Practicum Team Project Report

Team Name: Africa 3

Summary (30-50 words):

Before the swim program we had just, a single protocol (named: Cardiac Main) we run for all cardiac cases. But with the SWiM program we were able to create protocols based on common pathologies such bas HCM, Inflammation, Congenital Diseases and Stress MRI.

Table 1: List of Scanners used by team members at their sites

Scanner	**Make**	**Model**	**Current Software Version**	**RF coil**
1.5T	Siemens	Somatom Essenza	Syngo	8-channel body coil

Table of contents

EG_high-res_tfl20_psir_seg----2 CHAMBER_A
EG_high-res_tfl20_psir_seg----SA_M
tse_17_db_t2_iPAT-EGE 2C
tse_17_db_t2_iPAT-EGE 4C
tse_17_db_t2_iPAT-EGE SA
TI-Scout_10 MIN POST GAD
DE_high-res_tfl20_psir_seg----SA
DE_high-res_tfl20_psir_seg----4C
DE_high-res_tfl20_psir_seg----2C

HYPERTROPHIC CARDIOMYOPATHY

trufi_loc_multi_iPAT
HASTE_19-SL_AXIAL DB
TRUFI_2-CHAMBER Loc
TRUFI_4-CHAMBER_Loc
TRUFI_SHORT AXIS Loc
LT_2-CHAMBER_CINE
4-CHAMBER_CINE
SA - Cine
3-CHAMBER Cine
tirm_20_db_t2_SAX
OS BASELINE
OS CONTINUOUS ACQUISITION
EG_high-res_tfl20_psir_seg----4 CHAMBER_B
EG_high-res_tfl20_psir_seg----2 CHAMBER_A
EG_high-res_tfl20_psir_seg----SA_M
tse_17_db_t2_iPAT-EGE 2C
tse_17_db_t2_iPAT-EGE 4C
tse_17_db_t2_iPAT-EGE SA
TI-Scout_10 MIN POST GAD
DE_high-res_tfl20_psir_seg----SA
DE_high-res_tfl20_psir_seg----4C
DE_high-res_tfl20_psir_seg----2C

STRESS MRI

trufi_loc_multi_iPAT
HASTE_19-SL_AXIAL DB
TRUFI_2-CHAMBER Loc
TRUFI_4-CHAMBER_Loc
TRUFI_SHORT AXIS Loc
LT_2-CHAMBER_CINE
4-CHAMBER_CINE
SA - Cine
3-CHAMBER Cine
tirm_20_db_t2_SAX
OS BASELINE
OS CONTINUOUS ACQUISITION
cine_tf2d_SA_Rest
cine_tf2d_SA_Stress_Level1

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CARDIC OS PROTOCOL\trufi_loc_multi_iPAT

TA: 4.0 s PM: REF Voxel size: 1.7×1.7×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
TE	1.43 ms
Averages	1
Concatenations	9
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	350.73 ms
TE	1.43 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Contrast - Dynamic

Multiple series	Each measurement

Resolution - Common

FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	66 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	9

Geometry - AutoAlign

Slice group	1
Slice group	2
Slice group	3
AutoAlign	---
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	L0.0 P20.0 H0.0
L	0.0 mm
P	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L0.0 P10.0 H0.0 mm
Orientation	Sagittal
Rotation	90.00 deg
F >> H	400 mm
A >> P	420 mm
R >> L	400 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms

Physio - Signal1

Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	800 ms
Trigger pulse	1
Trigger delay	400 ms
TR	350.73 ms
Concatenations	9
Segments	91
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	100.0 %
Phase resolution	66 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	9

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.43 ms
TR	350.73 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	1096 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	91
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CARDIC OS PROTOCOL\TRUFI_2 -CHAMBER Loc

TA: 0.4 s PM: REF Voxel size: 1.6×1.6×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	0 %
FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	316.29 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	316.29 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	64 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	316.29 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
Initial Position	L42.5 P9.8 H12.3
L	42.5 mm
P	9.8 mm
H	12.3 mm
Initial Rotation	-180.00 deg
Initial Orientation	C > S
C > S	-37.7
> T	0.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Rotation	180.00 deg
R >> L	339 mm
F >> H	387 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	779 ms
Trigger pulse	1
Trigger delay	462 ms
TR	316.29 ms
Concatenations	1
Segments	79
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	387 mm
FoV phase	87.5 %
Phase resolution	64 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	316.29 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1096 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	79
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CARDIC OS PROTOCOL\TRUFI_4 -CHAMBER_Loc

TA: 0.4 s PM: REF Voxel size: 1.6×1.6×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
TR	286.98 ms
TE	1.45 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	286.98 ms
TE	1.45 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
Base resolution	208
Phase resolution	60 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
TR	286.98 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
Initial Position	L34.3 A0.5 H22.0
L	34.3 mm
A	0.5 mm
H	22.0 mm
Initial Rotation	9.22 deg
Initial Orientation	T > C
T > C	40.0
> S	-11.2

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Rotation	9.23 deg
A >> P	321 mm
R >> L	340 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	750 ms
Trigger pulse	1
Trigger delay	463 ms
TR	286.98 ms
Concatenations	1
Segments	71
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	340 mm
FoV phase	94.2 %
Phase resolution	60 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.45 ms
TR	286.98 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	1093 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	71
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CARDIC OS PROTOCOL\TRUFI_SHORT AXIS Loc

TA: 3.6 s PM: REF Voxel size: 1.7×1.7×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	8
Dist. factor	100 %
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	283.54 ms
TE	1.39 ms
Averages	1
Concatenations	8
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	283.54 ms
TE	1.39 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
Base resolution	208
Phase resolution	64 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	8
Dist. factor	100 %
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	283.54 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	8

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
Initial Position	L62.9 A7.2 H12.9
L	62.9 mm
A	7.2 mm
H	12.9 mm
Initial Rotation	20.14 deg
Initial Orientation	S > C
S > C	37.7
> T	28.3

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Rotation	20.14 deg
A >> P	315 mm
F >> H	360 mm
R >> L	120 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	755 ms
Trigger pulse	1
Trigger delay	471 ms
TR	283.54 ms
Concatenations	8
Segments	70
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	87.5 %
Phase resolution	64 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	8

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.39 ms
TR	283.54 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.3 ms
Sequence type	Trufi
Bandwidth	1045 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	70
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CARDIC OS PROTOCOL\LT_2-CH AMBER_CINE

TA: 2.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
Initial Position	L41.8 P10.3 H13.2
L	41.8 mm
P	10.3 mm
H	13.2 mm
Initial Rotation	-180.00 deg
Initial Orientation	C > S
C > S	-37.7
> T	0.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Rotation	180.00 deg
R >> L	293 mm
F >> H	360 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CARDIC OS PROTOCOL\4-CHAMBER_CINE

TA: 2.5 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
Initial Position	L30.8 A0.1 H23.5
L	30.8 mm
A	0.1 mm
H	23.5 mm
Initial Rotation	8.59 deg
Initial Orientation	T > C
T > C	39.4
> S	-10.6

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Rotation	8.59 deg
A >> P	360 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	100.0 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CARDIC OS PROTOCOL\3-CHAMBER Cine

TA: 2.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
Initial Position	L4.5 P24.0 F2.2
L	4.5 mm
P	24.0 mm
F	2.2 mm
Initial Rotation	10.67 deg
Initial Orientation	S > T
S > T	-32.2
> C	-17.4

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Rotation	10.67 deg
A >> P	293 mm
F >> H	360 mm
R >> L	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CARDIC OS PROTOCOL\SA - Cine

TA: 0:55 PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 3 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	14
Dist. factor	25 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	51.20 ms
TE	1.34 ms
Averages	1
Concatenations	7
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP2

