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FE

TravelingSpine\_Run

Laura\_220124

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\\USER\FE\TravelingSpine\_Run\Laura\_220124\localizer

TA: 0:13 PM: FIX Voxel size: 0.5×0.5×5.0 mmPAT: Off Rel. SNR: 1.00 : qfl

**Properties**

Prio recon	On
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**

Slice group	1
Slices	3
Dist. factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	250 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	8.6 ms
TE	3.69 ms
Averages	1
Concatenations	5
Filter	Distortion Corr.(2D), Elliptical filter
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	8.6 ms
TE	3.69 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

**Contrast - Dynamic**

Multiple series	Each measurement
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**Resolution - Common**

FoV read	250 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
Base resolution	256
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	On

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	3
Dist. factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	250 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	8.6 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	5

**Geometry - AutoAlign**

Slice group	1
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2

**Geometry - AutoAlign**

Position	Isocenter
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
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 CT**

Tim CT mode	Off
Slices	1
Slice thickness	5.0 mm
Dist. factor	20 %
FoV read	250 mm
FoV phase	100.0 %
Segments	1

**System - Miscellaneous**

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

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
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	297.194032 MHz
Correction factor	1

**System - Tx/Rx**

Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	8.6 ms
Concatenations	5
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	250 mm
FoV phase	100.0 %
Phase resolution	100 %

**Physio - PACE**

Resp. control	Off
Concatenations	5

**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**

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Bandwidth	320 Hz/Px

**Sequence - Part 2**

Segments	1
Acoustic noise reduction	Active

**Sequence - Part 2**

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

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\localizer\_cor

TA: 0:13 PM: ISO Voxel size: 1.0×1.0×5.0 mmPAT: Off Rel. SNR: 1.00 : fl

**Properties**

Prio recon	On
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	7
Dist. factor	10 %
Position	R3.0 A49.9 F6.5 mm
Orientation	C > T-3.8 > S0.6
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	320 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.8 ms
TE	3.12 ms
Averages	1
Concatenations	7
Filter	Distortion Corr.(2D), Elliptical filter
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	7.8 ms
TE	3.12 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Contrast - Dynamic**

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

**Resolution - Common**

FoV read	320 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
Base resolution	320
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	7
Dist. factor	10 %
Position	R3.0 A49.9 F6.5 mm
Orientation	C > T-3.8 > S0.6
Phase enc. dir.	R >> L
FoV read	320 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.8 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	7

**Geometry - AutoAlign**

Slice group	1
Position	R3.0 A49.9 F6.5 mm
Orientation	C > T-3.8 > S0.6
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	R3.0 A49.9 F6.5
R	3.0 mm
A	49.9 mm
F	6.5 mm
Initial Rotation	0.00 deg
Initial Orientation	C > T
C > T	-3.8
> S	0.6

**Geometry - Saturation**

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

**Geometry - Tim CT**

Tim CT mode	Off
Slices	7
Slice thickness	5.0 mm
Dist. factor	10 %
FoV read	320 mm
FoV phase	100.0 %
Segments	1

**System - Miscellaneous**

Positioning mode	ISO
Table position	F
Table position	7 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	Default

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
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	297.194032 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	7.8 ms
Concatenations	7
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	320 mm
FoV phase	100.0 %
Phase resolution	100 %

**Physio - PACE**

Resp. control	Off
Concatenations	7

**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**

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	Sequential
Bandwidth	260 Hz/Px

**Sequence - Part 2**

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

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\localizer\_sag

TA: 9.4 s PM: ISO Voxel size: 0.9×0.9×5.0 mmPAT: Off Rel. SNR: 1.00 : fl

**Properties**

Prio recon	On
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	5
Dist. factor	100 %
Position	R6.3 A2.4 F0.2 mm
Orientation	S > T-2.3 > C0.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.8 ms
TE	3.12 ms
Averages	1
Concatenations	5
Filter	Distortion Corr.(2D), Elliptical filter
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	7.8 ms
TE	3.12 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Contrast - Dynamic**

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

**Resolution - Common**

FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
Base resolution	320
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	5
Dist. factor	100 %
Position	R6.3 A2.4 F0.2 mm
Orientation	S > T-2.3 > C0.1
Phase enc. dir.	A >> P
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.8 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	5

**Geometry - AutoAlign**

Slice group	1
Position	R6.3 A2.4 F0.2 mm
Orientation	S > T-2.3 > C0.1
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R6.3 A2.4 F0.2
R	6.3 mm
A	2.4 mm
F	0.2 mm
Initial Rotation	0.00 deg
Initial Orientation	S > T
S > T	-2.3
> C	0.1

**Geometry - Saturation**

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

**Geometry - Tim CT**

Tim CT mode	Off
Slices	5
Slice thickness	5.0 mm
Dist. factor	100 %
FoV read	280 mm
FoV phase	100.0 %
Segments	1

**System - Miscellaneous**

Positioning mode	ISO
Table position	F
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	Default

**System - Adjustments**

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

**System - Adjust Volume**

! Position	R5.4 A45.4 H12.1 mm
! Orientation	T > C12.2
! Rotation	0.00 deg
! A >> P	51 mm
! R >> L	73 mm
! F >> H	118 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 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	7.8 ms
Concatenations	5
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	280 mm
FoV phase	100.0 %
Phase resolution	100 %

**Physio - PACE**

Resp. control	Off
Concatenations	5

**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**

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	Sequential
Bandwidth	260 Hz/Px

**Sequence - Part 2**

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

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\localizer\_sag

TA: 9.4 s PM: ISO Voxel size: 0.9×0.9×5.0 mmPAT: Off Rel. SNR: 1.00 : fl

**Properties**

Prio recon	On
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	5
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.8 ms
TE	3.12 ms
Averages	1
Concatenations	5
Filter	Distortion Corr.(2D), Elliptical filter
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	7.8 ms
TE	3.12 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Contrast - Dynamic**

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

**Resolution - Common**

FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
Base resolution	320
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	5
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.8 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	5

**Geometry - AutoAlign**

Slice group	1
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R7.0 A49.1 H17.3
R	7.0 mm
A	49.1 mm
H	17.3 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 CT**

Tim CT mode	Off
Slices	5
Slice thickness	5.0 mm
Dist. factor	100 %
FoV read	280 mm
FoV phase	100.0 %
Segments	1

**System - Miscellaneous**

Positioning mode	ISO
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**System - Miscellaneous**

Table position	H
Table position	17 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	Default

**System - Adjustments**

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

**System - Adjust Volume**

! Position	R5.5 A49.3 H15.0 mm
! Orientation	T > C12.2
! Rotation	0.00 deg
! A >> P	51 mm
! R >> L	73 mm
! F >> H	118 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 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	7.8 ms
Concatenations	5
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	280 mm
FoV phase	100.0 %
Phase resolution	100 %

**Physio - PACE**

Resp. control	Off
Concatenations	5

**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**

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	Sequential
Bandwidth	260 Hz/Px

**Sequence - Part 2**

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

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\localizer\_sag

TA: 9.4 s PM: ISO Voxel size: 0.9×0.9×5.0 mmPAT: Off Rel. SNR: 1.00 : fl

**Properties**

Prio recon	On
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	5
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.8 ms
TE	3.12 ms
Averages	1
Concatenations	5
Filter	Distortion Corr.(2D), Elliptical filter
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	7.8 ms
TE	3.12 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Contrast - Dynamic**

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

**Resolution - Common**

FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
Base resolution	320
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
----------	------

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	5
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.8 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	5

**Geometry - AutoAlign**

Slice group	1
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R7.0 A49.1 H17.3
R	7.0 mm
A	49.1 mm
H	17.3 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 CT**

Tim CT mode	Off
Slices	5
Slice thickness	5.0 mm
Dist. factor	100 %
FoV read	280 mm
FoV phase	100.0 %
Segments	1

**System - Miscellaneous**

Positioning mode	ISO
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**System - Miscellaneous**

Table position	H
Table position	17 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	Default

**System - Adjustments**

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

**System - Adjust Volume**

! Position	R5.5 A45.9 F0.6 mm
! Orientation	T > C12.2
! Rotation	0.00 deg
! A >> P	51 mm
! R >> L	73 mm
! F >> H	118 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 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	7.8 ms
Concatenations	5
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	280 mm
FoV phase	100.0 %
Phase resolution	100 %

**Physio - PACE**

Resp. control	Off
Concatenations	5

**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**

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	Sequential
Bandwidth	260 Hz/Px

**Sequence - Part 2**

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

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\tfl\_b1map\_sag\_7sl\_auto

TA: 0:14 PM: FIX Voxel size: 1.0×1.0×2.0 mmPAT: Off 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	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 - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	7
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	6460.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Routine**

Slice group	1
Slices	7
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	6460.0 ms
TE	2.29 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Geometry - AutoAlign**

