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WBIC Protocols Ready

Protocol 474

20180508_THS_Struc

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\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Struc\localizer_v2_200V

TA: 9.4 s PM: REF Voxel size: 0.5×0.5×3.0 mmPAT: 2 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	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	4.9 ms
TE	2.15 ms
Averages	1
Concatenations	15
Filter	None
Coil elements	A32

Contrast - Common

TR	4.9 ms
TE	2.15 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	10 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	256 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
Base resolution	256
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	On

Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	4.9 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	15

Geometry - AutoAlign

Slice group	1
Position	L0.0 A30.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P

Geometry - AutoAlign

Slice group	2
Position	L0.0 A30.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Position	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 H0.0
Phase	-30.0 mm
Read	0.0 mm
Shift	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

Geometry - Tim CT

Tim CT mode	Off
Slices	5
Slice thickness	3.0 mm
Dist. factor	20 %
FoV read	256 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	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
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

System - Adjust Volume

R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

Physio - Signal1

1st Signal/Mode	None
TR	4.9 ms
Concatenations	15
Segments	1

Physio - Cardiac

Tagging	None
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	15

Inline - Common

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

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
Distortion Corr.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	10 deg
Measurements	1
Contrasts	1

Inline - MapIt

TR	4.9 ms
TE	2.15 ms

Sequence - Part 1

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Bandwidth	560 Hz/Px

Sequence - Part 2

Segments	1
Acoustic noise reduction	Active
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On

Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Struc\gre_NoiseScans_A32_withNoise_200V
TA: 0:29 PM: REF Voxel size: 5.6×5.6×5.0 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

Routine

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	72
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
TR	6.0 ms
TE	1.52 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	6.0 ms
TE	1.52 ms
MTC	Off
Magn. preparation	None
Flip angle	5 deg
Fat suppr.	Water excit. normal
Water suppr.	None
SWI	Off

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
Base resolution	64
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off

Resolution - Common

Slice 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

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	72
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
TR	6.0 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
Phase	0.0 mm
Read	0.0 mm
Shift	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Water excit. normal
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

Geometry - Tim CT

Tim CT mode	Off
Slabs	1
Slices per slab	72
Slice thickness	5.00 mm
Dist. factor	20 %
FoV read	360 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	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	297.201126 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	200.000 V

Physio - Signal1

1st Signal/Mode	None
TR	6.0 ms
Concatenations	1
Segments	1

Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	Water excit. normal
Dark blood	Off
FoV read	360 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.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	5 deg
Measurements	1
Contrasts	1
TR	6.0 ms
TE	1.52 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	1000 Hz/Px

Sequence - Part 2

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

Sequence - Special

Noise prescan count	20
Use coil sens ICE	On

Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Struc\gre_NoiseScans_V32_withNoise_200V
TA: 0:29 PM: REF Voxel size: 5.6×5.6×5.0 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

Routine

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	72
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
TR	6.0 ms
TE	1.52 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	VC1

Contrast - Common

TR	6.0 ms
TE	1.52 ms
MTC	Off
Magn. preparation	None
Flip angle	5 deg
Fat suppr.	Water excit. normal
Water suppr.	None
SWI	Off

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
Base resolution	64
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off

Resolution - Common

Slice 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

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	72
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	5.00 mm
TR	6.0 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
Phase	0.0 mm
Read	0.0 mm
Shift	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Water excit. normal
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

Geometry - Tim CT

Tim CT mode	Off
Slabs	1
Slices per slab	72
Slice thickness	5.00 mm
Dist. factor	20 %
FoV read	360 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	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	297.201126 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	200.000 V

Physio - Signal1

1st Signal/Mode	None
TR	6.0 ms
Concatenations	1
Segments	1

Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	Water excit. normal
Dark blood	Off
FoV read	360 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.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	5 deg
Measurements	1
Contrasts	1
TR	6.0 ms
TE	1.52 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	1000 Hz/Px

Sequence - Part 2

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

Sequence - Special

Noise prescan count	20
Use coil sens ICE	On

Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Struct\gre_field_mapping_4mm_250V

TA: 1:22 PM: FIX Voxel size: 4.0×4.0×4.0 mmRel. SNR: 1.00 : fm_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	64
Dist. factor	0 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	620.0 ms
TE 1	4.08 ms
TE 2	5.1 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	620.0 ms
TE 1	4.08 ms
TE 2	5.1 ms
MTC	Off
Flip angle	39 deg
Fat suppr.	None

Contrast - Dynamic

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

Resolution - Common

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
Base resolution	64
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	64
Dist. factor	0 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	620.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 H0.0
Phase	-30.0 mm
Read	0.0 mm
Shift	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat 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	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	R3.6 A32.2 F16.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	189 mm
! R >> L	167 mm
! F >> H	155 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

Sequence - Part 1

Introduction	On
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Flow comp.	Yes
Multi-slice mode	Interleaved
Bandwidth	730 Hz/Px

Sequence - Part 2

RF pulse type	Normal
Gradient mode	Whisper
RF spoiling	On

Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Struc\3DREAM_B1_250V

TA: 6.7 s PM: FIX Voxel size: 4.5×4.5×4.5 mmPAT: 2 Rel. SNR: 1.00 : ebd5de2

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	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	44
FoV read	288 mm
FoV phase	87.5 %
Slice thickness	4.50 mm
TR	5000 ms
TE 1	0.90 ms
TE 2	1.54 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	A32

Contrast - Common

TR	5000 ms
TE 1	0.90 ms
TE 2	1.54 ms
Flip angle 1	60 deg
Flip angle 2	8 deg

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	288 mm
FoV phase	87.5 %
Slice thickness	4.50 mm
Base resolution	64
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	7/8
Slice partial Fourier	7/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
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Resolution - iPAT

Accel. factor PE	2
Ref. lines PE	30
Accel. factor 3D	1
Ref. lines 3D	12
Reference scan mode	GRE/separate

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	Off

Geometry - Common

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
Slice oversampling	0.0 %
Slices per slab	44
FoV read	288 mm
FoV phase	87.5 %
Slice thickness	4.50 mm
TR	5000 ms
Multi-slice mode	Interleaved
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	L0.0 A30.0 H0.0
Phase	0.0 mm
Read	-30.0 mm
Shift	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Miscellaneous

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

Sequence - Assistant

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

System - Adjustments

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

System - Adjust Volume

! Position	R3.6 A32.2 F16.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	189 mm
! R >> L	167 mm
! F >> H	155 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

Sequence - Part 1

Introduction	Off
Dimension	3D
Elliptical scanning	On
Asymmetric echo	Off
Contrasts	2
Multi-slice mode	Interleaved
Bandwidth	1560 Hz/Px

