	Off

**Sequence - Part 1**

Introduction	On
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	On
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	9.62 ms
Bandwidth	199 Hz/Px

**Sequence - Part 2**

Define	Turbo factor
Echo trains per slice	6
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Normal
Gradient mode	Fast
Hyperecho	Off
WARP	Off
Red. EC sensitivity	Off
Turbo factor	16

**Sequence - Assistant**

Mode	Off
Allowed delay	60 s

\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WWO\t2\_fl2d\_tra\_hemo ARIA \*

TA: 2:26 PM: FIX Voxel size: 0.5×0.5×4.0 mmPAT: 2 Rel. SNR: 1.00 : fl\_r

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Routine**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	597.0 ms
TE	35.00 ms
Averages	1
Concatenations	2
Filter	Prescan Normalize, Elliptical filter
Coil elements	HE1-4

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	597.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	2

**Contrast - Common**

TR	597.0 ms
TE	35.00 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Geometry - AutoAlign**

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	None
Water suppr.	None
Special sat.	None

**Resolution - Common**

FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
Base resolution	256
Phase resolution	85 %
Phase partial Fourier	Off
Interpolation	On

**Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	FIX
Table position	H

**System - Miscellaneous**

Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	597.0 ms
Concatenations	2
Segments	1

**Physio - Cardiac**

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	240 mm
FoV phase	100.0 %
Phase resolution	85 %

**Physio - PACE**

Resp. control	Off
Concatenations	2

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Liver registration	Off
Save original images	On

**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Soft Tissue**

Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
Measurements	1

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	Off

**Sequence - Part 1**

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	Slice/Read
Multi-slice mode	Interleaved
Bandwidth	200 Hz/Px

**Sequence - Part 2**

Segments	1
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On

**Sequence - Assistant**

Mode	Off
Allowed delay	60 s

\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WWO\ep2d\_diff\_3scan\_trace\_p2 ARIA \*

TA: 0:48 PM: FIX Voxel size: 1.9×1.9×4.0 mmPAT: 2 Rel. SNR: 1.00 : epse

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	6700 ms
TE	72.0 ms
Averages	1
Concatenations	1
Filter	Raw filter, Prescan Normalize
Coil elements	HE1-4

**Contrast - Common**

TR	6700 ms
TE	72.0 ms
MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Fat sat. mode	Strong

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Delay in TR	0 ms

**Resolution - Common**

FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2

**Resolution - iPAT**

Ref. lines PE	30
Reference scan mode	EPI/separate

**Resolution - Filter Image**

Distortion Corr.	Off
Prescan Normalize	On
Dynamic Field Corr.	Off

**Resolution - Filter Rawdata**

Raw filter	On
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	6700 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

**Geometry - Saturation**

Fat suppr.	Fat sat.
Fat sat. mode	Strong
Special sat.	None

**Geometry - Navigator****Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L

**System - Miscellaneous**

Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	240 mm
R >> L	240 mm
F >> H	155 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	6700 ms
Concatenations	1

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Diff - Neuro**

Diffusion mode	3-Scan Trace
Diff. directions	3
Diffusion Scheme	Bipolar
Diff. weightings	2
b-value 1	0 s/mm <sup>2</sup>
b-value 2	1000 s/mm <sup>2</sup>
b-value 1	1
b-value 2	1
Diff. weighted images	Off
Trace weighted images	On
ADC maps	On
FA maps	Off
Mosaic	Off
Tensor	Off
Noise level	40

**Diff - Body**

Diffusion mode	3-Scan Trace
Diff. directions	3
Diffusion Scheme	Bipolar

**Diff - Body**

Diff. weightings	2
b-value 1	0 s/mm <sup>2</sup>
b-value 2	1000 s/mm <sup>2</sup>
b-value 1	1
b-value 2	1
Diff. weighted images	Off
Trace weighted images	On
ADC maps	On
Exponential ADC Maps	Off
FA maps	Off
Invert Gray Scale	Off
Calculated Image	Off
b-Value >=	0 s/mm <sup>2</sup>
Noise level	40

**Diff - Composing**

Inline Composing	Off
Distortion Corr.	Off

**Sequence - Part 1**

Introduction	On
Optimization	None
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.68 ms
Bandwidth	1698 Hz/Px

