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\jcohenadad

spine

generic

2019-03-22\_no-ZOOMit

Localizer  
T1w  
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GRE-MT1  
GRE-MT0  
GRE-T1w  
GRE-ME

\\jcohenadad\spine\generic\2019-03-22\_no-ZOOMit\Localizer

TA: 0:19 PM: ISO Voxel size: 1.0×1.0×6.0 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	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	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	2
Slices	3
Dist. factor	50 %
Position	L0.0 P2.6 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	38 %
FoV read	500 mm
FoV phase	100.0 %
Slice thickness	6.0 mm
TR	7.8 ms
TE	3.69 ms
Averages	1
Concatenations	8
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	HC1,3-7;NC1,2;SP1

**Contrast - Common**

TR	7.8 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
Multiple series	Each measurement

**Resolution - Common**

FoV read	500 mm
FoV phase	100.0 %

**Resolution - Common**

Slice thickness	6.0 mm
Base resolution	256
Phase resolution	80 %
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	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	5
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	2
Slices	3
Dist. factor	50 %
Position	L0.0 P2.6 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	500 mm
FoV phase	100.0 %
Slice thickness	6.0 mm
TR	7.8 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	8

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	2
Position	L0.0 P2.6 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 P10.0 H0.0
L	0.0 mm
P	10.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Coronal

**Geometry - Saturation**

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

**Geometry - Tim Planning Suite**

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

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjust Volume**

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

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Slice-sel.

**System - Tx/Rx**

Frequency 1H	123.259452 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	8
Segments	1

**Physio - Cardiac**

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	500 mm
FoV phase	100.0 %
Phase resolution	80 %

**Physio - PACE**

Resp. control	Off
Concatenations	8

**Inline - Common**

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

**Inline - MIP**

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

**Inline - Soft Tissue**

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

**Inline - Composing**

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

**Sequence - Part 1**

Introduction	On
Dimension	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	None
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On

**Sequence - Assistant**

Mode	Off
Allowed delay	0 s

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TA: 4:44 PM: ISO Voxel size: 1.0×1.0×1.0 mmPAT: 2 Rel. SNR: 1.00 : tfl

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	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	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	192
FoV read	320 mm
FoV phase	81.3 %
Slice thickness	1.00 mm
TR	2000.0 ms
TE	3.72 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC1-7;NC1,2

**Contrast - Common**

TR	2000.0 ms
TE	3.72 ms
Magn. preparation	Non-sel. IR
TI	1000 ms
Flip angle	9 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

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

**Resolution - Common**

FoV read	320 mm
FoV phase	81.3 %
Slice thickness	1.00 mm
Base resolution	320
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

**Resolution - Common**

Interpolation	Off
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**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Accel. factor 3D	1
Reference scan mode	Integrated

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Dist. factor	50 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	192
FoV read	320 mm
FoV phase	81.3 %
Slice thickness	1.00 mm
TR	2000.0 ms
Multi-slice mode	Single shot
Series	Ascending
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	Isocenter
Orientation	Sagittal
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 - Navigator****Geometry - Tim Planning Suite**

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

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjust Volume**

Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
A >> P	260 mm
F >> H	320 mm
R >> L	192 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Slab-sel.

**System - Tx/Rx**

Frequency 1H	123.259452 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	2000.0 ms
Concatenations	1

**Physio - Cardiac**

Magn. preparation	Non-sel. IR
T1	1000 ms
Fat suppr.	None
Dark blood	Off
FoV read	320 mm
FoV phase	81.3 %
Phase resolution	100 %

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Subtract	Off
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**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**

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

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	10.2 ms
Bandwidth	150 Hz/Px

**Sequence - Part 2**

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

**Sequence - Assistant**

Mode	Off
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TA: 4:02 PM: ISO Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : spcR

**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	Isocenter
Orientation	Sagittal
Phase enc. dir.	H >> F
AutoAlign	---
Phase oversampling	80 %
Slice oversampling	12.5 %
Slices per slab	64
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	0.80 mm
TR	1500 ms
TE	120 ms
Averages	1.4
Concatenations	1
Filter	Raw filter, Distortion Corr.(3D), Prescan Normalize
Coil elements	HC5-7;NC1,2;SP1

**Contrast - Common**

TR	1500 ms
TE	120 ms
MTC	Off
Magn. preparation	None
Flip angle	120 deg
Fat suppr.	None
Blood suppr.	Off
Restore magn.	On

**Contrast - Dynamic**

Averages	1.4
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	0.80 mm
Base resolution	320
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Allowed
Slice partial Fourier	6/8
Interpolation	Off

**Resolution - iPAT**

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

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	On
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	H >> F
Slice oversampling	12.5 %
Slices per slab	64
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	0.80 mm
TR	1500 ms
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	H >> F
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Sagittal

**Geometry - Saturation**

Fat suppr.	None
Restore magn.	On
Special sat.	None

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

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

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjust Volume**

Position	Isocenter
Orientation	Sagittal
Rotation	90.00 deg
F >> H	256 mm
A >> P	256 mm
R >> L	52 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Slab-sel.