Slice group	1
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R7.0 A49.1 H0.3
R	7.0 mm
A	49.1 mm
H	0.3 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**Contrast - Common**

TR	6460.0 ms
TE	2.29 ms
Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

Averages	1
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Image Filter	Off
--------------	-----

**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	17 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R5.5 A45.9 F0.6 mm
! Orientation	T > C12.2
! Rotation	0.00 deg
! A >> P	51 mm
! R >> L	73 mm
! F >> H	118 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**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**

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Interleaved
Echo spacing	4.8 ms
Bandwidth	490 Hz/Px

**Sequence - Part 2**

RF pulse type	Low SAR
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On
Turbo factor	192

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\tfl\_b1map\_sag\_7sl\_auto

TA: 0:14 PM: FIX Voxel size: 1.0×1.0×2.0 mmPAT: Off 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	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 - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	7
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	6460.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Routine**

Slice group	1
Slices	7
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	6460.0 ms
TE	2.29 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Geometry - AutoAlign**

Slice group	1
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R7.0 A49.1 H0.3
R	7.0 mm
A	49.1 mm
H	0.3 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**Contrast - Common**

TR	6460.0 ms
TE	2.29 ms
Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

Averages	1
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Image Filter	Off
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**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	17 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

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

**System - Adjust Volume**

! Position	R5.5 A45.9 F0.6 mm
! Orientation	T > C12.2
! Rotation	0.00 deg
! A >> P	51 mm
! R >> L	73 mm
! F >> H	118 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**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**

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Interleaved
Echo spacing	4.8 ms
Bandwidth	490 Hz/Px

**Sequence - Part 2**

RF pulse type	Low SAR
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On
Turbo factor	192

**Sequence - Assistant**

Mode	Off
------	-----



\\USER\FE\TravelingSpine\_Run\Laura\_220124\tfl\_b1map\_sag\_7sl\_manuel

TA: 0:14 PM: FIX Voxel size: 1.0×1.0×2.0 mmPAT: Off 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	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	7
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	6460.0 ms
TE	2.29 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	6460.0 ms
TE	2.29 ms
Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

Averages	1
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Image Filter	Off
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**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	7
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	6460.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R7.0 A49.1 H0.3
R	7.0 mm
A	49.1 mm
H	0.3 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	17 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
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	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**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**

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Interleaved
Echo spacing	4.8 ms
Bandwidth	490 Hz/Px

**Sequence - Part 2**

RF pulse type	Low SAR
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On
Turbo factor	192

**Sequence - Assistant**

Mode	Off
------	-----

\\USER\FE\TravelingSpine\_Run\Laura\_220124\tfl\_b1map\_sag\_7sl\_manuel

TA: 0:14 PM: FIX Voxel size: 1.0×1.0×2.0 mmPAT: Off 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	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	7
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	6460.0 ms
TE	2.29 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	6460.0 ms
TE	2.29 ms
Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

Averages	1
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Image Filter	Off
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**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	7
Dist. factor	100 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	6460.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R7.0 A49.1 H0.3
R	7.0 mm
A	49.1 mm
H	0.3 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	17 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

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

**System - Adjust Volume**

! Position	R5.5 A45.9 F0.6 mm
! Orientation	T > C12.2
! Rotation	0.00 deg
! A >> P	51 mm
! R >> L	73 mm
! F >> H	118 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**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**

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Interleaved
Echo spacing	4.8 ms
Bandwidth	490 Hz/Px

**Sequence - Part 2**

RF pulse type	Low SAR
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On
Turbo factor	192

**Sequence - Assistant**

Mode	Off
------	-----

\\USER\FE\TravelingSpine\_Run\Laura\_220124\b0map\_gre\_field\_sag\_1x1x2\_7sl

TA: 1:17 PM: FIX Voxel size: 1.0×1.0×2.0 mmRel. SNR: 1.00 : fm

**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	7
Dist. factor	10 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	200.0 ms
TE 1	3.06 ms
TE 2	4.08 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	200.0 ms
TE 1	3.06 ms
TE 2	4.08 ms
MTC	Off
Flip angle	32 deg
Fat suppr.	None

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Off

**Resolution - Common**

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off

**Resolution - Filter Image**

Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	7
Dist. factor	10 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	200.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R7.0 A49.1 H0.3
R	7.0 mm
A	49.1 mm
H	0.3 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**Geometry - Saturation**

Fat suppr.	None
Special sat.	None

**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	17 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	Default

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off

**System - Adjustments**

Adjustment Tolerance	Auto
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**System - Adjust Volume**

! Position	R5.5 A45.9 F0.6 mm
! Orientation	T > C12.2
! Rotation	0.00 deg
! A >> P	51 mm
! R >> L	73 mm
! F >> H	118 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	965 Hz/Px

**Sequence - Part 2**

RF pulse type	Normal
Gradient mode	Normal
RF spoiling	On

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\t2\_tse\_sag\_2D\_5sl\_p2\_trig

TA: 2:24 PM: FIX Voxel size: 0.6×0.6×2.2 mmPAT: 2 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	5
Dist. factor	40 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	H >> F
AutoAlign	---
Phase oversampling	60 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.2 mm
TR	4000.0 ms
TE	37.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), B1 filter
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	4000.0 ms
TE	37.0 ms
MTC	Off
Magn. preparation	None
Flip angle	120 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
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	192 mm
FoV phase	100.0 %
Slice thickness	2.2 mm
Base resolution	320
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	31
Reference scan mode	Integrated

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	5
Dist. factor	40 %
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	H >> F
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.2 mm
TR	4000.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	R7.0 A49.1 H17.3 mm
Orientation	Sagittal
Phase enc. dir.	H >> F
AutoAlign	---
Initial Position	R7.0 A49.1 H0.3
R	7.0 mm
A	49.1 mm
H	0.3 mm
Initial Rotation	90.00 deg
Initial Orientation	Sagittal

**Geometry - Saturation**

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

**Geometry - Navigator****Geometry - Tim CT**

Tim CT mode	Off
Slices	5
Slice thickness	2.2 mm

**Geometry - Tim CT**

Dist. factor	40 %
FoV read	192 mm
FoV phase	100.0 %

**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	17 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	Default

**System - Adjustments**

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

**System - Adjust Volume**

! Position	R5.5 A45.9 F0.6 mm
! Orientation	T > C12.2
! Rotation	0.00 deg
! A >> P	51 mm
! R >> L	73 mm
! F >> H	118 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	4000.0 ms
Concatenations	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	Fat sat.
Dark blood	Off
FoV read	192 mm
FoV phase	100.0 %
Phase resolution	100 %
Trajectory	Cartesian

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Subtract	Off
----------	-----

**Inline - Common**

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**

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
Optimization	In phase
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	9.14 ms
Bandwidth	579 Hz/Px

**Sequence - Part 2**

Define	Turbo factor
Echo trains per slice	34
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Normal
Gradient mode	Normal
Hyperecho	On
WARP	Off
Red. EC sensitivity	Off
Turbo factor	8

**Sequence - Assistant**

Mode	Off
Allowed delay	0 s



\\USER\FE\TravelingSpine\_Run\Laura\_220124\t1\_mp2rage\_cor\_nonSelHS1\_0.7iso

TA: 8:47 PM: FIX Voxel size: 0.7×0.7×0.7 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	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**

Slab group	1
Slabs	1
Dist. factor	50 %
Position	R5.7 A48.7 H17.2 mm
Orientation	C > T-8.0 > S-0.1
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	192
FoV read	260 mm
FoV phase	65.8 %
Slice thickness	0.70 mm
TR	5000.0 ms
TE	2.15 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(3D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	5000.0 ms
TE	2.15 ms
Magn. preparation	Non-sel. IR
TI 1	700 ms
TI 2	2400 ms
Flip angle 1	4.0 deg
Flip angle 2	5.0 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	260 mm
FoV phase	65.8 %
Slice thickness	0.70 mm
Base resolution	368
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8

**Resolution - Common**

Slice partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	28
Accel. factor 3D	1
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	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	R5.7 A48.7 H17.2 mm
Orientation	C > T-8.0 > S-0.1
Phase enc. dir.	R >> L
Slice oversampling	0.0 %
Slices per slab	192
FoV read	260 mm
FoV phase	65.8 %
Slice thickness	0.70 mm
TR	5000.0 ms
Multi-slice mode	Single shot
Series	Ascending
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	R5.7 A48.7 H17.2 mm
Orientation	C > T-8.0 > S-0.1
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	R5.7 A48.7 H0.2
R	5.7 mm
A	48.7 mm
H	0.2 mm
Initial Rotation	-0.70 deg
Initial Orientation	C > T
C > T	-8.0
> S	-0.1

**Geometry - Navigator****System - Miscellaneous**

Positioning mode	FIX
Table position	H

**System - Miscellaneous**

Table position	17 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

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

**System - Adjust Volume**

! Position	R5.5 A45.9 F0.6 mm
! Orientation	T > C12.2
! Rotation	0.00 deg
! A >> P	51 mm
! R >> L	73 mm
! F >> H	118 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	5000.0 ms
Concatenations	1