**Sequence - Part 2**

EPI factor	128
RF pulse type	Normal
Gradient mode	Fast

**\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WWO\COR DIFFUSION \***

TA: 2:26 PM: ISO Voxel size: 0.6×0.6×3.0 mmPAT: 2 Rel. SNR: 1.00 : epse

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slice group	1
Slices	40
Dist. factor	30 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	F >> H
AutoAlign	Head > Brain
Phase oversampling	30 %
FoV read	220 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	9600 ms
TE	114.0 ms
Averages	3
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize
Coil elements	HE1-4

**Contrast - Common**

TR	9600 ms
TE	114.0 ms
MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Fat sat. mode	Strong

**Contrast - Dynamic**

Averages	3
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Delay in TR	0 ms

**Resolution - Common**

FoV read	220 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	On

**Resolution - iPAT**

PAT mode	GRAPPA
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**Resolution - iPAT**

Accel. factor PE	2
Ref. lines PE	40
Reference scan mode	EPI/separate

**Resolution - Filter Image**

Distortion Corr.	On
Mode	2D
Prescan Normalize	On
Dynamic Field Corr.	Off

**Resolution - Filter Rawdata**

Raw filter	On
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	40
Dist. factor	30 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	F >> H
FoV read	220 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	9600 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
AutoAlign	Head > Brain
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	F >> H
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Coronal

**Geometry - Saturation**

Fat suppr.	Fat sat.
Fat sat. mode	Strong
Special sat.	None

**Geometry - Navigator****Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	0 mm

**System - Miscellaneous**

MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Matrix Optimization	Off
AutoAlign	Head > Brain
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Coronal
Rotation	90.00 deg
F >> H	220 mm
R >> L	220 mm
A >> P	156 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	9600 ms
Concatenations	1

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Diff - Neuro**

Diffusion mode	3-Scan Trace
Diff. directions	3
Diffusion Scheme	Bipolar
Diff. weightings	2
b-value 1	0 s/mm <sup>2</sup>
b-value 2	1000 s/mm <sup>2</sup>
b-value 1	3
b-value 2	3
Diff. weighted images	Off
Trace weighted images	On
ADC maps	On
FA maps	Off
Mosaic	Off
Tensor	Off
Noise level	40

**Diff - Body**

Diffusion mode	3-Scan Trace
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**Diff - Body**

Diff. directions	3
Diffusion Scheme	Bipolar
Diff. weightings	2
b-value 1	0 s/mm <sup>2</sup>
b-value 2	1000 s/mm <sup>2</sup>
b-value 1	3
b-value 2	3
Diff. weighted images	Off
Trace weighted images	On
ADC maps	On
Exponential ADC Maps	Off
FA maps	Off
Invert Gray Scale	Off
Calculated Image	Off
b-Value >=	0 s/mm <sup>2</sup>
Noise level	40

**Diff - Composing**

Inline Composing	Off
Distortion Corr.	On
Mode	2D

**Sequence - Part 1**

Introduction	On
Optimization	None
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.04 ms
Bandwidth	1132 Hz/Px

**Sequence - Part 2**

EPI factor	192
RF pulse type	Normal
Gradient mode	Fast

\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WWO\TRA SWI \*

TA: 2:15 PM: ISO Voxel size: 0.9×0.9×2.4 mmPAT: 3 Rel. SNR: 1.00 : swi\_r

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	On
Load images to graphic segments	On
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	Head > Brain
Phase oversampling	0 %
Slice oversampling	12.5 %
Slices per slab	64
FoV read	230 mm
FoV phase	90.6 %
Slice thickness	2.40 mm
TR	27.0 ms
TE	20.00 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	HE1-4

**Contrast - Common**

TR	27.0 ms
TE	20.00 ms
MTC	Off
Magn. preparation	None
Flip angle	15 deg
Fat suppr.	None
Water suppr.	None
SWI	On

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	230 mm
FoV phase	90.6 %
Slice thickness	2.40 mm
Base resolution	256
Phase resolution	90 %
Slice resolution	81 %
Phase partial Fourier	Off

**Resolution - Common**

Slice partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	24
Accel. factor 3D	1
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Slice oversampling	12.5 %
Slices per slab	64
FoV read	230 mm
FoV phase	90.6 %
Slice thickness	2.40 mm
TR	27.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
AutoAlign	Head > Brain
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

**Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	None
Water suppr.	None
Special sat.	None

**Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	Head > Brain
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	209 mm
A >> P	230 mm
F >> H	154 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	27.0 ms
Concatenations	1
Segments	1

**Physio - Cardiac**

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	230 mm
FoV phase	90.6 %
Phase resolution	90 %