**System - Tx/Rx**

Frequency 1H	123.259452 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	4.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
Trigger delay	0 ms
TR	1500 ms
Concatenations	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	256 mm
FoV phase	100.0 %
Phase resolution	100 %

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

**Inline - MIP**

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

**Inline - Composing**

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

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Flow comp.	No
Echo spacing	3.99 ms
Adiabatic-mode	Off
Bandwidth	625 Hz/Px

**Sequence - Part 2**

Echo train duration	311 ms
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
Flip angle mode	Constant
Turbo factor	100

**Sequence - Assistant**

Allowed delay	30 s
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TA: 2:05 PM: ISO Voxel size: 0.9×0.9×5.0 mmPAT: Off 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	15
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	86 mm
FoV phase	37.5 %
Slice thickness	5.0 mm
TR	600 ms
TE	55.0 ms
Concatenations	5
Filter	Prescan Normalize
Coil elements	HC5-7;NC1,2

**Contrast - Common**

TR	600 ms
TE	55.0 ms
MTC	Off
Magn. preparation	None
Fat suppr.	SPAIR
Fat sat. mode	Strong

**Contrast - Dynamic**

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

**Resolution - Common**

FoV read	86 mm
FoV phase	37.5 %
Slice thickness	5.0 mm
Base resolution	96
Phase resolution	100 %
Phase partial Fourier	7/8
Interpolation	Off

**Resolution - iPAT**

Accel. mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
Dynamic Field Corr.	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	15
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	86 mm
FoV phase	37.5 %
Slice thickness	5.0 mm
TR	600 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	5

**Geometry - AutoAlign**

Slice group	1
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	Transversal

**Geometry - Saturation**

Sat. region	1
Thickness	100 mm
Position	L0.0 P100.0 H0.0 mm
Orientation	Coronal
Sat. region	2
Thickness	100 mm
Position	L0.0 A100.0 H0.0 mm
Orientation	Coronal
Fat sat. mode	Strong
Special sat.	None

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

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

**System - Miscellaneous**

Positioning mode	ISO
Table position	H
Table position	0 mm
MSMA	S - C - T



**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	33 mm
R >> L	86 mm
F >> H	75 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.259452 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	5.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	Pulse/Trigger
Average cycle	890 ± 68 ms
Average cycle	No Signal ms
Acquisition window	3600 ms
Trigger pulse	1
Trigger delay	0 ms
TR	600 ms
Concatenations	5
Phases	1

**Physio - PACE**

Resp. control	Off
Concatenations	5

**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	5
b-value 2	1
Diff. weighted images	On

**Diff - Neuro**

Trace weighted images	Off
ADC maps	Off
FA maps	Off
Mosaic	On
Tensor	Off
Noise level	8

**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>
b-value 1	5
b-value 2	1
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	8

**Diff - Composing**

Inline Composing	Off
Distortion Corr.	Off

**Sequence - Part 1**

Introduction	On
Optimization	Min. TE
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.94 ms
Bandwidth	1270 Hz/Px

**Sequence - Part 2**

EPI factor	36
RF pulse type	Normal
Gradient mode	Performance
Excitation	Standard

**Sequence - pTX Pulses**

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TA: 2:12 PM: ISO Voxel size: 0.9×0.9×5.0 mmPAT: 2 Rel. SNR: 1.00 : fl

**Properties**

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

**Routine**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	18.2 %
Slices per slab	22
FoV read	230 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
TR	35.0 ms
TE	3.13 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	HC5-7;NC1,2

**Contrast - Common**

TR	35.0 ms
TE	3.13 ms
MTC	On
Magn. preparation	None
Flip angle	9 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	230 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
Base resolution	256
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off

**Resolution - Common**

Slice partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

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

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slice oversampling	18.2 %
Slices per slab	22
FoV read	230 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
TR	35.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
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	Transversal

**Geometry - Saturation**

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

**Geometry - Tim Planning Suite**

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

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	58 mm
R >> L	230 mm
F >> H	110 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Slab-sel.