Contrast - Common

TR	51.20 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	70 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	54
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	14
Dist. factor	25 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	51.20 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	7

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Rotation	-30.37 deg
A >> P	293 mm
F >> H	360 mm
A >> P	138 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	51.20 ms
Concatenations	7
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	70 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	7

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	51.20 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CARDIC OS PROTOCOL\OS BAS ELINE

TA: 9.6 s PM: REF Voxel size: 1.9×1.9×10.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
TR	42.36 ms
TE	1.57 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP2

Contrast - Common

TR	42.36 ms
TE	1.57 ms
Magn. preparation	None
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
Base resolution	192
Phase resolution	83 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
TR	42.36 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	2

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Rotation	-30.37 deg
A >> P	293 mm
F >> H	360 mm
A >> P	30 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	42.36 ms
Concatenations	2
Segments	12
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	83 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	2

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.57 ms
TR	42.36 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1240 Hz/Px

Sequence - Part 2

Define	Segments
Segments	12
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CARDIC OS PROTOCOL\OS CONTINUOUS ACQUISITION

TA: 3:36 PM: REF Voxel size: 1.9×1.9×10.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
TR	42.36 ms
TE	1.57 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP2

Contrast - Common

TR	42.36 ms
TE	1.57 ms
TD	0 ms
Magn. preparation	None
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	40
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s

Contrast - Dynamic

Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s
Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Pause after meas. 32	0.0 s
Pause after meas. 33	0.0 s
Pause after meas. 34	0.0 s
Pause after meas. 35	0.0 s
Pause after meas. 36	0.0 s
Pause after meas. 37	0.0 s
Pause after meas. 38	0.0 s
Pause after meas. 39	0.0 s
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
Base resolution	192
Phase resolution	83 %
Phase partial Fourier	5/8
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Resolution - Filter Rawdata

POCS	Off

Geometry - Common

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
TR	42.36 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	2

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Rotation	-30.37 deg
A >> P	270 mm
F >> H	360 mm
A >> P	30 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	575 ms
Trigger pulse	1
Trigger delay	0 ms
TR	42.36 ms
Concatenations	2
Segments	12
Phases	13

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	75.0 %
Phase resolution	83 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	2

Inline - Common

Subtract	Off
Measurements	40
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.57 ms
TR	42.36 ms
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

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1240 Hz/Px

Sequence - Part 2

Define	Segments
Segments	12
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CONGENITAL\trufi_loc_multi_iPAT

TA: 4.0 s PM: REF Voxel size: 1.7×1.7×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
TE	1.43 ms
Averages	1
Concatenations	9
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	350.73 ms
TE	1.43 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Contrast - Dynamic

Multiple series	Each measurement

Resolution - Common

FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	66 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	9

Geometry - AutoAlign

Slice group	1
Slice group	2
Slice group	3
AutoAlign	---
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	L0.0 P20.0 H0.0
L	0.0 mm
P	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L0.0 P10.0 H0.0 mm
Orientation	Sagittal
Rotation	90.00 deg
F >> H	400 mm
A >> P	420 mm
R >> L	400 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms

Physio - Signal1

Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	800 ms
Trigger pulse	1
Trigger delay	400 ms
TR	350.73 ms
Concatenations	9
Segments	91
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	100.0 %
Phase resolution	66 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	9

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.43 ms
TR	350.73 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	1096 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	91
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CONGENITAL\AXIAL STACK

TA: 0:36 PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	12
Dist. factor	25 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	50 %
FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
TR	55.20 ms
TE	1.54 ms
Averages	1
Concatenations	12
Filter	Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	55.20 ms
TE	1.54 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	70 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	12
Dist. factor	25 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
TR	55.20 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	12

Geometry - AutoAlign

Slice group	1
Slice group	2
Slice group	3

Geometry - AutoAlign

AutoAlign	---
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	L0.0 P20.0 H0.0
L	0.0 mm
P	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Rotation	0.00 deg
R >> L	334 mm
F >> H	334 mm
A >> P	288 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	55.20 ms

Physio - Signal1

Concatenations	12
Segments	15
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	334 mm
FoV phase	80.0 %
Phase resolution	70 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	12

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.54 ms
TR	55.20 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.7 ms
Sequence type	Trufi
Bandwidth	947 Hz/Px

Sequence - Part 2

Define	Segments
Segments	15
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.

Sequence - Part 2

Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CONGENITAL\2CH STACK

TA: 0:36 PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	12
Dist. factor	25 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	50 %
FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
TR	55.20 ms
TE	1.54 ms
Averages	1
Concatenations	12
Filter	Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	55.20 ms
TE	1.54 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	70 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	12
Dist. factor	25 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
TR	55.20 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	12

Geometry - AutoAlign

Slice group	1
Slice group	2
Slice group	3

Geometry - AutoAlign

AutoAlign	---
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	L0.0 P20.0 H0.0
L	0.0 mm
P	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Rotation	0.00 deg
R >> L	334 mm
F >> H	334 mm
A >> P	288 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	55.20 ms

Physio - Signal1

Concatenations	12
Segments	15
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	334 mm
FoV phase	80.0 %
Phase resolution	70 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	12

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.54 ms
TR	55.20 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.7 ms
Sequence type	Trufi
Bandwidth	947 Hz/Px

Sequence - Part 2

Define	Segments
Segments	15
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.

Sequence - Part 2

Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CONGENITAL\SAX LOC AT PAPILLARY LEVEL

TA: 0:14 PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	25 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	50 %
FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
TR	55.20 ms
TE	1.54 ms
Averages	1
Concatenations	7
Filter	Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	55.20 ms
TE	1.54 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	70 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	25 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
TR	55.20 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	7

Geometry - AutoAlign

Slice group	1
Slice group	2

Geometry - AutoAlign

Slice group	3
AutoAlign	---
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	L0.0 P20.0 H0.0
L	0.0 mm
P	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Rotation	0.00 deg
R >> L	334 mm
F >> H	334 mm
A >> P	288 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25

Physio - Signal1

TR	55.20 ms
Concatenations	7
Segments	15
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	334 mm
FoV phase	80.0 %
Phase resolution	70 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	7

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.54 ms
TR	55.20 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.7 ms
Sequence type	Trufi
Bandwidth	947 Hz/Px

Sequence - Part 2

Define	Segments
Segments	15
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal

Sequence - Part 2

Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CONGENITAL\4CH STACK

TA: 0:36 PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	12
Dist. factor	25 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	50 %
FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
TR	55.20 ms
TE	1.54 ms
Averages	1
Concatenations	18
Filter	Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	55.20 ms
TE	1.54 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	70 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	12
Dist. factor	25 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
TR	55.20 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	18

Geometry - AutoAlign

Slice group	1
Slice group	2
Slice group	3

Geometry - AutoAlign

AutoAlign	---
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	L0.0 P20.0 H0.0
L	0.0 mm
P	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Rotation	0.00 deg
R >> L	334 mm
F >> H	334 mm
A >> P	288 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	55.20 ms

Physio - Signal1

Concatenations	18
Segments	15
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	334 mm
FoV phase	80.0 %
Phase resolution	70 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	18

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.54 ms
TR	55.20 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.7 ms
Sequence type	Trufi
Bandwidth	947 Hz/Px

Sequence - Part 2

Define	Segments
Segments	15
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.