**Physio - Cardiac**

Magn. preparation	Non-sel. IR
TI 1	700 ms
TI 2	2400 ms
Fat suppr.	None
Dark blood	Off
FoV read	260 mm
FoV phase	65.8 %
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
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**Inline - MIP**

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

**Inline - Composing**

Distortion Corr.	On
Mode	3D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	6.4 ms
Bandwidth	220 Hz/Px

**Sequence - Part 2**

RF pulse type	Normal
Gradient mode	Normal*
Excitation	Non-sel.
RF spoiling	On
Incr. Gradient spoiling	Off
Turbo factor	192

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Special**

Use Custom Inversion	On
Inv pulse type	HS1
HS pulse dur	10240 us
HS pulse offset	0 Hz
HS flip angle	360 deg
TR_FOCI B1	0.00 uT
Echo Spacing	6400 us
Denoise Weighting	100

**Sequence - Assistant**

Mode	Off
------	-----

\\USER\FE\TravelingSpine\_Run\Laura\_220124\crmbm\_ep2d\_diff\_msma\_5s\_LR\_rev\_b0

TA: 0:21 PM: ISO Voxel size: 0.8×0.8×3.0 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	1
Dist. factor	50 %
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	L >> R
Slice group	2
Slices	1
Dist. factor	50 %
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	L >> R
Slice group	3
Slices	1
Dist. factor	50 %
Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	L >> R
Slice group	4
Slices	1
Dist. factor	50 %
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	L >> R
Slice group	5
Slices	1
Dist. factor	50 %
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	25 %
FoV read	105 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	650 ms
TE	57.0 ms
Concatenations	3
Filter	Dynamic Field Corr.
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	650 ms
TE	57.0 ms
MTC	Off
Magn. preparation	None
Flip angle exc	90 deg

**Contrast - Common**

Fat suppr.	None
------------	------

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	105 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	5/8
Interpolation	Off

**Resolution - iPAT**

Accel. mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	EPI/separate

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	1
Dist. factor	50 %
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	L >> R
Slice group	2
Slices	1
Dist. factor	50 %
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	L >> R
Slice group	3
Slices	1
Dist. factor	50 %
Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	L >> R
Slice group	4
Slices	1
Dist. factor	50 %
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	L >> R
Slice group	5

**Geometry - Common**

Slices	1
Dist. factor	50 %
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	L >> R
FoV read	105 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	650 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	3

**Geometry - AutoAlign**

Slice group	1
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	L >> R
Slice group	2
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	L >> R
Slice group	3
Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	L >> R
Slice group	4
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	L >> R
Slice group	5
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	L >> R
AutoAlign	---
Initial Position	R4.3 A49.0 F2.0
R	4.3 mm
A	49.0 mm
H	2.0 mm
Initial Rotation	-90.00 deg
Initial Orientation	T > C
T > C	7.5
> S	0.0

**Geometry - Saturation**

Fat suppr.	None
Special sat.	None

**Geometry - Navigator****System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	23 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	On
Only after freq. change	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R6.1 A46.7 H25.1 mm
! Orientation	T > C3.8
! Rotation	90.00 deg
! R >> L	48 mm
! A >> P	31 mm
! F >> H	80 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**Physio - Signal1**

1st Signal/Mode	Pulse/Trigger
Average cycle	856 ± 165 ms
Average cycle	No Signal ms
Acquisition window	650 ms
Trigger pulse	1
Trigger delay	0 ms
TR	650 ms
Concatenations	3
Phases	1

**Physio - PACE**

Resp. control	Off
Concatenations	3

**Diff - Neuro**

Diffusion mode	MDDW
Diff. directions	30
Diffusion Scheme	Monopolar
Diff. weightings	1
b-value	0 s/mm <sup>2</sup>
b-value	3
Diff. weighted images	On
Trace weighted images	Off
ADC maps	Off
FA maps	Off
Mosaic	Off
Tensor	Off
Noise level	40

**Diff - Body**

Diffusion mode	MDDW
Diff. directions	30
Diffusion Scheme	Monopolar
Diff. weightings	1
b-value	0 s/mm <sup>2</sup>
b-value	3
Diff. weighted images	On
Trace weighted images	Off

**Diff - Body**

ADC maps	Off
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**

Distortion Corr.	Off
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**Sequence - Part 1**

Introduction	Off
Optimization	None
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.02 ms
Bandwidth	1116 Hz/Px

**Sequence - Part 2**

EPI factor	128
RF pulse type	Normal
Gradient mode	Fast*

\\USER\FE\TravelingSpine\_Run\Laura\_220124\crmbm\_ep2d\_diff\_msma\_5s\_LR\_rev\_b0

TA: 0:21 PM: ISO Voxel size: 0.8×0.8×3.0 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	1
Dist. factor	50 %
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	L >> R
Slice group	2
Slices	1
Dist. factor	50 %
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	L >> R
Slice group	3
Slices	1
Dist. factor	50 %
Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	L >> R
Slice group	4
Slices	1
Dist. factor	50 %
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	L >> R
Slice group	5
Slices	1
Dist. factor	50 %
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	25 %
FoV read	105 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	650 ms
TE	57.0 ms
Concatenations	3
Filter	Dynamic Field Corr.
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

Fat suppr.	None
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**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	105 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	5/8
Interpolation	Off

**Resolution - iPAT**

Accel. mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	EPI/separate

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	1
Dist. factor	50 %
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	L >> R
Slice group	2
Slices	1
Dist. factor	50 %
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	L >> R
Slice group	3
Slices	1
Dist. factor	50 %
Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	L >> R
Slice group	4
Slices	1
Dist. factor	50 %
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	L >> R
Slice group	5

**Contrast - Common**

TR	650 ms
TE	57.0 ms
MTC	Off
Magn. preparation	None
Flip angle exc	90 deg

**Geometry - Common**

Slices	1
Dist. factor	50 %
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	L >> R
FoV read	105 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	650 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	3

**Geometry - AutoAlign**

Slice group	1
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	L >> R
Slice group	2
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	L >> R
Slice group	3
Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	L >> R
Slice group	4
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	L >> R
Slice group	5
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	L >> R
AutoAlign	---
Initial Position	R4.3 A49.0 F2.0
R	4.3 mm
A	49.0 mm
H	2.0 mm
Initial Rotation	-90.00 deg
Initial Orientation	T > C
T > C	7.5
> S	0.0

**Geometry - Saturation**

Fat suppr.	None
Special sat.	None

**Geometry - Navigator****System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	23 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	On
Only after freq. change	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R6.1 A46.7 H25.1 mm
! Orientation	T > C3.8
! Rotation	90.00 deg
! R >> L	48 mm
! A >> P	31 mm
! F >> H	80 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**Physio - Signal1**

1st Signal/Mode	Pulse/Trigger
Average cycle	856 ± 165 ms
Average cycle	No Signal ms
Acquisition window	650 ms
Trigger pulse	1
Trigger delay	0 ms
TR	650 ms
Concatenations	3
Phases	1

**Physio - PACE**

Resp. control	Off
Concatenations	3

**Diff - Neuro**

Diffusion mode	MDDW
Diff. directions	30
Diffusion Scheme	Monopolar
Diff. weightings	1
b-value	0 s/mm <sup>2</sup>
b-value	3
Diff. weighted images	On
Trace weighted images	Off
ADC maps	Off
FA maps	Off
Mosaic	Off
Tensor	Off
Noise level	40

**Diff - Body**

Diffusion mode	MDDW
Diff. directions	30
Diffusion Scheme	Monopolar
Diff. weightings	1
b-value	0 s/mm <sup>2</sup>
b-value	3
Diff. weighted images	On
Trace weighted images	Off

**Diff - Body**

ADC maps	Off
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**

Distortion Corr.	Off
------------------	-----

**Sequence - Part 1**

Introduction	Off
Optimization	None
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.02 ms
Bandwidth	1116 Hz/Px

**Sequence - Part 2**

EPI factor	128
RF pulse type	Normal
Gradient mode	Fast*



\\USER\FE\TravelingSpine\_Run\Laura\_220124\crmbm\_ep2d\_diff\_msma\_5s\_RL\_fwd

TA: 3:18 PM: ISO Voxel size: 0.8×0.8×3.0 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	1
Dist. factor	50 %
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	R >> L
Slice group	2
Slices	1
Dist. factor	50 %
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	R >> L
Slice group	3
Slices	1
Dist. factor	50 %
Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	R >> L
Slice group	4
Slices	1
Dist. factor	50 %
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	R >> L
Slice group	5
Slices	1
Dist. factor	50 %
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	25 %
FoV read	105 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	650 ms
TE	57.0 ms
Concatenations	3
Filter	Dynamic Field Corr.
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