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Liver registration	Off
Save original images	On

**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Soft Tissue**

Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
Measurements	1

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	Yes
Multi-slice mode	Interleaved
Bandwidth	120 Hz/Px

**Sequence - Part 2**

Segments	1
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slab-sel.
RF spoiling	On

**Sequence - Assistant**

Mode	Off
Allowed delay	60 s

\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WWO\3D T1 MPRAGE \*

TA: 5:12 PM: ISO Voxel size: 1.0×1.0×1.0 mmPAT: 2 Rel. SNR: 1.00 : tfl

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	On
Load images to graphic segments	On
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slab group	1
Slabs	1
Dist. factor	50 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	Head > Basis
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	176
FoV read	256 mm
FoV phase	93.8 %
Slice thickness	1.00 mm
TR	2300.0 ms
TE	2.98 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HE1-4;NE1,2

**Contrast - Common**

TR	2300.0 ms
TE	2.98 ms
Magn. preparation	Non-sel. IR
TI	900 ms
Flip angle	9 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	256 mm
FoV phase	93.8 %
Slice thickness	1.00 mm
Base resolution	256
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

**Resolution - Common**

Interpolation	Off
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**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	32
Accel. factor 3D	1
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Dist. factor	50 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	176
FoV read	256 mm
FoV phase	93.8 %
Slice thickness	1.00 mm
TR	2300.0 ms
Multi-slice mode	Single shot
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
AutoAlign	Head > Basis
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**Geometry - Navigator****Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	Head > Basis
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
A >> P	240 mm
F >> H	256 mm
R >> L	176 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	2300.0 ms
Concatenations	1

**Physio - Cardiac**

Magn. preparation	Non-sel. IR
TI	900 ms
Fat suppr.	None
Dark blood	Off
FoV read	256 mm
FoV phase	93.8 %
Phase resolution	100 %

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Off
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	7.1 ms
Bandwidth	240 Hz/Px

**Sequence - Part 2**

RF pulse type	Fast
Gradient mode	Normal
Excitation	Non-sel.
RF spoiling	On
Incr. Gradient spoiling	Off
Turbo factor	176

**Sequence - Assistant**

Mode	Off
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\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WWO\COR T1FS \*

TA: 0:48 PM: ISO Voxel size: 0.4×0.4×6.0 mmPAT: 2 Rel. SNR: 1.00 : tse\_rs

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	On
Load images to graphic segments	On
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slice group	1
Slices	26
Dist. factor	20 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	230 mm
FoV phase	84.4 %
Slice thickness	6.0 mm
TR	456.0 ms
TE	7.1 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	HE1-4

**Contrast - Common**

TR	456.0 ms
TE	7.1 ms
TD	0.0 ms
MTC	Off
Magn. preparation	None
Flip angle	150 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Water suppr.	None
Restore magn.	Off

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	230 mm
FoV phase	84.4 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	80 %
Phase partial Fourier	Off
Trajectory	Cartesian

**Resolution - Common**

Interpolation	On
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**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	26
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	26
Dist. factor	20 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	230 mm
FoV phase	84.4 %
Slice thickness	6.0 mm
TR	456.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	2

**Geometry - AutoAlign**

Slice group	1
AutoAlign	Head > Brain
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.83 deg
Initial Orientation	Coronal

**Geometry - Saturation**

Fat suppr.	Fat sat.
Fat sat. mode	Strong
Water suppr.	None
Restore magn.	Off
Special sat.	None

**Geometry - Navigator**

**Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	Head > Brain
Coil Select Mode	On - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Coronal
Rotation	0.83 deg
R >> L	195 mm
F >> H	230 mm
A >> P	186 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	456.0 ms
Concatenations	2

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	Fat sat.
Dark blood	Off
FoV read	230 mm
FoV phase	84.4 %
Phase resolution	80 %
Trajectory	Cartesian

**Physio - PACE**

Resp. control	Off
Concatenations	2

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	On
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	On
Contrasts	1
Flow comp.	Slice
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	7.11 ms
Bandwidth	501 Hz/Px

**Sequence - Part 2**

Define	Turbo factor
Echo trains per slice	50
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Fast
Hyperecho	Off
WARP	Off
Red. EC sensitivity	Off
Turbo factor	2

**Sequence - Assistant**

Mode	Min flip angle
Min flip angle	130 deg
Allowed delay	60 s

\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WO\AAHead\_Scout \*

TA: 0:14 PM: ISO Voxel size: 1.6×1.6×1.6 mmPAT: 3 Rel. SNR: 1.00 : fl

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	On
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	128
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	3.15 ms
TE	1.37 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	HE1-4