Sequence - Part 2

Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CONGENITAL\SAX STACK WHOLE HEART

TA: 0:53 PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	20
Dist. factor	25 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	50 %
FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
TR	55.20 ms
TE	1.54 ms
Averages	1
Concatenations	26
Filter	Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	55.20 ms
TE	1.54 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	70 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	20
Dist. factor	25 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	334 mm
FoV phase	80.0 %
Slice thickness	8.0 mm
TR	55.20 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	26

Geometry - AutoAlign

Slice group	1
Slice group	2

Geometry - AutoAlign

Slice group	3
AutoAlign	---
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	L0.0 P20.0 H0.0
L	0.0 mm
P	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Rotation	0.00 deg
R >> L	334 mm
F >> H	334 mm
A >> P	288 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25

Physio - Signal1

TR	55.20 ms
Concatenations	26
Segments	15
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	334 mm
FoV phase	80.0 %
Phase resolution	70 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	26

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.54 ms
TR	55.20 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.7 ms
Sequence type	Trufi
Bandwidth	947 Hz/Px

Sequence - Part 2

Define	Segments
Segments	15
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal

Sequence - Part 2

Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CONGENITAL\RVOT

TA: 2.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L32.3 P45.4 F15.5 mm
Orientation	S > C-34.7 > T-29.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	FL;SP1,2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L32.3 P45.4 F15.5 mm
Orientation	S > C-34.7 > T-29.1
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L32.3 P45.4 F15.5 mm
Orientation	S > C-34.7 > T-29.1
Phase enc. dir.	A >> P
Initial Position	L32.3 P45.4 F15.5
L	32.3 mm
P	45.4 mm
F	15.5 mm
Initial Rotation	18.62 deg
Initial Orientation	S > C
S > C	-34.7
> T	-29.1

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	L32.3 P45.4 F15.5 mm
Orientation	S > C-34.7 > T-29.1
Rotation	18.62 deg
A >> P	293 mm
F >> H	360 mm
R >> L	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CONGENITAL\LVOT

TA: 2.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L14.9 P48.8 F19.6 mm
Orientation	C > S37.8 > T12.7
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	FL;SP1,2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L14.9 P48.8 F19.6 mm
Orientation	C > S37.8 > T12.7
Phase enc. dir.	R >> L
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L14.9 P48.8 F19.6 mm
Orientation	C > S37.8 > T12.7
Phase enc. dir.	R >> L
Initial Position	L14.9 P48.8 F19.6
L	14.9 mm
P	48.8 mm
F	19.6 mm
Initial Rotation	15.78 deg
Initial Orientation	C > S
C > S	37.8
> T	12.7

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	L14.9 P48.8 F19.6 mm
Orientation	C > S37.8 > T12.7
Rotation	15.78 deg
R >> L	293 mm
F >> H	360 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CONGENITAL\FLOW OF PULMONARY ARTERY TEST

TA: 0:45 PM: REF Voxel size: 1.3×1.3×5.0 mmPAT: 2 Rel. SNR: 1.00 : pc

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	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	68.8 %
Slice thickness	5.0 mm
TR	42.40 ms
TE	3.24 ms
Averages	2
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BC

Contrast - Common

TR	42.40 ms
TE	3.24 ms
Flip angle	20 deg

Contrast - Dynamic

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

Resolution - Common

FoV read	340 mm
FoV phase	68.8 %
Slice thickness	5.0 mm
Base resolution	256
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	68.8 %
Slice thickness	5.0 mm
TR	42.40 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

Special sat.	None

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Standard
Adjust with body coil	Off

System - Adjustments

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	234 mm
R >> L	340 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	48 ms
Trigger pulse	1
Trigger delay	5 ms
TR	42.40 ms
Concatenations	1
Segments	1
Phases	1

Angio - Common

Flow mode	Single dir.
Encodings	1
Velocity enc.	200 cm/s
Direction	Through plane
Rephased images	On
Magnitude images	Off
Magnitude sum	Off
Phase images	On

Angio - Inline

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Angio - MIP

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

Angio - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Asymmetric echo	Strong
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Bandwidth	454 Hz/Px

Sequence - Part 2

Segments	1
RF pulse type	Fast
Gradient mode	Normal
RF spoiling	On

Sequence - Assistant

Mode	Off

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CONGENITAL\3-CHAMBER Cine

TA: 2.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
Initial Position	L4.5 P24.0 F2.2
L	4.5 mm
P	24.0 mm
F	2.2 mm
Initial Rotation	10.67 deg
Initial Orientation	S > T
S > T	-32.2
> C	-17.4

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Rotation	10.67 deg
A >> P	293 mm
F >> H	360 mm
R >> L	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\CONGENITAL\FLOW OF AORTA

TA: 7.6 s PM: REF Voxel size: 1.8×1.8×8.0 mmPAT: Off Rel. SNR: 1.00 : fl_r

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	R10.2 P63.3 H69.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	68.8 %
Slice thickness	8.0 mm
TR	28.04 ms
TE	4.09 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	FL;SP1,2

Contrast - Common

TR	28.04 ms
TE	4.09 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

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

Resolution - Common

FoV read	340 mm
FoV phase	68.8 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	R10.2 P63.3 H69.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	68.8 %
Slice thickness	8.0 mm
TR	28.04 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	R10.2 P63.3 H69.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Initial Position	R10.2 P63.3 H18.4
R	10.2 mm
P	63.3 mm
H	18.4 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	51 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H

System - Miscellaneous

Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	R10.2 P63.3 H69.4 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	234 mm
R >> L	340 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	20
TR	28.04 ms
Concatenations	1
Segments	4
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	340 mm
FoV phase	68.8 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	4.09 ms
TR	28.04 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	Yes
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	7 ms
Sequence type	Gre
Bandwidth	491 Hz/Px

Sequence - Part 2

Define	Segments
Segments	4
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\trufi_loc_multi_iPAT

TA: 4.0 s PM: REF Voxel size: 1.7×1.7×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
TE	1.43 ms
Averages	1
Concatenations	9
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	350.73 ms
TE	1.43 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Contrast - Dynamic

Multiple series	Each measurement

Resolution - Common

FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	66 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	9

Geometry - AutoAlign

Slice group	1
Slice group	2
Slice group	3
AutoAlign	---
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	L0.0 P20.0 H0.0
L	0.0 mm
P	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L0.0 P10.0 H0.0 mm
Orientation	Sagittal
Rotation	90.00 deg
F >> H	400 mm
A >> P	420 mm
R >> L	400 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms

Physio - Signal1

Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	800 ms
Trigger pulse	1
Trigger delay	400 ms
TR	350.73 ms
Concatenations	9
Segments	91
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	100.0 %
Phase resolution	66 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	9

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.43 ms
TR	350.73 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	1096 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	91
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\TRUFI_2-CHAMBER Loc

TA: 0.4 s PM: REF Voxel size: 1.6×1.6×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	0 %
FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	316.29 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	316.29 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	64 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	316.29 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
Initial Position	L42.5 P9.8 H12.3
L	42.5 mm
P	9.8 mm
H	12.3 mm
Initial Rotation	-180.00 deg
Initial Orientation	C > S
C > S	-37.7
> T	0.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Rotation	180.00 deg
R >> L	339 mm
F >> H	387 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	779 ms
Trigger pulse	1
Trigger delay	462 ms
TR	316.29 ms
Concatenations	1
Segments	79
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	387 mm
FoV phase	87.5 %
Phase resolution	64 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	316.29 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1096 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	79
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\TRUFI_4-CHAMBER_Loc

TA: 0.4 s PM: REF Voxel size: 1.6×1.6×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
TR	286.98 ms
TE	1.45 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	286.98 ms
TE	1.45 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
Base resolution	208
Phase resolution	60 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
TR	286.98 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
Initial Position	L34.3 A0.5 H22.0
L	34.3 mm
A	0.5 mm
H	22.0 mm
Initial Rotation	9.22 deg
Initial Orientation	T > C
T > C	40.0
> S	-11.2