Fat suppr.	None
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**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	105 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	5/8
Interpolation	Off

**Resolution - iPAT**

Accel. mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	EPI/separate

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	1
Dist. factor	50 %
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	R >> L
Slice group	2
Slices	1
Dist. factor	50 %
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	R >> L
Slice group	3
Slices	1
Dist. factor	50 %
Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	R >> L
Slice group	4
Slices	1
Dist. factor	50 %
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	R >> L
Slice group	5

**Contrast - Common**

TR	650 ms
TE	57.0 ms
MTC	Off
Magn. preparation	None
Flip angle exc	90 deg

**Geometry - Common**

Slices	1
Dist. factor	50 %
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	R >> L
FoV read	105 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	650 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	3

**Geometry - AutoAlign**

Slice group	1
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	R >> L
Slice group	2
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	R >> L
Slice group	3
Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	R >> L
Slice group	4
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	R >> L
Slice group	5
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	R4.3 A49.0 F2.0
R	4.3 mm
A	49.0 mm
H	2.0 mm
Initial Rotation	90.00 deg
Initial Orientation	T > C
T > C	7.5
> S	0.0

**Geometry - Saturation**

Fat suppr.	None
Special sat.	None

**Geometry - Navigator****System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	23 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	On
Only after freq. change	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R6.1 A46.7 H25.1 mm
! Orientation	T > C3.8
! Rotation	90.00 deg
! R >> L	48 mm
! A >> P	31 mm
! F >> H	80 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**Physio - Signal1**

1st Signal/Mode	Pulse/Trigger
Average cycle	856 ± 165 ms
Average cycle	No Signal ms
Acquisition window	650 ms
Trigger pulse	1
Trigger delay	0 ms
TR	650 ms
Concatenations	3
Phases	1

**Physio - PACE**

Resp. control	Off
Concatenations	3

**Diff - Neuro**

Diffusion mode	MDDW
Diff. directions	30
Diffusion Scheme	Monopolar
Diff. weightings	2
b-value 1	0 s/mm <sup>2</sup>
b-value 2	800 s/mm <sup>2</sup>
b-value 1	3
b-value 2	3
Diff. weighted images	On
Trace weighted images	Off
ADC maps	Off
FA maps	Off
Mosaic	Off
Tensor	Off
Noise level	40

**Diff - Body**

Diffusion mode	MDDW
Diff. directions	30
Diffusion Scheme	Monopolar
Diff. weightings	2
b-value 1	0 s/mm <sup>2</sup>
b-value 2	800 s/mm <sup>2</sup>

**Diff - Body**

b-value 1	3
b-value 2	3
Diff. weighted images	On
Trace weighted images	Off
ADC maps	Off
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**

Distortion Corr.	Off
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**Sequence - Part 1**

Introduction	On
Optimization	None
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.02 ms
Bandwidth	1116 Hz/Px

**Sequence - Part 2**

EPI factor	128
RF pulse type	Normal
Gradient mode	Fast*

\\USER\FE\TravelingSpine\_Run\Laura\_220124\b0map\_gre\_field\_sag\_1x1x2\_7sl

TA: 1:17 PM: FIX Voxel size: 1.0×1.0×2.0 mmRel. SNR: 1.00 : fm

**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	7
Dist. factor	10 %
Position	R7.0 A49.1 H23.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	200.0 ms
TE 1	3.06 ms
TE 2	4.08 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	200.0 ms
TE 1	3.06 ms
TE 2	4.08 ms
MTC	Off
Flip angle	32 deg
Fat suppr.	None

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Off

**Resolution - Common**

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off

**Resolution - Filter Image**

Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	7
Dist. factor	10 %
Position	R7.0 A49.1 H23.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	200.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	R7.0 A49.1 H23.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R7.0 A49.1 H0.3
R	7.0 mm
A	49.1 mm
H	0.3 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**Geometry - Saturation**

Fat suppr.	None
Special sat.	None

**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	23 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	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off

**System - Adjustments**

Adjustment Tolerance	Auto
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**System - Adjust Volume**

! Position	R6.1 A46.7 H25.1 mm
! Orientation	T > C3.8
! Rotation	90.00 deg
! R >> L	48 mm
! A >> P	31 mm
! F >> H	80 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	965 Hz/Px

**Sequence - Part 2**

RF pulse type	Normal
Gradient mode	Normal
RF spoiling	On

**Sequence - Assistant**

Mode	Off
------	-----

\\USER\FE\TravelingSpine\_Run\Laura\_220124\MGE\_5TE\_msma\_5x2sl\_2meas

TA: 6:42 PM: FIX Voxel size: 0.3×0.3×3.0 mmPAT: Off 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

**Contrast - Common**

TR	400.0 ms
TE 1	4.55 ms
TE 2	8.81 ms
TE 3	13.07 ms
TE 4	17.33 ms
TE 5	21.59 ms
MTC	Off
Magn. preparation	None
Flip angle	39 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Routine**

Slice group	1
Slices	2
Dist. factor	100 %
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	A >> P
Slice group	2
Slices	2
Dist. factor	100 %
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
Slice group	3
Slices	2
Dist. factor	100 %
Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	A >> P
Slice group	4
Slices	2
Dist. factor	100 %
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	A >> P
Slice group	5
Slices	2
Dist. factor	100 %
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	128 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	400.0 ms
TE 1	4.55 ms
TE 2	8.81 ms
TE 3	13.07 ms
TE 4	17.33 ms
TE 5	21.59 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	2
Pause after meas. 1	0.0 s
Multiple series	Off

**Resolution - Common**

FoV read	128 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
Base resolution	500
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	2
Dist. factor	100 %
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	A >> P
Slice group	2
Slices	2
Dist. factor	100 %
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
Slice group	3
Slices	2
Dist. factor	100 %

**Geometry - Common**

Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	A >> P
Slice group	4
Slices	2
Dist. factor	100 %
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	A >> P
Slice group	5
Slices	2
Dist. factor	100 %
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	A >> P
FoV read	128 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	400.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	R4.3 A49.0 F2.0 mm
Orientation	T > C7.5
Phase enc. dir.	A >> P
Slice group	2
Position	R4.7 A47.5 H11.0 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
Slice group	3
Position	R3.2 A48.5 H27.6 mm
Orientation	T > C4.5
Phase enc. dir.	A >> P
Slice group	4
Position	R3.5 A47.4 H41.2 mm
Orientation	T > C1.0
Phase enc. dir.	A >> P
Slice group	5
Position	R3.0 A45.1 H53.7 mm
Orientation	T > C-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R4.3 A49.0 F25.0
R	4.3 mm
A	49.0 mm
F	25.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	7.5
> S	0.0

**Geometry - Saturation**

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

**Geometry - Tim CT**

Tim CT mode	Off
Slices	2
Slice thickness	3.0 mm

**Geometry - Tim CT**

Dist. factor	100 %
FoV read	128 mm
FoV phase	100.0 %
Segments	1

**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	23 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R6.1 A45.0 H11.7 mm
! Orientation	T > C3.8
! Rotation	90.00 deg
! R >> L	48 mm
! A >> P	31 mm
! F >> H	119 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	400.0 ms
Concatenations	1
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	128 mm
FoV phase	100.0 %
Phase resolution	100 %

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Subtract	Off
Measurements	2
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	2
Pause after meas. 1	0.0 s

**Inline - Composing**

Distortion Corr.	Off
------------------	-----

**Sequence - Part 1**

Introduction	On
Dimension	2D
Phase stabilisation	On
Asymmetric echo	Off
Contrasts	5
Flow comp. 1	No
Readout mode	Bipolar
Multi-slice mode	Interleaved
Bandwidth 1	250 Hz/Px
Bandwidth 2	250 Hz/Px
Bandwidth 3	250 Hz/Px
Bandwidth 4	250 Hz/Px
Bandwidth 5	250 Hz/Px

**Sequence - Part 2**

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

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\localizer\_Spinoza4

TA: 0:18 PM: REF Voxel size: 0.5×0.5×5.0 mmPAT: Off Rel. SNR: 1.00 : qfl

**Properties**

Prio recon	On
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	3
Dist. factor	50 %
Position	R2.9 A15.4 F49.8 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	50 %
Position	R15.8 A13.6 F49.8 mm
Orientation	Coronal
Phase enc. dir.	F >> H
Slice group	3
Slices	3
Dist. factor	50 %
Position	R11.0 A7.5 F38.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	25 %
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.7 ms
TE	3.67 ms
Averages	1
Concatenations	9
Filter	Distortion Corr.(3D), Elliptical filter
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	7.7 ms
TE	3.67 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

**Contrast - Dynamic**

Multiple series	Each measurement
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**Resolution - Common**

FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Interpolation	On

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	3
Dist. factor	50 %
Position	R2.9 A15.4 F49.8 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	50 %
Position	R15.8 A13.6 F49.8 mm
Orientation	Coronal
Phase enc. dir.	F >> H
Slice group	3
Slices	3
Dist. factor	50 %
Position	R11.0 A7.5 F38.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.7 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	9

**Geometry - AutoAlign**

Slice group	1
Position	R2.9 A15.4 F49.8 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2

**Geometry - AutoAlign**

Position	R15.8 A13.6 F49.8 mm
Orientation	Coronal
Phase enc. dir.	F >> H
Slice group	3
Position	R11.0 A7.5 F38.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R2.9 A15.4 F49.8
R	2.9 mm
A	15.4 mm
F	49.8 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 CT**

Tim CT mode	Off
Slices	3
Slice thickness	5.0 mm
Dist. factor	50 %
FoV read	280 mm
FoV phase	100.0 %
Segments	1

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjust Volume**

! Position	L0.0 A25.1 F32.6 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	175 mm
! R >> L	201 mm
! F >> H	259 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1

**System - Tx/Rx**

Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	294.800 V

**Physio - Signal1**

1st Signal/Mode	None
TR	7.7 ms
Concatenations	9
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	280 mm
FoV phase	100.0 %
Phase resolution	75 %

**Physio - PACE**

Resp. control	Off
Concatenations	9

**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**

Distortion Corr.	On
Mode	3D
Unfiltered images	On

**Sequence - Part 1**

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Bandwidth	320 Hz/Px

**Sequence - Part 2**

Segments	1
Acoustic noise reduction	Active

**Sequence - Part 2**

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

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\tfl\_sag\_2p5mmISO\_largeFOV

TA: 1:10 PM: FIX Voxel size: 2.4×2.4×2.5 mmPAT: Off 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	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	28
Dist. factor	100 %
Position	L0.0 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	28
Dist. factor	100 %
Position	L2.5 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	62.5 %
Slice thickness	2.5 mm
TR	34420.0 ms
TE	2.31 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	A01-08;D09-16;E17-20;H21-24

### Contrast - Common

TR	34420.0 ms
TE	2.31 ms
Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Water suppr.	None

### Contrast - Dynamic

Averages	1
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

### Resolution - Common

FoV read	340 mm
FoV phase	62.5 %
Slice thickness	2.5 mm
Base resolution	144
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

### Resolution - iPAT

PAT mode	None
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### Resolution - Filter Image

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

### Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

### Geometry - Common

Slice group	1
Slices	28
Dist. factor	100 %
Position	L0.0 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	28
Dist. factor	100 %
Position	L2.5 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	62.5 %
Slice thickness	2.5 mm
TR	34420.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

### Geometry - AutoAlign

Slice group	1
Position	L0.0 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Position	L2.5 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A44.7 H0.0
L	0.0 mm
A	44.7 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

### System - Miscellaneous

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

**System - Miscellaneous**

Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**Sequence - Part 2**

RF spoiling	On
Turbo factor	90

**Sequence - Assistant**

Mode	Off
------	-----

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L1.3 A44.7 H0.0 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	213 mm
F >> H	340 mm
R >> L	140 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	294.800 V

**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**

Distortion Corr.	On
Mode	2D
Unfiltered images	On

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Interleaved
Echo spacing	5.1 ms
Bandwidth	400 Hz/Px

**Sequence - Part 2**

RF pulse type	Low SAR
Gradient mode	Normal
Excitation	Slice-sel.

\\USER\FE\TravelingSpine\_Run\Laura\_220124\tfl\_sag\_2p5mmISO\_largeFOV\_RefVolOpt

TA: 1:10 PM: FIX Voxel size: 2.4×2.4×2.5 mmPAT: Off 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	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	28
Dist. factor	100 %
Position	L0.0 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	28
Dist. factor	100 %
Position	L2.5 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	62.5 %
Slice thickness	2.5 mm
TR	34420.0 ms
TE	2.31 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	34420.0 ms
TE	2.31 ms
Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

Averages	1
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	340 mm
FoV phase	62.5 %
Slice thickness	2.5 mm
Base resolution	144
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
----------	------

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	28
Dist. factor	100 %
Position	L0.0 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	28
Dist. factor	100 %
Position	L2.5 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	62.5 %
Slice thickness	2.5 mm
TR	34420.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Position	L2.5 A44.7 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A44.7 H0.0
L	0.0 mm
A	44.7 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**System - Miscellaneous**

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

**System - Miscellaneous**

Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**Sequence - Part 2**

RF spoiling	On
Turbo factor	90

**Sequence - Assistant**

Mode	Off
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**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L1.3 A44.7 H0.0 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	213 mm
F >> H	340 mm
R >> L	140 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**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**

Distortion Corr.	On
Mode	2D
Unfiltered images	On

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Interleaved
Echo spacing	5.1 ms
Bandwidth	400 Hz/Px

**Sequence - Part 2**

RF pulse type	Low SAR
Gradient mode	Normal
Excitation	Slice-sel.

\\USER\FE\TravelingSpine\_Run\Laura\_220124\Dream2D\_sag\_2p5mmISO\_largeFOV

TA: 1:08 PM: REF Voxel size: 2.5×2.5×2.5 mmPAT: Off Rel. SNR: 1.00 : 30e5ea5

**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	11
Dist. factor	0 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
FoV read	384 mm
FoV phase	47.4 %
Slice thickness	2.5 mm
TR	6000 ms
TE 1	2.04 ms
TE 2	3.18 ms
Averages	1
Concatenations	11
Filter	Distortion Corr.(3D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	6000 ms
TE 1	2.04 ms
TE 2	3.18 ms
Flip angle 1	50 deg
Flip angle 2	6 deg

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1

**Resolution - Common**

FoV read	384 mm
FoV phase	47.4 %
Slice thickness	2.5 mm
Base resolution	152
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
----------	------

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On

**Resolution - Filter Image**

Mode	3D
Unfiltered images	On
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	11
Dist. factor	0 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	384 mm
FoV phase	47.4 %
Slice thickness	2.5 mm
TR	6000 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	11

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A44.5 H0.0
L	0.0 mm
A	44.5 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**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	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto



**System - Adjust Volume**

! Position	L0.0 A43.4 F21.1 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	179 mm
! R >> L	34 mm
! F >> H	346 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	565.300 V

**Sequence - Part 1**

Introduction	On
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Multi-slice mode	Sequential
Bandwidth	910 Hz/Px

**Sequence - Part 2**

Echo train duration	357 ms
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On
Turbo factor	72

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Special**

Preparation scans	2
Preparation loops	0
Sample T1	2000 ms
RF-Duration	800 us
Prep RF-Duration	400 us
Time-BW-Product	3.2
Timing Scheme	STE*
Mixing Time	1140 us
FFT Scale	10
Calculate FlipMap	On
HDR DICOMs	Off
STE<->FID Spoiler	Off
Scale risetime	1.20

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\Dream2D\_sag\_2p5mmISO\_mediumFOV

TA: 1:08 PM: FIX Voxel size: 2.5×2.5×2.5 mmPAT: Off Rel. SNR: 1.00 : 30e5ea5

**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	11
Dist. factor	0 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.5 mm
TR	6000 ms
TE 1	2.04 ms
TE 2	3.10 ms
Averages	1
Concatenations	11
Filter	Distortion Corr.(3D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	6000 ms
TE 1	2.04 ms
TE 2	3.10 ms
Flip angle 1	50 deg
Flip angle 2	6 deg

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1

**Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.5 mm
Base resolution	80
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On

**Resolution - Filter Image**

Mode	3D
Unfiltered images	On
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	11
Dist. factor	0 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.5 mm
TR	6000 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	11

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A44.5 H0.0
L	0.0 mm
A	44.5 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**System - Miscellaneous**

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

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	200 mm
F >> H	200 mm
R >> L	28 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	565.300 V

**Sequence - Part 1**

Introduction	On
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Multi-slice mode	Sequential
Bandwidth	1010 Hz/Px

**Sequence - Part 2**

Echo train duration	386 ms
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On
Turbo factor	80

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Special**

Preparation scans	2
Preparation loops	0
Sample T1	2000 ms
RF-Duration	800 us
Prep RF-Duration	400 us
Time-BW-Product	3.2
Timing Scheme	STE*
Mixing Time	1060 us
FFT Scale	10
Calculate FlipMap	On
HDR DICOMs	Off
STE<->FID Spoiler	Off
Scale risetime	1.20

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\Dream2D\_sag\_2p5mmISO\_mediumFOV\_RefVolOpt\_0p66

TA: 1:08 PM: FIX Voxel size: 2.5×2.5×2.5 mmPAT: Off Rel. SNR: 1.00 : 30e5ea5

### 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	11
Dist. factor	0 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.5 mm
TR	6000 ms
TE 1	2.04 ms
TE 2	3.10 ms
Averages	1
Concatenations	11
Filter	Distortion Corr.(3D)
Coil elements	A01-08;D09-16;E17-20;H21-24