Sequence - Part 2

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

Sequence - Special

Preparation scans	1
Preparation loops	0
Sample T1	1400 ms
Shots	1
RF-Duration	150 us
Prep RF-Duration	250 us
Timing Schme	STE* First
Mixing Time	640 us
Ref Scan Delay	1000 ms
FFT Scale	20
Calculate FlipMap	Off
Scale risetime	1.20

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Struc\MPRAGE_0.7

TA: 6:35 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	L0.0 A28.5 F3.1 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	224
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 mm
TR	2200.0 ms
TE	3 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	2200.0 ms
TE	3 ms
Magn. preparation	Non-sel. IR
T1	1050 ms
Flip angle	8 deg
Fat suppr.	None
Water suppr.	None

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 mm
Base resolution	320
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	40
Accel. factor 3D	1
Reference scan mode	Integrated

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

Slab group	1
Slabs	1
Dist. factor	50 %
Position	L0.0 A28.5 F3.1 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	224
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 mm
TR	2200.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A28.5 F3.1 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A28.5 F3.1
Phase	-28.5 mm
Read	-3.1 mm
Shift	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	FIX
Table position	H
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	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	297.201126 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	2200.0 ms
Concatenations	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	1050 ms
Fat suppr.	None
Dark blood	Off
FoV read	224 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

Inline - MIP

Save original images	On
----------------------	----

Inline - Composing

Inline Composing	Off
Distortion Corr.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	8 deg
Measurements	1
TR	2200.0 ms
TE	3 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Off
Flow comp.	No
Multi-slice mode	Sequential
Echo spacing	7 ms
Bandwidth	240 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Fast*
Excitation	Non-sel.
RF spoiling	On
Incr. Gradient spoiling	Off
Turbo factor	224

Sequence - Special

Use WTC SENSE Recon	On
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Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Struc\MP2RAGE_0.7

TA: 7:51 PM: FIX Voxel size: 0.7×0.7×0.7 mmPAT: 3 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	224
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 mm
TR	3500.0 ms
TE	2.58 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3500.0 ms
TE	2.58 ms
Magn. preparation	Non-sel. IR
TI 1	725 ms
TI 2	2150 ms
Flip angle 1	5 deg
Flip angle 2	2 deg
Fat suppr.	None
Water suppr.	None

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 mm
Base resolution	320
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	3
Ref. lines PE	40
Accel. factor 3D	1
Reference scan mode	Integrated

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

Slab group	1
Slabs	1
Dist. factor	50 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	224
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 mm
TR	3500.0 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
Phase	0.0 mm
Read	0.0 mm
Shift	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	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	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	297.201126 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	3500.0 ms
Concatenations	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI 1	725 ms
TI 2	2150 ms
Fat suppr.	None
Dark blood	Off
FoV read	224 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.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle 1	5 deg
Flip angle 2	2 deg
Measurements	1
TR	3500.0 ms
TE	2.58 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Off
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	6.1 ms
Bandwidth	300 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Fast*
Excitation	Non-sel.
RF spoiling	On
Incr. Gradient spoiling	Off
Turbo factor	224

Sequence - Special

Use WTC SENSE Recon	On
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Sequence - Assistant

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

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Struc\T2star_0.7_single

TA: 12:38 PM: REF Voxel size: 0.7×0.7×0.7 mmPAT: 4 Rel. SNR: 1.00 : fl_r

Properties

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

Routine

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	224
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 mm
TR	31.0 ms
TE	20.00 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	31.0 ms
TE	20.00 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	Magn./Phase
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 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	4
Ref. lines PE	40
Accel. factor 3D	1
Reference scan mode	Integrated

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

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	224
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 mm
TR	31.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
Phase	0.0 mm
Read	0.0 mm
Shift	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

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

Geometry - Tim Planning Suite

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

Geometry - Tim Planning Suite

Inline Composing	Off
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Geometry - Tim CT

Tim CT mode	Off
Slabs	1
Slices per slab	224
Slice thickness	0.70 mm
Dist. factor	20 %
FoV read	224 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	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	None

System - Adjust Volume

Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
A >> P	224 mm
F >> H	224 mm
R >> L	157 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 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	31.0 ms
Concatenations	1
Segments	1

Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	224 mm

Physio - Cardiac

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.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	15 deg
Measurements	1
Contrasts	1
TR	31.0 ms
TE	20.00 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	Slice/Read
Multi-slice mode	Interleaved
Bandwidth	70 Hz/Px

Sequence - Part 2

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

Sequence - Special

Use WTC SENSE Recon	On
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Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Struc\T2star_1.4_8echo

TA: 5:58 PM: REF Voxel size: 1.4×1.4×1.4 mmPAT: 4 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	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	120
FoV read	269 mm
FoV phase	81.3 %
Slice thickness	1.40 mm
TR	43.0 ms
TE 1	4.00 ms
TE 2	9.00 ms
TE 3	14.00 ms
TE 4	19.00 ms
TE 5	24.00 ms
TE 6	29.00 ms
TE 7	34.00 ms
TE 8	39.00 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	43.0 ms
TE 1	4.00 ms
TE 2	9.00 ms
TE 3	14.00 ms
TE 4	19.00 ms
TE 5	24.00 ms
TE 6	29.00 ms
TE 7	34.00 ms
TE 8	39.00 ms
MTC	Off
Magn. preparation	None
Flip angle	15 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

Contrast - Dynamic

Averages	1
----------	---

Contrast - Dynamic

Averaging mode	Short term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	269 mm
FoV phase	81.3 %
Slice thickness	1.40 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
Accel. factor PE	4
Ref. lines PE	40
Accel. factor 3D	1
Reference scan mode	Integrated

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

Slab group	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	120
FoV read	269 mm
FoV phase	81.3 %
Slice thickness	1.40 mm
TR	43.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
Phase	0.0 mm
Read	0.0 mm

Geometry - AutoAlign

Shift	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

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

Geometry - Tim Planning Suite

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

Geometry - Tim CT

Tim CT mode	Off
Slabs	1
Slices per slab	120
Slice thickness	1.40 mm
Dist. factor	20 %
FoV read	269 mm
FoV phase	81.3 %
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	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	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
A >> P	219 mm
F >> H	269 mm
R >> L	168 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off

System - Tx/Rx

? Ref. amplitude 1H	0.000 V
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Physio - Signal1

1st Signal/Mode	None
TR	43.0 ms
Concatenations	1
Segments	1

Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	269 mm
FoV phase	81.3 %
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.	Off