**Contrast - Common**

TR	3.15 ms
TE	1.37 ms
Flip angle	8 deg

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

**Resolution - Common**

FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
Base resolution	160
Phase resolution	100 %
Slice resolution	69 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
Trajectory	Cartesian

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	24

**Resolution - iPAT**

Accel. factor 3D	1
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	128
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	3.15 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 P20.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

**Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H

**System - Miscellaneous**

Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Flip angle	8 deg
Measurements	1
Time to center	6.2 s

**Inline - Inline**

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	On
Dimension	3D
Asymmetric echo	Weak

**Sequence - Part 1**

Contrasts	1
Multi-slice mode	Sequential
Bandwidth	540 Hz/Px

**Sequence - Part 2**

RF pulse type	Fast
Gradient mode	Normal
Excitation	Non-sel.
RF spoiling	On

**Sequence - Assistant**

Mode	Off
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**\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WO\2\_tse\_tra\_dark-fluid ARIA \***

TA: 2:08 PM: REF Voxel size: 0.5×0.5×4.0 mmPAT: 3 Rel. SNR: 1.00 : tir

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	9000.0 ms
TE	96.0 ms
Averages	1
Concatenations	2
Filter	Prescan Normalize, Elliptical filter
Coil elements	HE1-4

**Contrast - Common**

TR	9000.0 ms
TE	96.0 ms
TD	0.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	2500 ms
Flip angle	150 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Water suppr.	None
Restore magn.	Off
Freeze suppressed tissue	On

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
Base resolution	256
Phase resolution	85 %

**Resolution - Common**

Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	On

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	34
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	9000.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	2

**Geometry - AutoAlign**

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

**Geometry - Saturation**

Fat suppr.	Fat sat.
Fat sat. mode	Strong
Water suppr.	None
Restore magn.	Off
Special sat.	None

**Geometry - Navigator**

**Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	240 mm
A >> P	240 mm
F >> H	155 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	9000.0 ms
Concatenations	2

**Physio - Cardiac**

Magn. preparation	Slice-sel. IR
TI	2500 ms
Fat suppr.	Fat sat.
Dark blood	Off
FoV read	240 mm
FoV phase	100.0 %
Phase resolution	85 %
Trajectory	Cartesian

**Physio - PACE**

Resp. control	Off
Concatenations	2

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	Off

**Sequence - Part 1**

Introduction	On
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	On
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	9.62 ms
Bandwidth	199 Hz/Px

**Sequence - Part 2**

Define	Turbo factor
Echo trains per slice	6
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Normal
Gradient mode	Fast
Hyperecho	Off
WARP	Off
Red. EC sensitivity	Off
Turbo factor	16

**Sequence - Assistant**

Mode	Off
Allowed delay	60 s

\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WO\t2\_fl2d\_tra\_hemo ARIA \*

TA: 2:26 PM: FIX Voxel size: 0.5×0.5×4.0 mmPAT: 2 Rel. SNR: 1.00 : fl\_r

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Routine**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	597.0 ms
TE	35.00 ms
Averages	1
Concatenations	2
Filter	Prescan Normalize, Elliptical filter
Coil elements	HE1-4

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	597.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	2

**Contrast - Common**

TR	597.0 ms
TE	35.00 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Geometry - AutoAlign**

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	None
Water suppr.	None
Special sat.	None

**Resolution - Common**

FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
Base resolution	256
Phase resolution	85 %
Phase partial Fourier	Off
Interpolation	On

**Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	FIX
Table position	H

**System - Miscellaneous**

Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	597.0 ms
Concatenations	2
Segments	1

**Physio - Cardiac**

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	240 mm
FoV phase	100.0 %
Phase resolution	85 %

**Physio - PACE**

Resp. control	Off
Concatenations	2

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Liver registration	Off
Save original images	On

**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Soft Tissue**

Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
Measurements	1

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	Off

**Sequence - Part 1**

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	Slice/Read
Multi-slice mode	Interleaved
Bandwidth	200 Hz/Px

**Sequence - Part 2**

Segments	1
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On

**Sequence - Assistant**

Mode	Off
Allowed delay	60 s

\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WO\ep2d\_diff\_3scan\_trace\_p2 ARIA \*