### Contrast - Common

TR	6000 ms
TE 1	2.04 ms
TE 2	3.10 ms
Flip angle 1	50 deg
Flip angle 2	6 deg

### Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1

### Resolution - Common

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.5 mm
Base resolution	80
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

### Resolution - iPAT

PAT mode	None
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### Resolution - Filter Image

Image Filter	Off
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### Resolution - Filter Image

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

### Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

### Geometry - Common

Slice group	1
Slices	11
Dist. factor	0 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.5 mm
TR	6000 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	11

### Geometry - AutoAlign

Slice group	1
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A44.5 H0.0
L	0.0 mm
A	44.5 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

### System - Miscellaneous

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

### System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off

**System - Adjustments**

Adjustment Tolerance	Auto
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**System - Adjust Volume**

Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	200 mm
F >> H	200 mm
R >> L	28 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	376.900 V

**Sequence - Part 1**

Introduction	On
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Multi-slice mode	Sequential
Bandwidth	1010 Hz/Px

**Sequence - Part 2**

Echo train duration	386 ms
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On
Turbo factor	80

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Special**

Preparation scans	2
Preparation loops	0
Sample T1	2000 ms
RF-Duration	800 us
Prep RF-Duration	400 us
Time-BW-Product	3.2
Timing Scheme	STE*
Mixing Time	1060 us
FFT Scale	10
Calculate FlipMap	On
HDR DICOMs	Off
STE<->FID Spoiler	Off
Scale risetime	1.20

**Sequence - Assistant**

Mode	Off
------	-----

\\USER\FE\TravelingSpine\_Run\Laura\_220124\coilQA\_sag\_FH\_1p5x1p5x2mm\_largeFOV

TA: 3:20 PM: FIX Voxel size: 1.5×1.5×2.0 mmRel. 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	13
Dist. factor	20 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	H >> F
AutoAlign	---
Phase oversampling	0 %
FoV read	384 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	30.0 ms
TE	6.0 ms
Averages	2
Concatenations	13
Filter	None
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	30.0 ms
TE	6.0 ms
TD	0 ms
MTC	Off
Flip angle	12 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

Averages	2
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

**Resolution - Common**

FoV read	384 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	256
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off

**Resolution - Filter Image**

Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	13
Dist. factor	20 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	H >> F
FoV read	384 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	30.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	13

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	H >> F
AutoAlign	---
Initial Position	L0.0 A44.5 H0.0
L	0.0 mm
A	44.5 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Sagittal

**Geometry - Saturation**

Fat suppr.	None
Water suppr.	None
Special sat.	None

**System - Miscellaneous**

Positioning mode	FIX
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	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R0.8 A44.0 F23.1 mm
! Orientation	Sagittal
! Rotation	79.41 deg
! F >> H	215 mm
! A >> P	64 mm
! R >> L	32 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	565.300 V

**Physio - Signal1**

1st Signal/Mode	None
TR	30.0 ms
Concatenations	13

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Contrasts	1
Multi-slice mode	Sequential
Bandwidth	200 Hz/Px

**Sequence - Part 2**

Gradient mode	Fast
RF spoiling	On

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Special**

ICE program	IceProgramCoilUtils
Prep. scans duration	0 ms
Optimal SNR	On
GFactor	On
Rx coil diode switching	On

**Sequence - Assistant**

Mode	Off
------	-----

\\USER\FE\TravelingSpine\_Run\Laura\_220124\coilQA\_sag\_FH\_1p5x1p5x2mm\_smallFOV

TA: 1:40 PM: FIX Voxel size: 1.5×1.5×2.0 mmRel. 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	13
Dist. factor	20 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	H >> F
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	30.0 ms
TE	6.0 ms
Averages	2
Concatenations	13
Filter	None
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	30.0 ms
TE	6.0 ms
TD	0 ms
MTC	Off
Flip angle	12 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

Averages	2
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

**Resolution - Common**

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off

**Resolution - Filter Image**

Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	13
Dist. factor	20 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	H >> F
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	30.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	13

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 A44.5 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	H >> F
AutoAlign	---
Initial Position	L0.0 A44.5 H0.0
L	0.0 mm
A	44.5 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Sagittal

**Geometry - Saturation**

Fat suppr.	None
Water suppr.	None
Special sat.	None

**System - Miscellaneous**

Positioning mode	FIX
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	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off



**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R0.8 A44.0 F23.1 mm
! Orientation	Sagittal
! Rotation	79.41 deg
! F >> H	215 mm
! A >> P	64 mm
! R >> L	32 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	565.300 V

**Physio - Signal1**

1st Signal/Mode	None
TR	30.0 ms
Concatenations	13

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Contrasts	1
Multi-slice mode	Sequential
Bandwidth	200 Hz/Px

**Sequence - Part 2**

Gradient mode	Fast
RF spoiling	On

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Special**

ICE program	IceProgramCoilUtils
Prep. scans duration	0 ms
Optimal SNR	On
GFactor	On
Rx coil diode switching	On

**Sequence - Assistant**

Mode	Off
------	-----

\\USER\FE\TravelingSpine\_Run\Laura\_220124\coilQA\_tra\_RL\_0p5x0p5x5mm

TA: 2:41 PM: FIX Voxel size: 0.5×0.5×5.0 mmRel. 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	7
Dist. factor	300 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	30.0 ms
TE	6.0 ms
Averages	2
Concatenations	7
Filter	None
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	30.0 ms
TE	6.0 ms
TD	0 ms
MTC	Off
Flip angle	12 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

Averages	2
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

**Resolution - Common**

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
Base resolution	384
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off

**Resolution - Filter Image**

Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	7
Dist. factor	300 %
Position	L0.0 A44.5 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	30.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	7

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 A44.5 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	L0.0 A44.5 H0.0
L	0.0 mm
A	44.5 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

**Geometry - Saturation**

Fat suppr.	None
Water suppr.	None
Special sat.	None

**System - Miscellaneous**

Positioning mode	FIX
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	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R0.8 A44.0 F23.1 mm
! Orientation	Sagittal
! Rotation	79.41 deg
! F >> H	215 mm
! A >> P	64 mm
! R >> L	32 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	565.300 V

**Physio - Signal1**

1st Signal/Mode	None
TR	30.0 ms
Concatenations	7

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Contrasts	1
Multi-slice mode	Sequential
Bandwidth	200 Hz/Px

**Sequence - Part 2**

Gradient mode	Fast
RF spoiling	On

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Special**

ICE program	IceProgramCoilUtils
Prep. scans duration	0 ms
Optimal SNR	On
GFactor	On
Rx coil diode switching	On

**Sequence - Assistant**

Mode	Off
------	-----

\\USER\FE\TravelingSpine\_Run\Laura\_220124\gre\_2mmISO\_multichannel\_uncomb

TA: 1:21 PM: FIX Voxel size: 2.0×2.0×2.0 mmPAT: Off 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

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Routine**

Slice group	1
Slices	44
Dist. factor	0 %
Position	L0.0 A44.5 F27.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	384 mm
FoV phase	75.0 %
Slice thickness	2.0 mm
TR	550.0 ms
TE	3.80 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(3D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Geometry - Common**

Slice group	1
Slices	44
Dist. factor	0 %
Position	L0.0 A44.5 F27.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	384 mm
FoV phase	75.0 %
Slice thickness	2.0 mm
TR	550.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 A44.5 F27.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A44.5 F27.4
L	0.0 mm
A	44.5 mm
F	27.4 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**Contrast - Common**

TR	550.0 ms
TE	3.80 ms
MTC	Off
Magn. preparation	None
Flip angle	30 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Geometry - Saturation**

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

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Off

**Geometry - Tim CT**

Tim CT mode	Off
Slices	44
Slice thickness	2.0 mm
Dist. factor	0 %
FoV read	384 mm
FoV phase	75.0 %
Segments	1

**Resolution - Common**

FoV read	384 mm
FoV phase	75.0 %
Slice thickness	2.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**System - Miscellaneous**

Positioning mode	FIX
Table position	F
Table position	0 mm
MSMA	S - C - T

**System - Miscellaneous**

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	On
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 A44.5 F27.4 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	288 mm
F >> H	384 mm
R >> L	88 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	565.300 V

**Physio - Signal1**

1st Signal/Mode	None
TR	550.0 ms
Concatenations	1
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	384 mm
FoV phase	75.0 %
Phase resolution	100 %

**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

**Inline - MIP**

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**

Distortion Corr.	On
Mode	3D
Unfiltered images	On

**Sequence - Part 1**

Introduction	On
Dimension	2D
Phase stabilisation	On
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	320 Hz/Px