Inline - Maplt

Save original images	On
Maplt	None
Flip angle	15 deg
Measurements	1
Contrasts	8
TR	43.0 ms
TE 1	4.00 ms
TE 2	9.00 ms
TE 3	14.00 ms
TE 4	19.00 ms
TE 5	24.00 ms
TE 6	29.00 ms
TE 7	34.00 ms
TE 8	39.00 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	8
Flow comp. 1	No
Readout mode	Monopolar
Multi-slice mode	Interleaved
Bandwidth 1	260 Hz/Px
Bandwidth 2	260 Hz/Px
Bandwidth 3	260 Hz/Px
Bandwidth 4	260 Hz/Px
Bandwidth 5	260 Hz/Px
Bandwidth 6	260 Hz/Px
Bandwidth 7	260 Hz/Px
Bandwidth 8	260 Hz/Px

Sequence - Part 2

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

Sequence - Special

Use WTC SENSE Recon	On
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Sequence - Assistant

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

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Struc\Highresolution_TSE_PAT2_100

TA: 4:12 PM: REF Voxel size: 0.4×0.4×1.0 mmPAT: 2 Rel. SNR: 1.00 : qtse

Properties

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

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	27
Reference scan mode	Integrated

Resolution - Filter Image

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

Routine

Slice group	1
Slices	55
Dist. factor	10 %
Position	L0.0 A26.6 F29.8 mm
Orientation	C > T-30.4
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	1.0 mm
TR	8080.0 ms
TE	76 ms
Averages	1
Concatenations	1
Filter	Raw filter
Coil elements	A32

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	55
Dist. factor	10 %
Position	L0.0 A26.6 F29.8 mm
Orientation	C > T-30.4
Phase enc. dir.	R >> L
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	1.0 mm
TR	8080.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Contrast - Common

TR	8080.0 ms
TE	76 ms
MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off

Geometry - AutoAlign

Slice group	1
Position	L0.0 A26.6 F29.8 mm
Orientation	C > T-30.4
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	L0.0 A26.6 F29.8
Phase	0.0 mm
Read	12.3 mm
Shift	-38.0 mm
Initial Rotation	0.00 deg
Initial Orientation	C > T
C > T	-30.4
> S	0.0

Contrast - Dynamic

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

Geometry - Saturation

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

Resolution - Common

FoV read	224 mm
FoV phase	100.0 %
Slice thickness	1.0 mm
Base resolution	512
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

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

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

Geometry - Tim CT

Tim CT mode	Off
Slices	55
Slice thickness	1.0 mm
Dist. factor	10 %
FoV read	224 mm
FoV phase	100.0 %

System - Miscellaneous

Positioning mode	REF
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	Default

System - Adjustments

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

System - Adjust Volume

! Position	R3.6 A32.2 F16.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	189 mm
! R >> L	167 mm
! F >> H	155 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 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	8080.0 ms
Concatenations	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	224 mm
FoV phase	100.0 %
Phase resolution	100 %
Trajectory	Cartesian

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.	Off

Sequence - Part 1

Introduction	On
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Optimization	In phase
Multi-slice mode	Interleaved
Free echo spacing	On
Echo spacing	15.2 ms
Bandwidth	155 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	30
Phase correction	Automatic
Acoustic noise reduction	Active
RF pulse type	Low SAR
Gradient mode	Normal
Hyperecho	On
WARP	Off
Red. EC sensitivity	Off
Turbo factor	9

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\localizer_v2_200V

TA: 9.4 s PM: REF Voxel size: 0.5×0.5×3.0 mmPAT: 2 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	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	4.9 ms
TE	2.15 ms
Averages	1
Concatenations	15
Filter	None
Coil elements	A32

Contrast - Common

TR	4.9 ms
TE	2.15 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	10 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
-----------------	------------------

Resolution - Common

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
Base resolution	256
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	On

Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	4.9 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	15

Geometry - AutoAlign

Slice group	1
Position	L0.0 A30.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P

Geometry - AutoAlign

Slice group	2
Position	L0.0 A30.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Position	L0.0 A30.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 H0.0
Phase	-30.0 mm
Read	0.0 mm
Shift	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

Geometry - Tim CT

Tim CT mode	Off
Slices	5
Slice thickness	3.0 mm
Dist. factor	20 %
FoV read	256 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	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
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

System - Adjust Volume

R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

Physio - Signal1

1st Signal/Mode	None
TR	4.9 ms
Concatenations	15
Segments	1

Physio - Cardiac

Tagging	None
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	15

Inline - Common

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

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
Distortion Corr.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	10 deg
Measurements	1
Contrasts	1

Inline - MapIt

TR	4.9 ms
TE	2.15 ms

Sequence - Part 1

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Bandwidth	560 Hz/Px

Sequence - Part 2

Segments	1
Acoustic noise reduction	Active
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On

Sequence - Assistant

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

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\3D_localizer_200V_matched

TA: 0:19 PM: REF Voxel size: 0.7×0.7×2.0 mmPAT: 3 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	On
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	144
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	3.6 ms
TE	1.56 ms
Averages	1
Concatenations	1
Filter	B1 filter
Coil elements	A32

Contrast - Common

TR	3.6 ms
TE	1.56 ms
MTC	Off
Magn. preparation	None
Flip angle	10 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	260 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	192
Phase resolution	100 %
Slice resolution	69 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8

Resolution - Common

Interpolation	On
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Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A30.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	144
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	3.6 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A30.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 H0.0
Phase	-30.0 mm
Read	0.0 mm
Shift	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

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

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H

Geometry - Tim Planning Suite

Table position	0 mm
Inline Composing	Off

Geometry - Tim CT

Tim CT mode	Off
Slabs	1
Slices per slab	144
Slice thickness	2.00 mm
Dist. factor	20 %
FoV read	260 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	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
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	297.201126 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	200.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3.6 ms
Concatenations	1
Segments	1

Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off

Physio - Cardiac

FoV read	260 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.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	10 deg
Measurements	1
Contrasts	1
TR	3.6 ms
TE	1.56 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Bandwidth	550 Hz/Px

Sequence - Part 2

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

Sequence - Assistant

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

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\3DREAM_B1_250V

TA: 6.7 s PM: FIX Voxel size: 4.5×4.5×4.5 mmPAT: 2 Rel. SNR: 1.00 : ebd5de2

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	L0.0 A36.6 F23.4 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	44
FoV read	288 mm
FoV phase	87.5 %
Slice thickness	4.50 mm
TR	5000 ms
TE 1	0.90 ms
TE 2	1.54 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	A32

Contrast - Common

TR	5000 ms
TE 1	0.90 ms
TE 2	1.54 ms
Flip angle 1	60 deg
Flip angle 2	8 deg

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	288 mm
FoV phase	87.5 %
Slice thickness	4.50 mm
Base resolution	64
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	7/8
Slice partial Fourier	7/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
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Resolution - iPAT

Accel. factor PE	2
Ref. lines PE	30
Accel. factor 3D	1
Ref. lines 3D	12
Reference scan mode	GRE/separate