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Rotation	9.23 deg
A >> P	321 mm
R >> L	340 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	750 ms
Trigger pulse	1
Trigger delay	463 ms
TR	286.98 ms
Concatenations	1
Segments	71
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	340 mm
FoV phase	94.2 %
Phase resolution	60 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.45 ms
TR	286.98 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	1093 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	71
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\TRUFI_SHORT AXIS Loc

TA: 3.6 s PM: REF Voxel size: 1.7×1.7×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	8
Dist. factor	100 %
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	283.54 ms
TE	1.39 ms
Averages	1
Concatenations	8
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	283.54 ms
TE	1.39 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
Base resolution	208
Phase resolution	64 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	8
Dist. factor	100 %
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	283.54 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	8

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
Initial Position	L62.9 A7.2 H12.9
L	62.9 mm
A	7.2 mm
H	12.9 mm
Initial Rotation	20.14 deg
Initial Orientation	S > C
S > C	37.7
> T	28.3

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Rotation	20.14 deg
A >> P	315 mm
F >> H	360 mm
R >> L	120 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	755 ms
Trigger pulse	1
Trigger delay	471 ms
TR	283.54 ms
Concatenations	8
Segments	70
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	87.5 %
Phase resolution	64 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	8

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.39 ms
TR	283.54 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.3 ms
Sequence type	Trufi
Bandwidth	1045 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	70
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\LT_2-CHAMBER_CINE

TA: 2.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
Initial Position	L41.8 P10.3 H13.2
L	41.8 mm
P	10.3 mm
H	13.2 mm
Initial Rotation	-180.00 deg
Initial Orientation	C > S
C > S	-37.7
> T	0.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Rotation	180.00 deg
R >> L	293 mm
F >> H	360 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\4-CHAMBER_CINE

TA: 2.5 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
Initial Position	L30.8 A0.1 H23.5
L	30.8 mm
A	0.1 mm
H	23.5 mm
Initial Rotation	8.59 deg
Initial Orientation	T > C
T > C	39.4
> S	-10.6

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Rotation	8.59 deg
A >> P	360 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	100.0 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\3-CHAMBER Cine

TA: 2.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
Initial Position	L4.5 P24.0 F2.2
L	4.5 mm
P	24.0 mm
F	2.2 mm
Initial Rotation	10.67 deg
Initial Orientation	S > T
S > T	-32.2
> C	-17.4

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Rotation	10.67 deg
A >> P	293 mm
F >> H	360 mm
R >> L	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\SA - Cine

TA: 0:55 PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 3 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	14
Dist. factor	25 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	51.20 ms
TE	1.34 ms
Averages	1
Concatenations	7
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP2

Contrast - Common

TR	51.20 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	70 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	54
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	14
Dist. factor	25 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	51.20 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	7

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Rotation	-30.37 deg
A >> P	293 mm
F >> H	360 mm
A >> P	138 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	51.20 ms
Concatenations	7
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	70 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	7

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	51.20 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\RVOT

TA: 2.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L32.3 P45.4 F15.5 mm
Orientation	S > C-34.7 > T-29.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	FL;SP1,2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L32.3 P45.4 F15.5 mm
Orientation	S > C-34.7 > T-29.1
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L32.3 P45.4 F15.5 mm
Orientation	S > C-34.7 > T-29.1
Phase enc. dir.	A >> P
Initial Position	L32.3 P45.4 F15.5
L	32.3 mm
P	45.4 mm
F	15.5 mm
Initial Rotation	18.62 deg
Initial Orientation	S > C
S > C	-34.7
> T	-29.1

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	L32.3 P45.4 F15.5 mm
Orientation	S > C-34.7 > T-29.1
Rotation	18.62 deg
A >> P	293 mm
F >> H	360 mm
R >> L	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\LVOT

TA: 2.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L14.9 P48.8 F19.6 mm
Orientation	C > S37.8 > T12.7
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	FL;SP1,2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L14.9 P48.8 F19.6 mm
Orientation	C > S37.8 > T12.7
Phase enc. dir.	R >> L
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L14.9 P48.8 F19.6 mm
Orientation	C > S37.8 > T12.7
Phase enc. dir.	R >> L
Initial Position	L14.9 P48.8 F19.6
L	14.9 mm
P	48.8 mm
F	19.6 mm
Initial Rotation	15.78 deg
Initial Orientation	C > S
C > S	37.8
> T	12.7

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	L14.9 P48.8 F19.6 mm
Orientation	C > S37.8 > T12.7
Rotation	15.78 deg
R >> L	293 mm
F >> H	360 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\FLOW OF AORT A

TA: 7.6 s PM: REF Voxel size: 1.8×1.8×8.0 mmPAT: Off Rel. SNR: 1.00 : fl_r

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	R10.2 P63.3 H69.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	68.8 %
Slice thickness	8.0 mm
TR	28.04 ms
TE	4.09 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	FL;SP1,2

Contrast - Common

TR	28.04 ms
TE	4.09 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

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

Resolution - Common

FoV read	340 mm
FoV phase	68.8 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	R10.2 P63.3 H69.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	68.8 %
Slice thickness	8.0 mm
TR	28.04 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	R10.2 P63.3 H69.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Initial Position	R10.2 P63.3 H18.4
R	10.2 mm
P	63.3 mm
H	18.4 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	51 mm
MSMA	S - C - T
Sagittal	R >> L

System - Miscellaneous

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	R10.2 P63.3 H69.4 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	234 mm
R >> L	340 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	20
TR	28.04 ms
Concatenations	1
Segments	4
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	340 mm
FoV phase	68.8 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off

Inline - Common

Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	4.09 ms
TR	28.04 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	Yes
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	7 ms
Sequence type	Gre
Bandwidth	491 Hz/Px

Sequence - Part 2

Define	Segments
Segments	4
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\tirm_20_db_t2_SAX

TA: 0:19 PM: REF Voxel size: 1.4×1.4×6.0 mmPAT: Off Rel. SNR: 1.00 : tir

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
TE	53.0 ms
Averages	1
Concatenations	3
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	800.0 ms
TE	53.0 ms
TD	0.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	160 ms
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Freeze suppressed tissue	Off

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
Base resolution	256

Resolution - Common

Phase resolution	57 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	3

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	10.35 deg
Initial Orientation	Transversal

Geometry - Saturation

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

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	3
Slice thickness	6.0 mm
Dist. factor	50 %
FoV read	360 mm
FoV phase	81.3 %

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	10.35 deg
A >> P	293 mm
R >> L	360 mm
F >> H	24 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	826 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	3
Phases	1

Physio - Cardiac

Magn. preparation	Slice-sel. IR
TI	160 ms

Physio - Cardiac

Fat suppr.	None
Dark blood	On
Dark blood thickness	200 %
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	57 %
Trajectory	Cartesian

Physio - PACE

Resp. control	Off
Concatenations	3

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	6
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	20

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\OS BASELINE

TA: 0:33 PM: REF Voxel size: 1.9×1.9×10.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	5
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
TR	42.36 ms
TE	1.57 ms
Averages	1
Concatenations	5
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP2

Contrast - Common

TR	42.36 ms
TE	1.57 ms
Magn. preparation	None
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
Base resolution	192
Phase resolution	83 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	5
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
TR	42.36 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	5

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Rotation	-30.37 deg
A >> P	293 mm
F >> H	360 mm
A >> P	90 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	42.36 ms
Concatenations	5
Segments	12
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	83 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	5

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.57 ms
TR	42.36 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1240 Hz/Px

Sequence - Part 2

Define	Segments
Segments	12
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\OS CONTINUOUS ACQUISITION

TA: 3:36 PM: REF Voxel size: 1.9×1.9×10.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
TR	42.36 ms
TE	1.57 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP2