**Sequence - Part 2**

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

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\localizer\_Sub1

TA: 0:18 PM: REF Voxel size: 0.5×0.5×5.0 mmPAT: Off Rel. SNR: 1.00 : qfl

**Properties**

Prio recon	On
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	3
Dist. factor	50 %
Position	R2.9 A15.4 F49.8 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	50 %
Position	R15.8 A13.6 F49.8 mm
Orientation	Coronal
Phase enc. dir.	F >> H
Slice group	3
Slices	3
Dist. factor	50 %
Position	R11.0 A7.5 F38.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	25 %
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.7 ms
TE	3.67 ms
Averages	1
Concatenations	9
Filter	Distortion Corr.(3D), Elliptical filter
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	7.7 ms
TE	3.67 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

**Contrast - Dynamic**

Multiple series	Each measurement
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**Resolution - Common**

FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Interpolation	On

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	3
Dist. factor	50 %
Position	R2.9 A15.4 F49.8 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	50 %
Position	R15.8 A13.6 F49.8 mm
Orientation	Coronal
Phase enc. dir.	F >> H
Slice group	3
Slices	3
Dist. factor	50 %
Position	R11.0 A7.5 F38.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	7.7 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	9

**Geometry - AutoAlign**

Slice group	1
Position	R2.9 A15.4 F49.8 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2

**Geometry - AutoAlign**

Position	R15.8 A13.6 F49.8 mm
Orientation	Coronal
Phase enc. dir.	F >> H
Slice group	3
Position	R11.0 A7.5 F38.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R2.9 A15.4 F49.8
R	2.9 mm
A	15.4 mm
F	49.8 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 CT**

Tim CT mode	Off
Slices	3
Slice thickness	5.0 mm
Dist. factor	50 %
FoV read	280 mm
FoV phase	100.0 %
Segments	1

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjust Volume**

! Position	L0.0 A25.1 F32.6 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	175 mm
! R >> L	201 mm
! F >> H	259 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1

**System - Tx/Rx**

Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	303.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	7.7 ms
Concatenations	9
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	280 mm
FoV phase	100.0 %
Phase resolution	75 %

**Physio - PACE**

Resp. control	Off
Concatenations	9

**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**

Distortion Corr.	On
Mode	3D
Unfiltered images	On

**Sequence - Part 1**

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Bandwidth	320 Hz/Px

**Sequence - Part 2**

Segments	1
Acoustic noise reduction	Active

**Sequence - Part 2**

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

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\tfl\_sag\_2p5mmISO\_largeFOV\_RefVol\_303

TA: 1:10 PM: ISO Voxel size: 2.4×2.4×2.5 mmPAT: Off 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	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	28
Dist. factor	100 %
Position	R1.4 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	28
Dist. factor	100 %
Position	R2.9 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	61.1 %
Slice thickness	2.5 mm
TR	34420.0 ms
TE	2.31 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(3D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	34420.0 ms
TE	2.31 ms
Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

Averages	1
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	340 mm
FoV phase	61.1 %
Slice thickness	2.5 mm
Base resolution	144
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
----------	------

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	28
Dist. factor	100 %
Position	R1.4 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	28
Dist. factor	100 %
Position	R2.9 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	61.1 %
Slice thickness	2.5 mm
TR	34420.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	R1.4 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Position	R2.9 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R1.4 A47.0 H0.0
R	1.4 mm
A	47.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**System - Miscellaneous**

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

**System - Miscellaneous**

Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**Sequence - Part 2**

RF spoiling	On
Turbo factor	88

**Sequence - Assistant**

Mode	Off
------	-----

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	R2.1 A47.0 H0.0 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	208 mm
F >> H	340 mm
R >> L	140 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	303.000 V

**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**

Distortion Corr.	On
Mode	3D
Unfiltered images	On

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Interleaved
Echo spacing	5.1 ms
Bandwidth	400 Hz/Px

**Sequence - Part 2**

RF pulse type	Low SAR
Gradient mode	Normal
Excitation	Slice-sel.

\\USER\FE\TravelingSpine\_Run\Laura\_220124\tfl\_sag\_2p5mmISO\_largeFOV\_RefVol\_510

TA: 1:10 PM: ISO Voxel size: 2.4×2.4×2.5 mmPAT: Off 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	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	28
Dist. factor	100 %
Position	R1.4 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	28
Dist. factor	100 %
Position	R2.9 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	61.1 %
Slice thickness	2.5 mm
TR	34420.0 ms
TE	2.31 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(3D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	34420.0 ms
TE	2.31 ms
Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

Averages	1
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	340 mm
FoV phase	61.1 %
Slice thickness	2.5 mm
Base resolution	144
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
----------	------

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	28
Dist. factor	100 %
Position	R1.4 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	28
Dist. factor	100 %
Position	R2.9 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	61.1 %
Slice thickness	2.5 mm
TR	34420.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	R1.4 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Position	R2.9 A47.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R1.4 A47.0 H0.0
R	1.4 mm
A	47.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**System - Miscellaneous**

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

**System - Miscellaneous**

Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**Sequence - Part 2**

RF spoiling	On
Turbo factor	88

**Sequence - Assistant**

Mode	Off
------	-----

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	R2.1 A47.0 H0.0 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	208 mm
F >> H	340 mm
R >> L	140 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	510.000 V

**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**

Distortion Corr.	On
Mode	3D
Unfiltered images	On

**Sequence - Part 1**

Introduction	Off
Dimension	2D
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Interleaved
Echo spacing	5.1 ms
Bandwidth	400 Hz/Px

**Sequence - Part 2**

RF pulse type	Low SAR
Gradient mode	Normal
Excitation	Slice-sel.

\\USER\FE\TravelingSpine\_Run\Laura\_220124\t1\_mp2rage\_cor\_nonSelHS1\_0.7iso\_370

TA: 8:47 PM: FIX Voxel size: 0.7×0.7×0.7 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	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**

Slab group	1
Slabs	1
Dist. factor	50 %
Position	R5.7 A49.7 H6.3 mm
Orientation	C > T-8.0 > S-0.1
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	192
FoV read	260 mm
FoV phase	65.8 %
Slice thickness	0.70 mm
TR	5000.0 ms
TE	2.15 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(3D)
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	5000.0 ms
TE	2.15 ms
Magn. preparation	Non-sel. IR
TI 1	700 ms
TI 2	2400 ms
Flip angle 1	4.0 deg
Flip angle 2	5.0 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	260 mm
FoV phase	65.8 %
Slice thickness	0.70 mm
Base resolution	368
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8

**Resolution - Common**

Slice partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	28
Accel. factor 3D	1
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	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	R5.7 A49.7 H6.3 mm
Orientation	C > T-8.0 > S-0.1
Phase enc. dir.	R >> L
Slice oversampling	0.0 %
Slices per slab	192
FoV read	260 mm
FoV phase	65.8 %
Slice thickness	0.70 mm
TR	5000.0 ms
Multi-slice mode	Single shot
Series	Ascending
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	R5.7 A49.7 H6.3 mm
Orientation	C > T-8.0 > S-0.1
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	R5.7 A49.7 H6.3
R	5.7 mm
A	49.7 mm
H	6.3 mm
Initial Rotation	-0.70 deg
Initial Orientation	C > T
C > T	-8.0
> S	-0.1

**Geometry - Navigator****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	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

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

**System - Adjust Volume**

! Position	R5.5 A51.0 H1.8 mm
! Orientation	T > C12.2
! Rotation	0.00 deg
! A >> P	51 mm
! R >> L	73 mm
! F >> H	118 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	370.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	5000.0 ms
Concatenations	1

**Physio - Cardiac**

Magn. preparation	Non-sel. IR
TI 1	700 ms
TI 2	2400 ms
Fat suppr.	None
Dark blood	Off
FoV read	260 mm
FoV phase	65.8 %
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
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**Inline - MIP**

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

**Inline - Composing**

Distortion Corr.	On
Mode	3D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	6.4 ms
Bandwidth	220 Hz/Px

**Sequence - Part 2**

RF pulse type	Normal
Gradient mode	Normal*
Excitation	Non-sel.
RF spoiling	On
Incr. Gradient spoiling	Off
Turbo factor	192

**Sequence - Nuclei**

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A01-08;D09-16;E17-20;H21-24

**Sequence - Special**

Use Custom Inversion	On
Inv pulse type	HS1
HS pulse dur	10240 us
HS pulse offset	0 Hz
HS flip angle	360 deg
TR_FOCI B1	0.00 uT
Echo Spacing	6400 us
Denoise Weighting	100

**Sequence - Assistant**

Mode	Off
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\\USER\FE\TravelingSpine\_Run\Laura\_220124\ep2d\_IgFOVc45\_0p85\_R2PF6\_TE30\_BW1132

TA: 10:10 PM: FIX Voxel size: 0.9×0.9×3.0 mmPAT: 2 Rel. SNR: 1.00 : epfid

**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	16
Dist. factor	0 %
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	164 mm
FoV phase	100.0 %
Slice thickness	3.00 mm
TR	1290 ms
TE	30.00 ms
Multi-band accel. factor	1
Filter	Raw filter
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	1290 ms
TE	30.00 ms
MTC	Off
Magn. preparation	None
Flip angle	68 deg
Fat suppr.	None