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	Off

Geometry - Common

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A36.6 F23.4 mm
Orientation	Transversal
Phase enc. dir.	R >> L
Slice oversampling	0.0 %
Slices per slab	44
FoV read	288 mm
FoV phase	87.5 %
Slice thickness	4.50 mm
TR	5000 ms
Multi-slice mode	Interleaved
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A36.6 F23.4 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	L0.0 A36.6 F23.4
Phase	0.0 mm
Read	-36.6 mm
Shift	-23.4 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Miscellaneous

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

Sequence - Assistant

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

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	297.201126 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

Sequence - Part 1

Introduction	Off
Dimension	3D
Elliptical scanning	On
Asymmetric echo	Off
Contrasts	2
Multi-slice mode	Interleaved
Bandwidth	1560 Hz/Px

Sequence - Part 2

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

Sequence - Special

Preparation scans	1
Preparation loops	0
Sample T1	1400 ms
Shots	1
RF-Duration	150 us
Prep RF-Duration	250 us
Timing Schme	STE* First
Mixing Time	640 us
Ref Scan Delay	1000 ms
FFT Scale	20
Calculate FlipMap	Off
Scale risetime	1.20

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\gre_RestingState

TA: 3:25 PM: REF Voxel size: 0.8×0.8×1.5 mmPAT: 2 Rel. SNR: 1.00 : fl

Properties

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

Routine

Slice group	1
Slices	96
Dist. factor	0 %
Position	L0.0 A27.1 F23.4 mm
Orientation	T > C-13.1
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	87.5 %
Slice thickness	1.5 mm
TR	1640.0 ms
TE	10.10 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	1640.0 ms
TE	10.10 ms
MTC	Off
Magn. preparation	None
Flip angle	32 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	192 mm
FoV phase	87.5 %
Slice thickness	1.5 mm
Base resolution	256
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.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	96
Dist. factor	0 %
Position	L0.0 A27.1 F23.4 mm
Orientation	T > C-13.1
Phase enc. dir.	R >> L
FoV read	192 mm
FoV phase	87.5 %
Slice thickness	1.5 mm
TR	1640.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L0.0 A27.1 F23.4 mm
Orientation	T > C-13.1
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	L0.0 A27.1 F23.4
Phase	0.0 mm
Read	-21.1 mm
Shift	-28.9 mm
Initial Rotation	90.00 deg
Initial Orientation	T > C
T > C	-13.1
> S	0.0

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

Geometry - Tim CT

Tim CT mode	Off
Slices	96

Geometry - Tim CT

Slice thickness	1.5 mm
Dist. factor	0 %
FoV read	192 mm
FoV phase	87.5 %
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	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 A27.1 F23.4 mm
Orientation	T > C-13.1
Rotation	90.00 deg
R >> L	168 mm
A >> P	192 mm
F >> H	144 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 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	1640.0 ms
Concatenations	1
Segments	1

Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	192 mm
FoV phase	87.5 %
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.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	32 deg
Measurements	1
Contrasts	1
TR	1640.0 ms
TE	10.10 ms

Sequence - Part 1

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	100 Hz/Px

Sequence - Part 2

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

Sequence - Assistant

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

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\gre_field_mapping_4mm_RS

TA: 1:02 PM: FIX Voxel size: 4.0×4.0×4.0 mmRel. SNR: 1.00 : fm_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	40
Dist. factor	0 %
Position	L0.0 A27.1 F23.4 mm
Orientation	T > C-13.1
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
TR	620.0 ms
TE 1	4.08 ms
TE 2	5.1 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	620.0 ms
TE 1	4.08 ms
TE 2	5.1 ms
MTC	Off
Flip angle	39 deg
Fat suppr.	None

Contrast - Dynamic

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

Resolution - Common

FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
Base resolution	64
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	40
Dist. factor	0 %
Position	L0.0 A27.1 F23.4 mm
Orientation	T > C-13.1
Phase enc. dir.	R >> L
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
TR	620.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L0.0 A27.1 F23.4 mm
Orientation	T > C-13.1
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	L0.0 A27.1 F23.4
Phase	0.0 mm
Read	-21.1 mm
Shift	-28.9 mm
Initial Rotation	90.00 deg
Initial Orientation	T > C
T > C	-13.1
> S	0.0

Geometry - Saturation

Fat 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	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	---

System - Miscellaneous

Coil Select Mode	Default
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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	L0.0 A27.1 F23.4 mm
! Orientation	T > C-13.1
! Rotation	90.00 deg
! R >> L	168 mm
! A >> P	192 mm
! F >> H	144 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Flow comp.	Yes
Multi-slice mode	Interleaved
Bandwidth	730 Hz/Px

Sequence - Part 2

RF pulse type	Normal
Gradient mode	Whisper
RF spoiling	On

Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\MB_GRE_EPI_3VOL_RS

TA: 0:37 PM: FIX Voxel size: 1.5×1.5×1.5 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	96
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	1500 ms
TE	25.00 ms
Multi-band accel. factor	4
Filter	Raw filter
Coil elements	A32

Contrast - Common

TR	1500 ms
TE	25.00 ms
MTC	Off
Magn. preparation	None
Flip angle	65 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	3
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
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	96
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	Fat sat.
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	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
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	192 mm
R >> L	192 mm
F >> H	144 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 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	1500 ms
Multi-band accel. factor	4

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	3
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Motion correction	Off
Spatial filter	Off
Measurements	3
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.72 ms
Bandwidth	1628 Hz/Px

Sequence - Part 2

EPI factor	128
Gradient mode	Fast
RF spoiling	Off

Sequence - Special

Excite pulse duration	7000 us
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Sequence - Special

Single-band images	On
MB LeakBlock kernel	Off
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	Off
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
GRE iPAT ref. FA	12.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\MB_SE_EPI_3VOL_RS

TA: 0:35 PM: FIX Voxel size: 1.5×1.5×1.5 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	96
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	2000 ms
TE	45.00 ms
Multi-band accel. factor	4
Filter	Raw filter
Coil elements	A32

Contrast - Common

TR	2000 ms
TE	45.00 ms
MTC	Off
Magn. preparation	None
Flip angle	90 deg
Refocus flip angle	180 deg
Fat suppr.	Fat sat.
Grad. rev. fat suppr.	Enabled

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	3
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2

Resolution - iPAT

Ref. lines PE	24
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	96
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	Fat sat.
Grad. rev. fat suppr.	Enabled
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	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

System - Miscellaneous

Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
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	192 mm
R >> L	192 mm
F >> H	144 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 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	2000 ms
Multi-band accel. factor	4

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

BOLD

Spatial filter	Off
Measurements	3
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.72 ms
Bandwidth	1628 Hz/Px

Sequence - Part 2

EPI factor	128
Gradient mode	Fast

Sequence - Special

Excite pulse duration	5120 us
Refocus pulse duration	14080 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
Time-shifted MB RF	Off
SENSE1 coil combine	Off
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
GRE iPAT ref. FA	12.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\MB_GRE_EPI_400VOL_RS