Contrast - Common

TR	42.36 ms
TE	1.57 ms
TD	0 ms
Magn. preparation	None
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	40
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s

Contrast - Dynamic

Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s
Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Pause after meas. 32	0.0 s
Pause after meas. 33	0.0 s
Pause after meas. 34	0.0 s
Pause after meas. 35	0.0 s
Pause after meas. 36	0.0 s
Pause after meas. 37	0.0 s
Pause after meas. 38	0.0 s
Pause after meas. 39	0.0 s
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
Base resolution	192
Phase resolution	83 %
Phase partial Fourier	5/8
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Resolution - Filter Rawdata

POCS	Off

Geometry - Common

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
TR	42.36 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	2

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L36.5 P10.9 F53.2 mm

System - Adjust Volume

Orientation	C > S38.2 > T-27.5
Rotation	-30.37 deg
A >> P	270 mm
F >> H	360 mm
A >> P	30 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	575 ms
Trigger pulse	1
Trigger delay	0 ms
TR	42.36 ms
Concatenations	2
Segments	12
Phases	13

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	75.0 %
Phase resolution	83 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	2

Inline - Common

Subtract	Off
Measurements	40
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.57 ms
TR	42.36 ms
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

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1240 Hz/Px

Sequence - Part 2

Define	Segments
Segments	12
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\EG_high-res_tfl20_psir_seg----4 CHAMBER_B

TA: 8.1 s PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
TE	3.4 ms
Averages	1
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.4 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	1
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.4 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\EG_high-res_tfl20_psir_seg----2 CHAMBER_A

TA: 8.1 s PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
TE	3.4 ms
Averages	1
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.4 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	1
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.4 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\EG_high-res_tfl20_psir_seg----SA_M

TA: 8.1 s PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
TE	3.4 ms
Averages	1
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.4 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	1
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.4 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\tse_17_db_t2_iPAT-EGE 2C

TA: 6.3 s PM: REF Voxel size: 1.4×1.4×5.0 mmPAT: 2 Rel. SNR: 1.00 : tse

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	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	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
TE	62.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	800.0 ms
TE	62.0 ms
MTC	Off
Magn. preparation	None
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
Base resolution	256
Phase resolution	77 %
Phase partial Fourier	Off
Trajectory	Cartesian

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	50
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	On

Geometry - Common

Slice group	1
Slices	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

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

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	1
Slice thickness	5.0 mm
Dist. factor	50 %
FoV read	360 mm
FoV phase	78.1 %

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	282 mm
R >> L	360 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	974 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None

Physio - Cardiac

Dark blood	On
Dark blood thickness	200 %
FoV read	360 mm
FoV phase	78.1 %
Phase resolution	77 %
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

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	6
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	17

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\tse_17_db_t2_iPAT-EGE 4C

TA: 6.3 s PM: REF Voxel size: 1.4×1.4×5.0 mmPAT: 2 Rel. SNR: 1.00 : tse

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	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	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
TE	62.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	800.0 ms
TE	62.0 ms
MTC	Off
Magn. preparation	None
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
Base resolution	256
Phase resolution	77 %
Phase partial Fourier	Off
Trajectory	Cartesian

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	50
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	On

Geometry - Common

Slice group	1
Slices	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

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

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	1
Slice thickness	5.0 mm
Dist. factor	50 %
FoV read	360 mm
FoV phase	78.1 %

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	282 mm
R >> L	360 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	974 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None

Physio - Cardiac

Dark blood	On
Dark blood thickness	200 %
FoV read	360 mm
FoV phase	78.1 %
Phase resolution	77 %
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

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	6
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	17

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\tse_17_db_t2_iP AT-EGE SA

TA: 6.3 s PM: REF Voxel size: 1.4×1.4×5.0 mmPAT: 2 Rel. SNR: 1.00 : tse

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	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	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
TE	62.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	800.0 ms
TE	62.0 ms
MTC	Off
Magn. preparation	None
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
Base resolution	256
Phase resolution	77 %
Phase partial Fourier	Off
Trajectory	Cartesian

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	50
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	On

Geometry - Common

Slice group	1
Slices	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

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

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	1
Slice thickness	5.0 mm
Dist. factor	50 %
FoV read	360 mm
FoV phase	78.1 %

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	282 mm
R >> L	360 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	974 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None

Physio - Cardiac

Dark blood	On
Dark blood thickness	200 %
FoV read	360 mm
FoV phase	78.1 %
Phase resolution	77 %
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

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	6
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	17

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\TI-Scout_10 MIN POST GAD

TA: 9.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: Off Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	H >> F
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	28.80 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	28.80 ms
TE	1.34 ms
Magn. preparation	TI Scout
Flip angle	30 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	50 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	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
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	H >> F
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	28.80 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	H >> F
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	-49.03 deg
Initial Orientation	Coronal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	-49.03 deg
F >> H	293 mm
R >> L	360 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	603 ms
Trigger pulse	2
Trigger delay	0 ms
TR	28.80 ms
Concatenations	1
Segments	9
Phases	17

Physio - Cardiac

Magn. preparation	TI Scout
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	50 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	TI Scout
Contrasts	1
TE	1.34 ms
TR	28.80 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Centric
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	9
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\DE_high-res_tfl20_psir_seg----SA

TA: 1:53 PM: REF Voxel size: 1.4×1.4×6.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	14
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	597.00 ms
TE	3.57 ms
Averages	1
Concatenations	14
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.57 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	14
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	14

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	100 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	14
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold

Physio - PACE

Concatenations	14

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.57 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9.2 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\DE_high-res_tfl20_psir_seg----4C

TA: 8.1 s PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
TE	3.4 ms
Averages	1
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.4 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	1
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.4 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\INFLAMMATION\DE_high-res_tfl20_psir_seg----2C

TA: 8.1 s PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
TE	3.4 ms
Averages	1
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.4 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	1
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.4 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\trufi_loc_multi_iPAT

TA: 4.0 s PM: REF Voxel size: 1.7×1.7×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
TE	1.43 ms
Averages	1
Concatenations	9
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	350.73 ms
TE	1.43 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Contrast - Dynamic

Multiple series	Each measurement

Resolution - Common

FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	66 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	9

Geometry - AutoAlign

Slice group	1
Slice group	2
Slice group	3
AutoAlign	---
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	L0.0 P20.0 H0.0
L	0.0 mm
P	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms

Physio - Signal1

Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	800 ms
Trigger pulse	1
Trigger delay	400 ms
TR	350.73 ms
Concatenations	9
Segments	91
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	100.0 %
Phase resolution	66 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	9

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.43 ms
TR	350.73 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	1096 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	91
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\TRUFI_2-CHAMBER Loc

TA: 0.4 s PM: REF Voxel size: 1.6×1.6×8.0 mmPAT: Off Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	0 %
FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	506.59 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	506.59 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	64 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	506.59 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
Initial Position	L42.5 P9.8 H12.3
L	42.5 mm
P	9.8 mm
H	12.3 mm
Initial Rotation	-180.00 deg
Initial Orientation	C > S
C > S	-37.7
> T	0.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Rotation	180.00 deg
R >> L	339 mm
F >> H	387 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	969 ms
Trigger pulse	1
Trigger delay	462 ms
TR	506.59 ms
Concatenations	1
Segments	134
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	387 mm
FoV phase	87.5 %
Phase resolution	64 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	506.59 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1096 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	134
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\TRUFI_4-CHAMBER_Loc