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	466
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	164 mm
FoV phase	100.0 %
Slice thickness	3.00 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	52
Reference scan mode	GRE

**Resolution - Filter Image**

Distortion Corr.	Off
Prescan Normalize	Off

**Resolution - Filter Rawdata**

Raw filter	On
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	16
Dist. factor	0 %
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
FoV read	164 mm
FoV phase	100.0 %
Slice thickness	3.00 mm
TR	1290 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-band accel. factor	1

**Geometry - AutoAlign**

Slice group	1
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R2.1 A53.2 H2.7
R	2.1 mm
A	53.2 mm
H	2.7 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	6.7
> S	0.0

**Geometry - Saturation**

Fat suppr.	None
Special sat.	None

**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R2.1 A42.8 H3.4 mm
! Orientation	T > C6.7
! Rotation	0.00 deg
! A >> P	40 mm
! R >> L	52 mm
! F >> H	60 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	523.400 V

**Physio - Signal1**

1st Signal/Mode	None
TR	1290 ms
Multi-band accel. factor	1

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	466
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No

**Sequence - Part 1**

Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1 ms
Bandwidth	1132 Hz/Px

**Sequence - Part 2**

EPI factor	192
Gradient mode	Fast
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	3840 us
SENSE1 coil combine	Off
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
FFT scale factor	1.00
GRE iPAT ref. FA	12.0 deg
Physio recording	Legacy
Triggering scheme	Standard



\\USER\FE\TravelingSpine\_Run\Laura\_220124\dzne\_ep3d\_fmri\_EPI16

TA: 10:14 PM: FIX Voxel size: 0.9×0.9×3.0 mmPAT: 2 Rel. SNR: 1.00 : ce80467

**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**

Slab group	1
Slabs	1
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	16
FoV read	164 mm
FoV phase	100.0 %
Slice thickness	3.00 mm
TR	2300 ms
TE 1	11.20 ms
Averages	1
Multi-echo Shots	1
Filter	Raw filter
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	2300 ms
TE 1	11.20 ms
Multi-echo spacing	17.18 ms
MTC	Off
Magn. preparation	None
TI	900 ms
Flip angle	11 deg
Fat suppr.	None

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	264
Pause after meas.	0.0 s

**Resolution - Common**

FoV read	164 mm
FoV phase	100.0 %
Slice thickness	3.00 mm
Base resolution	192
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Acc. factor PE	2
Ref. lines PE	52
Acc. factor 3D	1
Ref. lines 3D	16
Reference Scan Mode	GRE/separate

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	On
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	16
FoV read	164 mm
FoV phase	100.0 %
Slice thickness	3.00 mm
TR	2300 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

**Geometry - AutoAlign**

Slab group	1
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R2.1 A53.2 H2.7
R	2.1 mm
A	53.2 mm
H	2.7 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	6.7
> S	0.0

**Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	None

**System - Miscellaneous**

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

**System - Miscellaneous**

Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**Sequence - Special**

EPI rise time factor	1.10
Mosaic DICOMs	On

**Sequence - Assistant**

Mode	Off
------	-----

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R2.1 A42.8 H3.4 mm
! Orientation	T > C6.7
! Rotation	0.00 deg
! A >> P	40 mm
! R >> L	52 mm
! F >> H	60 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	523.400 V

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1240 Hz/Px

**Sequence - Part 2**

EPI factor	16
Segmentation	6
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On

**Sequence - Special**

PATRef FA	5 deg
RF duration	2560 us
RF BWT product	30
Ernst T1	1300 ms
PATRef prep. shots	200
Volume dummy shots	0
Dummy Measurements	0
Integrated PC	Off
Invert PE	Off
Freq. adjust	Off
Water Exc.	-none-
Phase Correction	per Blade

\\USER\FE\TravelingSpine\_Run\Laura\_220124\dzne\_ep3d\_fmri\_EPI10

TA: 10:17 PM: FIX Voxel size: 0.9×0.9×3.0 mmPAT: 2 Rel. SNR: 1.00 : ce80467

**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**

Slab group	1
Slabs	1
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	16
FoV read	164 mm
FoV phase	100.0 %
Slice thickness	3.00 mm
TR	2800 ms
TE 1	8.04 ms
Averages	1
Multi-echo Shots	1
Filter	Raw filter
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	2800 ms
TE 1	8.04 ms
Multi-echo spacing	11.32 ms
MTC	Off
Magn. preparation	None
TI	900 ms
Flip angle	9 deg
Fat suppr.	None

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	218
Pause after meas.	0.0 s

**Resolution - Common**

FoV read	164 mm
FoV phase	100.0 %
Slice thickness	3.00 mm
Base resolution	192
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Acc. factor PE	2
Ref. lines PE	52
Acc. factor 3D	1
Ref. lines 3D	16
Reference Scan Mode	GRE/separate

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	On
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	16
FoV read	164 mm
FoV phase	100.0 %
Slice thickness	3.00 mm
TR	2800 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

**Geometry - AutoAlign**

Slab group	1
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R2.1 A53.2 H2.7
R	2.1 mm
A	53.2 mm
H	2.7 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	6.7
> S	0.0

**Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	None

**System - Miscellaneous**

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

**System - Miscellaneous**

Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**Sequence - Special**

EPI rise time factor	1.10
Mosaic DICOMs	On

**Sequence - Assistant**

Mode	Off
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**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R2.1 A42.8 H3.4 mm
! Orientation	T > C6.7
! Rotation	0.00 deg
! A >> P	40 mm
! R >> L	52 mm
! F >> H	60 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	523.400 V

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.03 ms
Bandwidth	1302 Hz/Px

**Sequence - Part 2**

EPI factor	10
Segmentation	10
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On

**Sequence - Special**

PATRef FA	5 deg
RF duration	2560 us
RF BWT product	30
Ernst T1	1300 ms
PATRef prep. shots	200
Volume dummy shots	0
Dummy Measurements	0
Integrated PC	Off
Invert PE	Off
Freq. adjust	Off
Water Exc.	-none-
Phase Correction	per Blade

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TA: 0:59 PM: FIX Voxel size: 1.1×1.1×2.0 mmRel. SNR: 1.00 : fm

**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	20
Dist. factor	20 %
Position	R5.7 A49.7 H6.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	150.0 ms
TE 1	3.06 ms
TE 2	4.08 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	150.0 ms
TE 1	3.06 ms
TE 2	4.08 ms
MTC	Off
Flip angle	19 deg
Fat suppr.	None

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Off

**Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	190
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off

**Resolution - Filter Image**

Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	20
Dist. factor	20 %
Position	R5.7 A49.7 H6.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	150.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	R5.7 A49.7 H6.3 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R5.7 A49.7 H6.3
R	5.7 mm
A	49.7 mm
H	6.3 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**Geometry - Saturation**

Fat suppr.	None
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off

**System - Adjustments**

Adjustment Tolerance	Auto
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**System - Adjust Volume**

! Position	R2.1 A42.8 H3.4 mm
! Orientation	T > C6.7
! Rotation	0.00 deg
! A >> P	40 mm
! R >> L	52 mm
! F >> H	60 mm
Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	523.400 V

**Sequence - Part 1**

Introduction	On
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	797 Hz/Px

**Sequence - Part 2**

RF pulse type	Normal
Gradient mode	Fast
RF spoiling	On

**Sequence - Assistant**

Mode	Off
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TA: 0:59 PM: FIX Voxel size: 1.1×1.1×3.0 mmRel. SNR: 1.00 : fm

**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	20
Dist. factor	0 %
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	150.0 ms
TE 1	3.06 ms
TE 2	4.08 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A01-08;D09-16;E17-20;H21-24

**Contrast - Common**

TR	150.0 ms
TE 1	3.06 ms
TE 2	4.08 ms
MTC	Off
Flip angle	19 deg
Fat suppr.	None

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Off

**Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
Base resolution	190
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off

**Resolution - Filter Image**

Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	20
Dist. factor	0 %
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	150.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	R2.1 A53.2 H2.7 mm
Orientation	T > C6.7
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R2.1 A53.2 H2.7
R	2.1 mm
A	53.2 mm
H	2.7 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	6.7
> S	0.0

**Geometry - Saturation**

Fat suppr.	None
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off

**System - Adjustments**

Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	R2.1 A42.8 H3.4 mm
! Orientation	T > C6.7
! Rotation	0.00 deg
! A >> P	40 mm
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Reset	Off

**System - Tx/Rx**

Frequency 1H	297.194032 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
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**Sequence - Part 1**

Introduction	On
Dimension	2D
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Contrasts	2
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	797 Hz/Px

**Sequence - Part 2**

RF pulse type	Normal
Gradient mode	Fast
RF spoiling	On

**Sequence - Assistant**

Mode	Off
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