TA: 10:33 PM: FIX Voxel size: 1.5×1.5×1.5 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	On
Start measurements	Single measurement

Routine

Slice group	1
Slices	96
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	1500 ms
TE	25.00 ms
Multi-band accel. factor	4
Filter	Raw filter
Coil elements	A32

Contrast - Common

TR	1500 ms
TE	25.00 ms
MTC	Off
Magn. preparation	None
Flip angle	65 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	400
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
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	96
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	Fat sat.
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	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
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	192 mm
R >> L	192 mm
F >> H	144 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 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	1500 ms
Multi-band accel. factor	4

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	400
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.72 ms
Bandwidth	1628 Hz/Px

Sequence - Part 2

EPI factor	128
Gradient mode	Fast
RF spoiling	Off

Sequence - Special

Excite pulse duration	7000 us
Single-band images	On
MB LeakBlock kernel	Off
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	Off
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
GRE iPAT ref. FA	12.0 deg
Physio recording	DICOM
Triggering scheme	Standard

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\gre_BlockTask

TA: 2:07 PM: REF Voxel size: 0.8×0.8×1.5 mmPAT: 2 Rel. SNR: 1.00 : fl

Properties

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

Routine

Slice group	1
Slices	56
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	87.5 %
Slice thickness	1.5 mm
TR	1010.0 ms
TE	10.10 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	1010.0 ms
TE	10.10 ms
MTC	Off
Magn. preparation	None
Flip angle	32 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	192 mm
FoV phase	87.5 %
Slice thickness	1.5 mm
Base resolution	256
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.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	56
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
FoV read	192 mm
FoV phase	87.5 %
Slice thickness	1.5 mm
TR	1010.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

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

Geometry - Tim Planning Suite

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

Geometry - Tim CT

Tim CT mode	Off
Slices	56
Slice thickness	1.5 mm
Dist. factor	0 %

Geometry - Tim CT

FoV read	192 mm
FoV phase	87.5 %
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	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	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	168 mm
A >> P	192 mm
F >> H	84 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 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	1010.0 ms
Concatenations	1
Segments	1

Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	192 mm
FoV phase	87.5 %
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.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	32 deg
Measurements	1
Contrasts	1
TR	1010.0 ms
TE	10.10 ms

Sequence - Part 1

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	100 Hz/Px

Sequence - Part 2

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

Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\MB_SE_EPI_3VOL_BT

TA: 0:26 PM: FIX Voxel size: 1.5×1.5×1.5 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	56
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	2240 ms
TE	45.00 ms
Multi-band accel. factor	2
Filter	Raw filter
Coil elements	A32

Contrast - Common

TR	2240 ms
TE	45.00 ms
MTC	Off
Magn. preparation	None
Flip angle	90 deg
Refocus flip angle	180 deg
Fat suppr.	Fat sat.
Grad. rev. fat suppr.	Enabled

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	3
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2

Resolution - iPAT

Ref. lines PE	24
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	56
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	2240 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	2

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	Fat sat.
Grad. rev. fat suppr.	Enabled
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	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

System - Miscellaneous

Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
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	192 mm
R >> L	192 mm
F >> H	84 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 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	2240 ms
Multi-band accel. factor	2

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

BOLD

Spatial filter	Off
Measurements	3
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Multi-slice mode	Interleaved
Free echo spacing	On
Echo spacing	0.68 ms
Bandwidth	1954 Hz/Px

Sequence - Part 2

EPI factor	128
Gradient mode	Fast

Sequence - Special

Excite pulse duration	5120 us
Refocus pulse duration	14080 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
Time-shifted MB RF	Off
SENSE1 coil combine	Off
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
GRE iPAT ref. FA	12.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\MB_GRE_EPI_126VOL_BT

TA: 4:28 PM: FIX Voxel size: 1.5×1.5×1.5 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	On
Start measurements	Single measurement

Routine

Slice group	1
Slices	56
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	2000 ms
TE	25.00 ms
Multi-band accel. factor	2
Filter	Raw filter
Coil elements	A32

Contrast - Common

TR	2000 ms
TE	25.00 ms
MTC	Off
Magn. preparation	None
Flip angle	72 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	126
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
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	56
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	2

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	Fat sat.
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	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
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	192 mm
R >> L	192 mm
F >> H	84 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 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	2000 ms
Multi-band accel. factor	2

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	126
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	On
Echo spacing	0.68 ms
Bandwidth	1954 Hz/Px

Sequence - Part 2

EPI factor	128
Gradient mode	Fast
RF spoiling	Off

Sequence - Special

Excite pulse duration	3000 us
Single-band images	On
MB LeakBlock kernel	Off
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	Off
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
GRE iPAT ref. FA	12.0 deg
Physio recording	DICOM
Triggering scheme	Standard

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\SE_EPI_3VOL_MO

TA: 0:21 PM: FIX Voxel size: 1.5×1.5×1.5 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	34
Dist. factor	0 %
Position	L0.0 A17.1 H61.7 mm
Orientation	T > C-16.0
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	3000 ms
TE	45.00 ms
Multi-band accel. factor	1
Filter	Raw filter
Coil elements	A32

Contrast - Common

TR	3000 ms
TE	45.00 ms
MTC	Off
Magn. preparation	None
Flip angle	90 deg
Refocus flip angle	180 deg
Fat suppr.	Fat sat.
Grad. rev. fat suppr.	Enabled

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	3
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2

Resolution - iPAT

Ref. lines PE	24
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	34
Dist. factor	0 %
Position	L0.0 A17.1 H61.7 mm
Orientation	T > C-16.0
Phase enc. dir.	A >> P
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	3000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice group	1
Position	L0.0 A17.1 H61.7 mm
Orientation	T > C-16.0
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A17.1 H61.7
Phase	-33.5 mm
Read	0.0 mm
Shift	54.6 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-16.0
> S	0.0

Geometry - Saturation

Fat suppr.	Fat sat.
Grad. rev. fat suppr.	Enabled
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	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
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 A22.9 H41.5 mm
! Orientation	T > C-16.0
! Rotation	90.00 deg
! R >> L	168 mm
! A >> P	192 mm
! F >> H	84 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 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	3000 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

BOLD

Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	3
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Multi-slice mode	Interleaved
Free echo spacing	On
Echo spacing	0.68 ms
Bandwidth	1954 Hz/Px

Sequence - Part 2

EPI factor	128
Gradient mode	Fast

Sequence - Special

Excite pulse duration	5120 us
Refocus pulse duration	14080 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	Off
Triggering scheme	Standard