TA: 0.4 s PM: REF Voxel size: 1.6×1.6×8.0 mmPAT: Off Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
TR	448.66 ms
TE	1.45 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	448.66 ms
TE	1.45 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
Base resolution	208
Phase resolution	60 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
TR	448.66 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
Initial Position	L34.3 A0.5 H22.0
L	34.3 mm
A	0.5 mm
H	22.0 mm
Initial Rotation	9.22 deg
Initial Orientation	T > C
T > C	40.0
> S	-11.2

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Rotation	9.23 deg
A >> P	321 mm
R >> L	340 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	912 ms
Trigger pulse	1
Trigger delay	463 ms
TR	448.66 ms
Concatenations	1
Segments	118
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	340 mm
FoV phase	94.2 %
Phase resolution	60 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.45 ms
TR	448.66 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	1093 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	118
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\TRUFI_SHORT AXIS Loc

TA: 3.6 s PM: REF Voxel size: 1.7×1.7×8.0 mmPAT: Off Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	8
Dist. factor	100 %
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	426.66 ms
TE	1.39 ms
Averages	1
Concatenations	8
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	426.66 ms
TE	1.39 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
Base resolution	208
Phase resolution	64 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	8
Dist. factor	100 %
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	426.66 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	8

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
Initial Position	L62.9 A7.2 H12.9
L	62.9 mm
A	7.2 mm
H	12.9 mm
Initial Rotation	20.14 deg
Initial Orientation	S > C
S > C	37.7
> T	28.3

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Rotation	20.14 deg
A >> P	315 mm
F >> H	360 mm
R >> L	120 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	898 ms
Trigger pulse	1
Trigger delay	471 ms
TR	426.66 ms
Concatenations	8
Segments	116
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	87.5 %
Phase resolution	64 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	8

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.39 ms
TR	426.66 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.3 ms
Sequence type	Trufi
Bandwidth	1045 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	116
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\LT_2-CHAMBER_CINE

TA: 2.5 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: Off Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	42.25 ms
TE	1.35 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	42.25 ms
TE	1.35 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	80 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	42.25 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
Initial Position	L41.8 P10.3 H13.2
L	41.8 mm
P	10.3 mm
H	13.2 mm
Initial Rotation	-180.00 deg
Initial Orientation	C > S
C > S	-37.7
> T	0.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Rotation	180.00 deg
R >> L	293 mm
F >> H	360 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	42.25 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	80 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off

Inline - Common

Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.35 ms
TR	42.25 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.3 ms
Sequence type	Trufi
Bandwidth	930 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\4-CHAMBER_CINE

TA: 6.8 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	20 %
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	3
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	20 %
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	3

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
Initial Position	L30.8 A0.1 H23.5
L	30.8 mm
A	0.1 mm
H	23.5 mm
Initial Rotation	8.59 deg
Initial Orientation	T > C
T > C	39.4
> S	-10.6

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Rotation	8.59 deg
A >> P	360 mm
R >> L	360 mm
F >> H	28 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	3
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	100.0 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	3

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\SA - Cine

TA: 0:58 PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	14
Dist. factor	25 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	51.20 ms
TE	1.34 ms
Averages	1
Concatenations	7
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP2

Contrast - Common

TR	51.20 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	70 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	54
Reference scan mode	Integrated

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	14
Dist. factor	25 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	51.20 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	7

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Rotation	-30.37 deg
A >> P	293 mm
F >> H	360 mm
A >> P	138 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	51.20 ms
Concatenations	7
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	70 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	7

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	51.20 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\3-CHAMBER Cine

TA: 0:29 PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: Off Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	20 %
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	3
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	20 %
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	3

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
Initial Position	L4.5 P24.0 F2.2
L	4.5 mm
P	24.0 mm
F	2.2 mm
Initial Rotation	10.67 deg
Initial Orientation	S > T
S > T	-32.2
> C	-17.4

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 mm

System - Miscellaneous

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Rotation	10.67 deg
A >> P	293 mm
F >> H	360 mm
R >> L	28 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	3
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	3

Inline - Common

Subtract	Off

Inline - Common

Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\tirm_20_db_t2_SAX

TA: 1:16 PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: Off Rel. SNR: 1.00 : tir

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	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	12
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	370 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	700.0 ms
TE	53.0 ms
Averages	1
Concatenations	12
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	700.0 ms
TE	53.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	170 ms
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Freeze suppressed tissue	Off

Contrast - Dynamic

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

Resolution - Common

FoV read	370 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	256
Phase resolution	57 %
Phase partial Fourier	Off

Resolution - Common

Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	12
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	370 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	700.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	12

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	10.35 deg
Initial Orientation	Transversal

Geometry - Saturation

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

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off

Geometry - Tim CT

Slices	12
Slice thickness	8.0 mm
Dist. factor	50 %
FoV read	370 mm
FoV phase	81.3 %

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	10.35 deg
A >> P	301 mm
R >> L	370 mm
F >> H	140 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	826 ms
Trigger pulse	2
Trigger delay	0 ms
TR	700.0 ms
Concatenations	12
Phases	1

Physio - Cardiac

Magn. preparation	Slice-sel. IR
TI	170 ms
Fat suppr.	None
Dark blood	On
Dark blood thickness	200 %
Slice-sel. IR thickness	200 %

Physio - Cardiac

FoV read	370 mm
FoV phase	81.3 %
Phase resolution	57 %
Trajectory	Cartesian

Physio - PACE

Resp. control	Breath-hold
Concatenations	12

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	6
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	20

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\OS BASELINE

TA: 0:11 PM: REF Voxel size: 1.9×1.9×10.0 mmPAT: Off Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
TR	42.36 ms
TE	1.57 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP2

Contrast - Common

TR	42.36 ms
TE	1.57 ms
Magn. preparation	None
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
Base resolution	192
Phase resolution	83 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
TR	42.36 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	2

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 mm

System - Miscellaneous

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Rotation	-30.37 deg
A >> P	293 mm
F >> H	360 mm
A >> P	30 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	42.36 ms
Concatenations	2
Segments	12
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	83 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	2

Inline - Common

Subtract	Off

Inline - Common

Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.57 ms
TR	42.36 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1240 Hz/Px

Sequence - Part 2

Define	Segments
Segments	12
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\OS CONTINUOUS ACQUISITION

TA: 4:12 PM: REF Voxel size: 1.9×1.9×10.0 mmPAT: Off Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
TR	42.36 ms
TE	1.57 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP2

Contrast - Common

TR	42.36 ms
TE	1.57 ms
TD	0 ms
Magn. preparation	None
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	40
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s

Contrast - Dynamic

Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s
Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Pause after meas. 32	0.0 s
Pause after meas. 33	0.0 s
Pause after meas. 34	0.0 s
Pause after meas. 35	0.0 s
Pause after meas. 36	0.0 s
Pause after meas. 37	0.0 s
Pause after meas. 38	0.0 s
Pause after meas. 39	0.0 s
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
Base resolution	192
Phase resolution	83 %
Phase partial Fourier	5/8
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
TR	42.36 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	2

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm

System - Adjust Volume

F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	575 ms
Trigger pulse	1
Trigger delay	0 ms
TR	42.36 ms
Concatenations	2
Segments	12
Phases	13

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	75.0 %
Phase resolution	83 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	2

Inline - Common

Subtract	Off
Measurements	40
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.57 ms
TR	42.36 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On

Inline - Composing

Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1240 Hz/Px

Sequence - Part 2

Define	Segments
Segments	12
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\EG_high-res_tfl20_psir_seg----4 CHAMBER_B

TA: 8.1 s PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
TE	3.4 ms
Averages	1
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.4 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	1
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.4 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\EG_high-res_tfl20_psir_seg----2 CHAMBER_A

TA: 8.1 s PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
TE	3.4 ms
Averages	1
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.4 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	1
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.4 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\EG_high-res_tfl20_psir_seg----SA_M