TA: 0:48 PM: FIX Voxel size: 1.9×1.9×4.0 mmPAT: 2 Rel. SNR: 1.00 : epse

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	6700 ms
TE	72.0 ms
Averages	1
Concatenations	1
Filter	Raw filter, Prescan Normalize
Coil elements	HE1-4

**Contrast - Common**

TR	6700 ms
TE	72.0 ms
MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Fat sat. mode	Strong

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Delay in TR	0 ms

**Resolution - Common**

FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2

**Resolution - iPAT**

Ref. lines PE	30
Reference scan mode	EPI/separate

**Resolution - Filter Image**

Distortion Corr.	Off
Prescan Normalize	On
Dynamic Field Corr.	Off

**Resolution - Filter Rawdata**

Raw filter	On
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	30
Dist. factor	30 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	6700 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

**Geometry - Saturation**

Fat suppr.	Fat sat.
Fat sat. mode	Strong
Special sat.	None

**Geometry - Navigator****Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L

**System - Miscellaneous**

Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	240 mm
R >> L	240 mm
F >> H	155 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	6700 ms
Concatenations	1

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Diff - Neuro**

Diffusion mode	3-Scan Trace
Diff. directions	3
Diffusion Scheme	Bipolar
Diff. weightings	2
b-value 1	0 s/mm <sup>2</sup>
b-value 2	1000 s/mm <sup>2</sup>
b-value 1	1
b-value 2	1
Diff. weighted images	Off
Trace weighted images	On
ADC maps	On
FA maps	Off
Mosaic	Off
Tensor	Off
Noise level	40

**Diff - Body**

Diffusion mode	3-Scan Trace
Diff. directions	3
Diffusion Scheme	Bipolar

**Diff - Body**

Diff. weightings	2
b-value 1	0 s/mm <sup>2</sup>
b-value 2	1000 s/mm <sup>2</sup>
b-value 1	1
b-value 2	1
Diff. weighted images	Off
Trace weighted images	On
ADC maps	On
Exponential ADC Maps	Off
FA maps	Off
Invert Gray Scale	Off
Calculated Image	Off
b-Value >=	0 s/mm <sup>2</sup>
Noise level	40

**Diff - Composing**

Inline Composing	Off
Distortion Corr.	Off

**Sequence - Part 1**

Introduction	On
Optimization	None
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.68 ms
Bandwidth	1698 Hz/Px

**Sequence - Part 2**

EPI factor	128
RF pulse type	Normal
Gradient mode	Fast

\\ROUTINE BJH\NEURO\A06A ARIA\ARIA WO\TRA SWI \*

TA: 2:15 PM: ISO Voxel size: 0.9×0.9×2.4 mmPAT: 3 Rel. SNR: 1.00 : swi\_r

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	On
Load images to graphic segments	On
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	Single measurement

**Routine**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	Head > Brain
Phase oversampling	0 %
Slice oversampling	12.5 %
Slices per slab	64
FoV read	230 mm
FoV phase	90.6 %
Slice thickness	2.40 mm
TR	27.0 ms
TE	20.00 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	HE1-4

**Contrast - Common**

TR	27.0 ms
TE	20.00 ms
MTC	Off
Magn. preparation	None
Flip angle	15 deg
Fat suppr.	None
Water suppr.	None
SWI	On

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	230 mm
FoV phase	90.6 %
Slice thickness	2.40 mm
Base resolution	256
Phase resolution	90 %
Slice resolution	81 %
Phase partial Fourier	Off

**Resolution - Common**

Slice partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	24
Accel. factor 3D	1
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Slice oversampling	12.5 %
Slices per slab	64
FoV read	230 mm
FoV phase	90.6 %
Slice thickness	2.40 mm
TR	27.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
AutoAlign	Head > Brain
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

**Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	None
Water suppr.	None
Special sat.	None

**Geometry - Tim Planning Suite**

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

**System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	Head > Brain
Coil Select Mode	Off - AutoCoilSelect

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	209 mm
A >> P	230 mm
F >> H	154 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	123.177684 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	27.0 ms
Concatenations	1
Segments	1

**Physio - Cardiac**

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	230 mm
FoV phase	90.6 %
Phase resolution	90 %

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Liver registration	Off
Save original images	On

**Inline - MIP**

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

**Inline - Soft Tissue**

Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
Measurements	1

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	Yes
Multi-slice mode	Interleaved
Bandwidth	120 Hz/Px

**Sequence - Part 2**

Segments	1
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slab-sel.
RF spoiling	On

**Sequence - Assistant**

Mode	Off
Allowed delay	60 s