\\USER\WBIC Protocols Ready\Protocol 474\20180508_THS_Func\GRE_EPI_134VOL_MO

TA: 4:37 PM: FIX Voxel size: 1.5×1.5×1.5 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	On
Start measurements	Single measurement

Routine

Slice group	1
Slices	34
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	2000 ms
TE	25.00 ms
Multi-band accel. factor	1
Filter	Raw filter
Coil elements	A32

Contrast - Common

TR	2000 ms
TE	25.00 ms
MTC	Off
Magn. preparation	None
Flip angle	72 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	134
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
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	34
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	Fat sat.
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	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
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	192 mm
R >> L	192 mm
F >> H	51 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 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	2000 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	134
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	On
Echo spacing	0.68 ms
Bandwidth	1954 Hz/Px

Sequence - Part 2

EPI factor	128
Gradient mode	Fast
RF spoiling	Off

Sequence - Special

Excite pulse duration	3000 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	DICOM
Triggering scheme	Standard

\\USER\WBIC Protocols Ready\Protocol 474\20180508_TH_QA\localizer_140V_matched

TA: 9.4 s PM: REF Voxel size: 0.5×0.5×3.0 mmPAT: 2 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	5
Dist. factor	20 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	4.9 ms
TE	2.15 ms
Averages	1
Concatenations	15
Filter	None
Coil elements	A32

Contrast - Common

TR	4.9 ms
TE	2.15 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	10 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
-----------------	------------------

Resolution - Common

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
Base resolution	256
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	On

Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Slices	5
Dist. factor	20 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	4.9 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	15

Geometry - AutoAlign

Slice group	1
Position	L0.0 A30.0 F20.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P

Geometry - AutoAlign

Slice group	2
Position	L0.0 A30.0 F20.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Slice group	3
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 F20.0
Phase	-30.0 mm
Read	0.0 mm
Shift	-20.0 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

Geometry - Tim CT

Tim CT mode	Off
Slices	5
Slice thickness	3.0 mm
Dist. factor	20 %
FoV read	256 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	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
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

System - Adjust Volume

R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	140.000 V

Physio - Signal1

1st Signal/Mode	None
TR	4.9 ms
Concatenations	15
Segments	1

Physio - Cardiac

Tagging	None
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	15

Inline - Common

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

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
Distortion Corr.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	10 deg
Measurements	1
Contrasts	1

Inline - MapIt

TR	4.9 ms
TE	2.15 ms

Sequence - Part 1

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Bandwidth	560 Hz/Px

Sequence - Part 2

Segments	1
Acoustic noise reduction	Active
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On

Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_TH_QA\gre_field_mapping_4mm

TA: 1:02 PM: REF Voxel size: 4.0×4.0×4.0 mmRel. SNR: 1.00 : fm_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	64
Dist. factor	0 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
TR	620.0 ms
TE 1	4.08 ms
TE 2	5.1 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	620.0 ms
TE 1	4.08 ms
TE 2	5.1 ms
MTC	Off
Flip angle	39 deg
Fat suppr.	None

Contrast - Dynamic

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

Resolution - Common

FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
Base resolution	64
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	64
Dist. factor	0 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
TR	620.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 F20.0
Phase	-30.0 mm
Read	0.0 mm
Shift	-20.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat 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	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	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	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	140.000 V

Sequence - Part 1

Introduction	On
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Flow comp.	Yes
Multi-slice mode	Interleaved
Bandwidth	730 Hz/Px

Sequence - Part 2

RF pulse type	Normal
Gradient mode	Whisper
RF spoiling	On

Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_TH_QA\3DREAM_B1

TA: 6.7 s PM: FIX Voxel size: 4.5×4.5×4.5 mmPAT: 2 Rel. SNR: 1.00 : ebd5de2

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	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	44
FoV read	288 mm
FoV phase	87.5 %
Slice thickness	4.50 mm
TR	5000 ms
TE 1	0.90 ms
TE 2	1.54 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	A32

Contrast - Common

TR	5000 ms
TE 1	0.90 ms
TE 2	1.54 ms
Flip angle 1	40 deg
Flip angle 2	8 deg

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	288 mm
FoV phase	87.5 %
Slice thickness	4.50 mm
Base resolution	64
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	7/8
Slice partial Fourier	7/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
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Resolution - iPAT

Accel. factor PE	2
Ref. lines PE	30
Accel. factor 3D	1
Ref. lines 3D	12
Reference scan mode	GRE/separate

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	Off

Geometry - Common

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
Slice oversampling	0.0 %
Slices per slab	44
FoV read	288 mm
FoV phase	87.5 %
Slice thickness	4.50 mm
TR	5000 ms
Multi-slice mode	Interleaved
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	L0.0 A30.0 F20.0
Phase	0.0 mm
Read	-30.0 mm
Shift	-20.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

Geometry - Tim Planning Suite

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

System - Miscellaneous

Positioning mode	FIX
Table position	H
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	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

Sequence - Assistant

Mode	Off
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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	297.201126 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	140.000 V

Sequence - Part 1

Introduction	Off
Dimension	3D
Elliptical scanning	On
Asymmetric echo	Off
Contrasts	2
Multi-slice mode	Interleaved
Bandwidth	1560 Hz/Px

Sequence - Part 2

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

Sequence - Special

Preparation scans	1
Preparation loops	0
Sample T1	1400 ms
Shots	1
RF-Duration	150 us
Prep RF-Duration	250 us
Timing Schme	STE* First
Mixing Time	640 us
Ref Scan Delay	1000 ms
FFT Scale	20
Calculate FlipMap	Off
Scale risetime	1.20

\\USER\WBIC Protocols Ready\Protocol 474\20180508_TH_QA\T1map_200_4500

TA: 3:12 PM: REF Voxel size: 4.0×4.0×4.0 mmPAT: 3 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	L0.0 A30.0 F20.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	44
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.00 mm
TR	5000.0 ms
TE	2.06 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	5000.0 ms
TE	2.06 ms
Magn. preparation	Non-sel. IR
T1 1	200 ms
T1 2	4500 ms
Flip angle 1	4 deg
Flip angle 2	4 deg
Fat suppr.	None
Water suppr.	None

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.00 mm
Base resolution	64
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	7/8

Resolution - Common

Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	37
Accel. factor 3D	1
Reference scan mode	Integrated

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

Slab group	1
Slabs	1
Dist. factor	50 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	44
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.00 mm
TR	5000.0 ms
Multi-slice mode	Single shot
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A30.0 F20.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 F20.0
Phase	-30.0 mm
Read	-20.0 mm
Shift	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	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	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	297.201126 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	5000.0 ms
Concatenations	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI 1	200 ms
TI 2	4500 ms
Fat suppr.	None
Dark blood	Off
FoV read	256 mm
FoV phase	75.0 %
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.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle 1	4 deg
Flip angle 2	4 deg
Measurements	1
TR	5000.0 ms
TE	2.06 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Off
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	4.7 ms
Bandwidth	300 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Fast
Excitation	Non-sel.
RF spoiling	On
Incr. Gradient spoiling	Off
Turbo factor	44