TA: 8.1 s PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
TE	3.4 ms
Averages	1
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.4 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	1
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.4 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\tse_17_db_t2_iPAT-EGE 2C

TA: 6.3 s PM: REF Voxel size: 1.4×1.4×5.0 mmPAT: 2 Rel. SNR: 1.00 : tse

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	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	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
TE	62.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	800.0 ms
TE	62.0 ms
MTC	Off
Magn. preparation	None
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
Base resolution	256
Phase resolution	77 %
Phase partial Fourier	Off
Trajectory	Cartesian

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	50
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	On

Geometry - Common

Slice group	1
Slices	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

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

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	1
Slice thickness	5.0 mm
Dist. factor	50 %
FoV read	360 mm
FoV phase	78.1 %

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	282 mm
R >> L	360 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	974 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None

Physio - Cardiac

Dark blood	On
Dark blood thickness	200 %
FoV read	360 mm
FoV phase	78.1 %
Phase resolution	77 %
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

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	6
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	17

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\tse_17_db_t2_iPAT-EGE 4C

TA: 6.3 s PM: REF Voxel size: 1.4×1.4×5.0 mmPAT: 2 Rel. SNR: 1.00 : tse

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	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	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
TE	62.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	800.0 ms
TE	62.0 ms
MTC	Off
Magn. preparation	None
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
Base resolution	256
Phase resolution	77 %
Phase partial Fourier	Off
Trajectory	Cartesian

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	50
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	On

Geometry - Common

Slice group	1
Slices	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

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

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	1
Slice thickness	5.0 mm
Dist. factor	50 %
FoV read	360 mm
FoV phase	78.1 %

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	282 mm
R >> L	360 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	974 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None

Physio - Cardiac

Dark blood	On
Dark blood thickness	200 %
FoV read	360 mm
FoV phase	78.1 %
Phase resolution	77 %
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

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	6
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	17

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\tse_17_db_t2_iPAT-EGE SA

TA: 6.3 s PM: REF Voxel size: 1.4×1.4×5.0 mmPAT: 2 Rel. SNR: 1.00 : tse

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	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	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
TE	62.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	800.0 ms
TE	62.0 ms
MTC	Off
Magn. preparation	None
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
Base resolution	256
Phase resolution	77 %
Phase partial Fourier	Off
Trajectory	Cartesian

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	50
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	On

Geometry - Common

Slice group	1
Slices	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	5.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

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

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	1
Slice thickness	5.0 mm
Dist. factor	50 %
FoV read	360 mm
FoV phase	78.1 %

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	282 mm
R >> L	360 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	974 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None

Physio - Cardiac

Dark blood	On
Dark blood thickness	200 %
FoV read	360 mm
FoV phase	78.1 %
Phase resolution	77 %
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

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	6
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	17

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\TI-Scout_10 MIN POST GAD

TA: 9.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: Off Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	H >> F
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	8.0 mm
TR	28.80 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	28.80 ms
TE	1.34 ms
Magn. preparation	TI Scout
Flip angle	30 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	78.1 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	50 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	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
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	H >> F
FoV read	360 mm
FoV phase	78.1 %
Slice thickness	8.0 mm
TR	28.80 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	H >> F
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	-49.03 deg
Initial Orientation	Coronal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	-49.03 deg
F >> H	282 mm
R >> L	360 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	603 ms
Trigger pulse	2
Trigger delay	0 ms
TR	28.80 ms
Concatenations	1
Segments	9
Phases	17

Physio - Cardiac

Magn. preparation	TI Scout
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	78.1 %
Phase resolution	50 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	TI Scout
Contrasts	1
TE	1.34 ms
TR	28.80 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Centric
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	9
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\DE_high-res_tfl20_psir_seg----SA

TA: 1:53 PM: REF Voxel size: 1.4×1.4×6.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	14
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	597.00 ms
TE	3.57 ms
Averages	1
Concatenations	14
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.57 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	14
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	14

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	100 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	14
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold

Physio - PACE

Concatenations	14

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.57 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9.2 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\DE_high-res_tfl20_psir_seg----4C

TA: 8.1 s PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
TE	3.4 ms
Averages	1
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.4 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	1
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.4 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\HYPERTROPHIC CARDIOMYOPATHY\DE_high-res_tfl20_psir_seg----2C

TA: 8.1 s PM: REF Voxel size: 1.4×1.4×8.0 mmPAT: Off Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
TE	3.4 ms
Averages	1
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	597.00 ms
TE	3.4 ms
Magn. preparation	Non-sel. IR
TI	300 ms
Flip angle	25 deg
Fat suppr.	None
Wrap-up Magn.	Suppress

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	597.00 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

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

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Suppress
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	293 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	597 ms
Trigger pulse	2
Trigger delay	0 ms
TR	597.00 ms
Concatenations	1
Segments	20
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	300 ms
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	3.4 ms
TR	597.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	9 ms
Sequence type	Gre
Bandwidth	140 Hz/Px

Sequence - Part 2

Define	Segments
Segments	20
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\trufi_loc_multi_iPAT

TA: 4.0 s PM: REF Voxel size: 1.7×1.7×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
TE	1.43 ms
Averages	1
Concatenations	9
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	350.73 ms
TE	1.43 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Contrast - Dynamic

Multiple series	Each measurement

Resolution - Common

FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	66 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	9

Geometry - AutoAlign

Slice group	1
Slice group	2
Slice group	3
AutoAlign	---
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	L0.0 P20.0 H0.0
L	0.0 mm
P	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L0.0 P10.0 H0.0 mm
Orientation	Sagittal
Rotation	90.00 deg
F >> H	400 mm
A >> P	420 mm
R >> L	400 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms

Physio - Signal1

Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	800 ms
Trigger pulse	1
Trigger delay	400 ms
TR	350.73 ms
Concatenations	9
Segments	91
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	100.0 %
Phase resolution	66 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	9

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.43 ms
TR	350.73 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	1096 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	91
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\TRUFI_2-CHAMBER Loc

TA: 0.4 s PM: REF Voxel size: 1.6×1.6×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	0 %
FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	316.29 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	316.29 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	64 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
FoV read	387 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	316.29 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
Initial Position	L42.5 P9.8 H12.3
L	42.5 mm
P	9.8 mm
H	12.3 mm
Initial Rotation	-180.00 deg
Initial Orientation	C > S
C > S	-37.7
> T	0.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L42.5 P9.8 H12.3 mm
Orientation	C > S-37.7
Rotation	180.00 deg
R >> L	339 mm
F >> H	387 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	779 ms
Trigger pulse	1
Trigger delay	462 ms
TR	316.29 ms
Concatenations	1
Segments	79
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	387 mm
FoV phase	87.5 %
Phase resolution	64 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	316.29 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1096 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	79
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\TRUFI_4-CHAMBER _Loc

TA: 0.4 s PM: REF Voxel size: 1.6×1.6×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
TR	286.98 ms
TE	1.45 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	286.98 ms
TE	1.45 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
Base resolution	208
Phase resolution	60 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	94.2 %
Slice thickness	8.0 mm
TR	286.98 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Phase enc. dir.	A >> P
Initial Position	L34.3 A0.5 H22.0
L	34.3 mm
A	0.5 mm
H	22.0 mm
Initial Rotation	9.22 deg
Initial Orientation	T > C
T > C	40.0
> S	-11.2

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L34.3 A0.5 H22.0 mm
Orientation	T > C40.0 > S-11.2
Rotation	9.23 deg
A >> P	321 mm
R >> L	340 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	750 ms
Trigger pulse	1
Trigger delay	463 ms
TR	286.98 ms
Concatenations	1
Segments	71
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	340 mm
FoV phase	94.2 %
Phase resolution	60 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off