**System - Tx/Rx**

Frequency 1H	123.259452 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	5.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	35.0 ms
Concatenations	1
Segments	1

**Physio - Cardiac**

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	230 mm
FoV phase	100.0 %
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
MIP-Time	Off
Save original images	On

**Inline - Soft Tissue**

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

**Inline - Composing**

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

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	260 Hz/Px

**Sequence - Part 2**

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

**Sequence - Assistant**

Mode	Off
Allowed delay	0 s

\\jcohenadad\spine\generic\2019-03-22\_no-ZOOMit\GRE-MT0

TA: 2:12 PM: ISO Voxel size: 0.9×0.9×5.0 mmPAT: 2 Rel. SNR: 1.00 : fl

**Properties**

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

**Routine**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	18.2 %
Slices per slab	22
FoV read	230 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
TR	35.0 ms
TE	3.13 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	HC5-7;NC1,2

**Contrast - Common**

TR	35.0 ms
TE	3.13 ms
MTC	Off
Magn. preparation	None
Flip angle	9 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	230 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
Base resolution	256
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off

**Resolution - Common**

Slice partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

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

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slice oversampling	18.2 %
Slices per slab	22
FoV read	230 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
TR	35.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
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	Transversal

**Geometry - Saturation**

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

**Geometry - Tim Planning Suite**

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

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	58 mm
R >> L	230 mm
F >> H	110 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Slab-sel.

**System - Tx/Rx**

Frequency 1H	123.259452 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	5.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	35.0 ms
Concatenations	1
Segments	1

**Physio - Cardiac**

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	230 mm
FoV phase	100.0 %
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
MIP-Time	Off
Save original images	On

**Inline - Soft Tissue**

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

**Inline - Composing**

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

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	260 Hz/Px

**Sequence - Part 2**

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

**Sequence - Assistant**

Mode	Off
Allowed delay	0 s

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TA: 0:57 PM: ISO Voxel size: 0.9×0.9×5.0 mmPAT: 2 Rel. SNR: 1.00 : fl

**Properties**

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

**Routine**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	18.2 %
Slices per slab	22
FoV read	230 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
TR	15.0 ms
TE	3.13 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	HC5-7;NC1,2

**Contrast - Common**

TR	15.0 ms
TE	3.13 ms
MTC	Off
Magn. preparation	None
Flip angle	15 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	230 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
Base resolution	256
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off

**Resolution - Common**

Slice partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

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

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slice oversampling	18.2 %
Slices per slab	22
FoV read	230 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
TR	15.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
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	Transversal

**Geometry - Saturation**

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

**Geometry - Tim Planning Suite**

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

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	58 mm
R >> L	230 mm
F >> H	110 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Slab-sel.

**System - Tx/Rx**

Frequency 1H	123.259452 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	5.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	15.0 ms
Concatenations	1
Segments	1

**Physio - Cardiac**

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	230 mm
FoV phase	100.0 %
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
MIP-Time	Off
Save original images	On

**Inline - Soft Tissue**

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

**Inline - Composing**

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

**Sequence - Part 1**

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	260 Hz/Px

**Sequence - Part 2**

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

**Sequence - Assistant**

Mode	Off
Allowed delay	0 s

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TA: 4:45 PM: ISO Voxel size: 0.5×0.5×5.0 mmPAT: 2 Rel. SNR: 1.00 : me\_r

**Properties**

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

**Routine**

Slice group	1
Slices	15
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	600.0 ms
TE	14.0 ms
Averages	2
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	HC5-7;NC1,2

**Contrast - Common**

TR	600.0 ms
TE	14.0 ms
MTC	Off
Flip angle	30 deg
Fat suppr.	None
Water suppr.	None

**Contrast - Dynamic**

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

**Resolution - Common**

FoV read	224 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
Base resolution	448
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
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**Resolution - iPAT**

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

**Resolution - Filter Image**

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

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

**Geometry - Common**

Slice group	1
Slices	15
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	600.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
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	Transversal

**Geometry - Saturation**

Sat. region	1
Thickness	100 mm
Position	L0.0 P100.0 H0.0 mm
Orientation	Coronal
Water suppr.	None
Special sat.	None

**Geometry - Tim Planning Suite**

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



**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	224 mm
R >> L	224 mm
F >> H	75 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
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**System - Tx/Rx**

Frequency 1H	123.259452 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	600.0 ms
Concatenations	1

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

**Inline - MIP**

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

**Inline - Composing**

Inline Composing	Off
Distortion Corr.	On

**Inline - Composing**

Mode	2D
Unfiltered images	Off

**Sequence - Part 1**

Introduction	On
Dimension	2D
Combined echoes	3
Flow comp.	Yes
Multi-slice mode	Interleaved
Bandwidth	260 Hz/Px

**Sequence - Part 2**

RF pulse type	Fast
Gradient mode	Normal
RF spoiling	On

**Sequence - Assistant**

Mode	Off
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