Sequence - Special

Use WTC SENSE Recon	Off
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Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_TH_QA\T1map_750_1800

TA: 3:12 PM: REF Voxel size: 4.0×4.0×4.0 mmPAT: 3 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	L0.0 A30.0 F20.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	44
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.00 mm
TR	5000.0 ms
TE	2.06 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	5000.0 ms
TE	2.06 ms
Magn. preparation	Non-sel. IR
T1 1	750 ms
T1 2	1800 ms
Flip angle 1	4 deg
Flip angle 2	4 deg
Fat suppr.	None
Water suppr.	None

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.00 mm
Base resolution	64
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	7/8

Resolution - Common

Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	37
Accel. factor 3D	1
Reference scan mode	Integrated

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

Slab group	1
Slabs	1
Dist. factor	50 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	44
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.00 mm
TR	5000.0 ms
Multi-slice mode	Single shot
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A30.0 F20.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 F20.0
Phase	-30.0 mm
Read	-20.0 mm
Shift	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	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	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	297.201126 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	5000.0 ms
Concatenations	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI 1	750 ms
TI 2	1800 ms
Fat suppr.	None
Dark blood	Off
FoV read	256 mm
FoV phase	75.0 %
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.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle 1	4 deg
Flip angle 2	4 deg
Measurements	1
TR	5000.0 ms
TE	2.06 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Off
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	4.7 ms
Bandwidth	300 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Fast
Excitation	Non-sel.
RF spoiling	On
Incr. Gradient spoiling	Off
Turbo factor	44

Sequence - Special

Use WTC SENSE Recon	Off
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Sequence - Assistant

Mode	Off
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\\USER\WBIC Protocols Ready\Protocol 474\20180508_TH_QA\T2map_20echoes

TA: 0:52 PM: FIX Voxel size: 2.0×2.0×4.0 mmPAT: Off Rel. SNR: 1.00 : se

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	100 %
Position	L0.0 P30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
TR	500.0 ms
TE 1	10.0 ms
TE 2	20.0 ms
TE 3	30.0 ms
TE 4	40.0 ms
TE 5	50.0 ms
TE 6	60.0 ms
TE 7	70.0 ms
TE 8	80.0 ms
TE 9	90.0 ms
TE 10	100 ms
TE 11	110.0 ms
TE 12	120.0 ms
TE 13	130.0 ms
TE 14	140.0 ms
TE 15	150.0 ms
TE 16	160.0 ms
TE 17	170.0 ms
TE 18	180.0 ms
TE 19	190.0 ms
TE 20	200 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	500.0 ms
TE 1	10.0 ms
TE 2	20.0 ms
TE 3	30.0 ms
TE 4	40.0 ms
TE 5	50.0 ms
TE 6	60.0 ms
TE 7	70.0 ms
TE 8	80.0 ms

Contrast - Common

TE 9	90.0 ms
TE 10	100 ms
TE 11	110.0 ms
TE 12	120.0 ms
TE 13	130.0 ms
TE 14	140.0 ms
TE 15	150.0 ms
TE 16	160.0 ms
TE 17	170.0 ms
TE 18	180.0 ms
TE 19	190.0 ms
TE 20	200 ms
MTC	Off
Magn. preparation	None
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None

Contrast - Dynamic

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

Resolution - Common

FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
Base resolution	128
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	1
Dist. factor	100 %
Position	L0.0 P30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
TR	500.0 ms
Multi-slice mode	Interleaved

Geometry - Common

Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L0.0 P30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 P30.0 F20.0
Phase	30.0 mm
Read	0.0 mm
Shift	-20.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

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	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	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	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000

System - Tx/Rx

Reset	Off
! Ref. amplitude 1H	140.000 V

Physio - Signal1

1st Signal/Mode	None
TR	500.0 ms
Concatenations	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	256 mm
FoV phase	75.0 %
Phase resolution	100 %

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 - Composing

Inline Composing	Off
Distortion Corr.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	180 deg
Measurements	1
Contrasts	20
TR	500.0 ms
TE 1	10.0 ms
TE 2	20.0 ms
TE 3	30.0 ms
TE 4	40.0 ms
TE 5	50.0 ms
TE 6	60.0 ms
TE 7	70.0 ms
TE 8	80.0 ms
TE 9	90.0 ms
TE 10	100 ms
TE 11	110.0 ms
TE 12	120.0 ms
TE 13	130.0 ms
TE 14	140.0 ms
TE 15	150.0 ms
TE 16	160.0 ms
TE 17	170.0 ms
TE 18	180.0 ms
TE 19	190.0 ms
TE 20	200 ms

Sequence - Part 1

Introduction	On
Contrasts	20
Multi-slice mode	Interleaved
Bandwidth	210 Hz/Px

Sequence - Part 2

RF pulse type	Normal
Gradient mode	Fast

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\WBIC Protocols Ready\Protocol 474\20180508_TH_QAIT2starmap_8echoes

TA: 2:08 PM: FIX Voxel size: 2.0×2.0×4.0 mmPAT: 2 Rel. SNR: 1.00 : fl

Properties

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

Routine

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	44
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.00 mm
TR	43.0 ms
TE 1	4.00 ms
TE 2	9.00 ms
TE 3	14.00 ms
TE 4	19.00 ms
TE 5	24.00 ms
TE 6	29.00 ms
TE 7	34.00 ms
TE 8	39.00 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	43.0 ms
TE 1	4.00 ms
TE 2	9.00 ms
TE 3	14.00 ms
TE 4	19.00 ms
TE 5	24.00 ms
TE 6	29.00 ms
TE 7	34.00 ms
TE 8	39.00 ms
MTC	Off
Magn. preparation	None
Flip angle	15 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

Contrast - Dynamic

Averages	1
----------	---

Contrast - Dynamic

Averaging mode	Short term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.00 mm
Base resolution	128
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	40
Accel. factor 3D	1
Reference scan mode	Integrated

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

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	44
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.00 mm
TR	43.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 F20.0
Phase	-30.0 mm
Read	0.0 mm

Geometry - AutoAlign

Shift	-20.0 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

Geometry - Tim CT

Tim CT mode	Off
Slabs	1
Slices per slab	44
Slice thickness	4.00 mm
Dist. factor	20 %
FoV read	256 mm
FoV phase	75.0 %
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	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off

System - Tx/Rx

! Ref. amplitude 1H	140.000 V
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Physio - Signal1

1st Signal/Mode	None
TR	43.0 ms
Concatenations	1
Segments	1

Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	256 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
MIP-Time	Off
Save original images	On

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
Distortion Corr.	Off

Inline - Maplt

Save original images	On
Maplt	None
Flip angle	15 deg
Measurements	1
Contrasts	8
TR	43.0 ms
TE 1	4.00 ms
TE 2	9.00 ms
TE 3	14.00 ms
TE 4	19.00 ms
TE 5	24.00 ms
TE 6	29.00 ms
TE 7	34.00 ms
TE 8	39.00 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	8
Flow comp. 1	No
Readout mode	Monopolar
Multi-slice mode	Interleaved
Bandwidth 1	260 Hz/Px
Bandwidth 2	260 Hz/Px
Bandwidth 3	260 Hz/Px
Bandwidth 4	260 Hz/Px
Bandwidth 5	260 Hz/Px
Bandwidth 6	260 Hz/Px
Bandwidth 7	260 Hz/Px
Bandwidth 8	260 Hz/Px

Sequence - Part 2

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

Sequence - Assistant

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

\\USER\WBIC Protocols Ready\Protocol 474\20180508_TH_QA\gre_noiseScans

TA: 2:50 PM: REF 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

Routine

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	88
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	2.00 mm
TR	20.0 ms
TE	5.91 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	20.0 ms
TE	5.91 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	Magn./Phase
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	256 mm
FoV phase	75.0 %
Slice thickness	2.00 mm
Base resolution	128
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	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

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	88
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	2.00 mm
TR	20.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 F20.0
Phase	-30.0 mm
Read	0.0 mm
Shift	-20.0 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

Geometry - Tim CT

Tim CT mode	Off
Slabs	1
Slices per slab	88
Slice thickness	2.00 mm
Dist. factor	20 %
FoV read	256 mm
FoV phase	75.0 %
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	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	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	140.000 V

Physio - Signal1

1st Signal/Mode	None
TR	20.0 ms
Concatenations	1
Segments	1

Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	256 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
MIP-Time	Off
Save original images	On

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
Distortion Corr.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle	15 deg
Measurements	1
Contrasts	1
TR	20.0 ms
TE	5.91 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	1090 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 - Special

Noise prescan count	50
Use coil sens ICE	On

Sequence - Assistant

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

\\USER\WBIC Protocols Ready\Protocol 474\20180508_TH_QA\bold_stabilityQA

TA: 6:44 PM: FIX Voxel size: 4.0×4.0×4.0 mmPAT: Off Rel. SNR: 1.00 : efpid

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	24
Dist. factor	0 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	1810 ms
TE	40.0 ms
Averages	1
Concatenations	1
Filter	Raw filter
Coil elements	A32

Contrast - Common

TR	1810 ms
TE	40.0 ms
MTC	Off
Flip angle exc	90 deg
Fat suppr.	None

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	221
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
Base resolution	64
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

Resolution - iPAT

Accel. mode	None
-------------	------

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	24
Dist. factor	0 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	1810 ms
Multi-slice mode	Interleaved
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 F20.0
Phase	-30.0 mm
Read	0.0 mm
Shift	-20.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat 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	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	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	None

Sequence - Part 2

Gradient mode	Fast
---------------	------

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	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	140.000 V

Physio - Signal1

1st Signal/Mode	None
TR	1810 ms
Concatenations	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	10
Meas[1]	Baseline
Meas[2]	Active
Meas[3]	Baseline
Meas[4]	Active
Meas[5]	Baseline
Meas[6]	Active
Meas[7]	Baseline
Meas[8]	Active
Meas[9]	Baseline
Meas[10]	Active
Motion correction	Off
Spatial filter	Off
Measurements	221
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.06 ms
Bandwidth	1002 Hz/Px

Sequence - Part 2

EPI factor	64
RF pulse type	Normal

\\USER\WBIC Protocols Ready\Protocol 474\20180508_TH_QA\bold_stabilityQA_inv

TA: 0:13 PM: FIX Voxel size: 4.0×4.0×4.0 mmPAT: Off Rel. SNR: 1.00 : efpid

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	24
Dist. factor	0 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	P >> A
AutoAlign	---
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	1810 ms
TE	40.0 ms
Averages	1
Concatenations	1
Filter	Raw filter
Coil elements	A32

Contrast - Common

TR	1810 ms
TE	40.0 ms
MTC	Off
Flip angle exc	90 deg
Fat suppr.	None

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	5
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
Base resolution	64
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

Resolution - iPAT

Accel. mode	None
-------------	------

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	24
Dist. factor	0 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	P >> A
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	1810 ms
Multi-slice mode	Interleaved
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	P >> A
AutoAlign	---
Initial Position	L0.0 A30.0 F20.0
Phase	30.0 mm
Read	0.0 mm
Shift	-20.0 mm
Initial Rotation	-180.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat 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	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	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	None

Sequence - Part 2

Gradient mode	Fast
---------------	------

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	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	140.000 V

Physio - Signal1

1st Signal/Mode	None
TR	1810 ms
Concatenations	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	10
Meas[1]	Baseline
Meas[2]	Active
Meas[3]	Baseline
Meas[4]	Active
Meas[5]	Baseline
Meas[6]	Active
Meas[7]	Baseline
Meas[8]	Active
Meas[9]	Baseline
Meas[10]	Active
Motion correction	Off
Spatial filter	Off
Measurements	5
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.06 ms
Bandwidth	1002 Hz/Px

Sequence - Part 2

EPI factor	64
RF pulse type	Normal

\\USER\WBIC Protocols Ready\Protocol 474\20180508_TH_QA\bold_MB_QA

TA: 5:33 PM: FIX Voxel size: 1.5×1.5×1.5 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	96
Dist. factor	0 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	1500 ms
TE	25.00 ms
Multi-band accel. factor	4
Filter	Raw filter
Coil elements	A32

Contrast - Common

TR	1500 ms
TE	25.00 ms
MTC	Off
Magn. preparation	None
Flip angle	65 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	200
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
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	96
Dist. factor	0 %
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

Geometry - AutoAlign

Slice group	1
Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A30.0 F20.0
Phase	-30.0 mm
Read	0.0 mm
Shift	-20.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	Fat sat.
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	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
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L0.0 A30.0 F20.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	192 mm
R >> L	192 mm
F >> H	144 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201126 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	0.500
Reset	Off
! Ref. amplitude 1H	140.000 V

Physio - Signal1

1st Signal/Mode	None
TR	1500 ms
Multi-band accel. factor	4

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	200
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.72 ms
Bandwidth	1628 Hz/Px

Sequence - Part 2

EPI factor	128
Gradient mode	Fast
RF spoiling	Off

Sequence - Special

Excite pulse duration	7000 us
Single-band images	On
MB LeakBlock kernel	Off
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	Off
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
GRE iPAT ref. FA	12.0 deg
Physio recording	Off
Triggering scheme	Standard