Physio - PACE

Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.45 ms
TR	286.98 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	1093 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	71
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\TRUFI_SHORT AXIS Loc

TA: 3.6 s PM: REF Voxel size: 1.7×1.7×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	8
Dist. factor	100 %
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	283.54 ms
TE	1.39 ms
Averages	1
Concatenations	8
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	283.54 ms
TE	1.39 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
Base resolution	208
Phase resolution	64 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	8
Dist. factor	100 %
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	87.5 %
Slice thickness	8.0 mm
TR	283.54 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	8

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Phase enc. dir.	A >> P
Initial Position	L62.9 A7.2 H12.9
L	62.9 mm
A	7.2 mm
H	12.9 mm
Initial Rotation	20.14 deg
Initial Orientation	S > C
S > C	37.7
> T	28.3

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L62.9 A7.2 H12.9 mm
Orientation	S > C37.7 > T28.3
Rotation	20.14 deg
A >> P	315 mm
F >> H	360 mm
R >> L	120 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	755 ms
Trigger pulse	1
Trigger delay	471 ms
TR	283.54 ms
Concatenations	8
Segments	70
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	87.5 %
Phase resolution	64 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	8

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.39 ms
TR	283.54 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.3 ms
Sequence type	Trufi
Bandwidth	1045 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	70
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\LT_2-CHAMBER_CINE

TA: 2.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Phase enc. dir.	L >> R
Initial Position	L41.8 P10.3 H13.2
L	41.8 mm
P	10.3 mm
H	13.2 mm
Initial Rotation	-180.00 deg
Initial Orientation	C > S
C > S	-37.7
> T	0.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	L41.8 P10.3 H13.2 mm
Orientation	C > S-37.7
Rotation	180.00 deg
R >> L	293 mm
F >> H	360 mm
A >> P	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\4-CHAMBER_CINE

TA: 2.5 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Phase enc. dir.	A >> P
Initial Position	L30.8 A0.1 H23.5
L	30.8 mm
A	0.1 mm
H	23.5 mm
Initial Rotation	8.59 deg
Initial Orientation	T > C
T > C	39.4
> S	-10.6

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	L30.8 A0.1 H23.5 mm
Orientation	T > C39.4 > S-10.6
Rotation	8.59 deg
A >> P	360 mm
R >> L	360 mm
F >> H	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	100.0 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\SA - Cine

TA: 0:55 PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 3 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	14
Dist. factor	25 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	51.20 ms
TE	1.34 ms
Averages	1
Concatenations	7
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP2

Contrast - Common

TR	51.20 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	70 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	54
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	14
Dist. factor	25 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	51.20 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	7

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Rotation	-30.37 deg
A >> P	293 mm
F >> H	360 mm
A >> P	138 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	51.20 ms
Concatenations	7
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	70 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	7

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	51.20 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\3-CHAMBER Cine

TA: 2.0 s PM: REF Voxel size: 1.9×1.9×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	1
Dist. factor	20 %
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
TE	1.34 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP2

Contrast - Common

TR	41.60 ms
TE	1.34 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	44
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	41.60 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Phase enc. dir.	A >> P
Initial Position	L4.5 P24.0 F2.2
L	4.5 mm
P	24.0 mm
F	2.2 mm
Initial Rotation	10.67 deg
Initial Orientation	S > T
S > T	-32.2
> C	-17.4

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L4.5 P24.0 F35.2 mm
Orientation	S > T-32.2 > C-17.4
Rotation	10.67 deg
A >> P	293 mm
F >> H	360 mm
R >> L	8 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	41.60 ms
Concatenations	1
Segments	13
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.34 ms
TR	41.60 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.2 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	13
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\tirm_20_db_t2_SAX

TA: 0:19 PM: REF Voxel size: 1.4×1.4×6.0 mmPAT: Off Rel. SNR: 1.00 : tir

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
TE	53.0 ms
Averages	1
Concatenations	3
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	800.0 ms
TE	53.0 ms
TD	0.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	160 ms
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Freeze suppressed tissue	Off

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	57 %
Phase partial Fourier	Off

Resolution - Common

Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	3

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	10.35 deg
Initial Orientation	Transversal

Geometry - Saturation

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

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	3
Slice thickness	6.0 mm
Dist. factor	50 %
FoV read	360 mm
FoV phase	81.3 %

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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	10.35 deg
A >> P	293 mm
R >> L	360 mm
F >> H	24 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	826 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	3
Phases	1

Physio - Cardiac

Magn. preparation	Slice-sel. IR
TI	160 ms
Fat suppr.	None
Dark blood	On
Dark blood thickness	200 %

Physio - Cardiac

FoV read	360 mm
FoV phase	81.3 %
Phase resolution	57 %
Trajectory	Cartesian

Physio - PACE

Resp. control	Off
Concatenations	3

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	6
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	20

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\OS BASELINE

TA: 9.6 s PM: REF Voxel size: 1.9×1.9×10.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
TR	42.36 ms
TE	1.57 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP2

Contrast - Common

TR	42.36 ms
TE	1.57 ms
Magn. preparation	None
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

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

Resolution - Common

FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
Base resolution	192
Phase resolution	83 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	81.3 %
Slice thickness	10.0 mm
TR	42.36 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	2

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Rotation	-30.37 deg
A >> P	293 mm
F >> H	360 mm
A >> P	30 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Calculated phases	25
TR	42.36 ms
Concatenations	2
Segments	12
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	81.3 %
Phase resolution	83 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	2

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.57 ms
TR	42.36 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1240 Hz/Px

Sequence - Part 2

Define	Segments
Segments	12
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\OS CONTINUOUS ACQUISITION

TA: 3:36 PM: REF Voxel size: 1.9×1.9×10.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
TR	42.36 ms
TE	1.57 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP2

Contrast - Common

TR	42.36 ms
TE	1.57 ms
TD	0 ms
Magn. preparation	None
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	40
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s

Contrast - Dynamic

Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s
Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Pause after meas. 32	0.0 s
Pause after meas. 33	0.0 s
Pause after meas. 34	0.0 s
Pause after meas. 35	0.0 s
Pause after meas. 36	0.0 s
Pause after meas. 37	0.0 s
Pause after meas. 38	0.0 s
Pause after meas. 39	0.0 s
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
Base resolution	192
Phase resolution	83 %
Phase partial Fourier	5/8
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

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

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Resolution - Filter Rawdata

POCS	Off

Geometry - Common

Slice group	1
Slices	2
Dist. factor	100 %
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	10.0 mm
TR	42.36 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	2

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L36.5 P10.9 F53.2 mm
Orientation	C > S38.2 > T-27.5
Phase enc. dir.	A >> P
Initial Position	L36.5 P10.9 F20.2
L	36.5 mm
P	10.9 mm
F	20.2 mm
Initial Rotation	-30.37 deg
Initial Orientation	C > S
C > S	38.2
> T	-27.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	F
Table position	33 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	Cardiac
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L36.5 P10.9 F53.2 mm

System - Adjust Volume

Orientation	C > S38.2 > T-27.5
Rotation	-30.37 deg
A >> P	270 mm
F >> H	360 mm
A >> P	30 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	575 ms
Trigger pulse	1
Trigger delay	0 ms
TR	42.36 ms
Concatenations	2
Segments	12
Phases	13

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	75.0 %
Phase resolution	83 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	2

Inline - Common

Subtract	Off
Measurements	40
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.57 ms
TR	42.36 ms
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

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	1240 Hz/Px

Sequence - Part 2

Define	Segments
Segments	12
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\cine_tf2d_SA_Rest

TA: 2:15 PM: REF Voxel size: 1.8×1.8×15.0 mmPAT: 2 Rel. SNR: 1.00 : fl

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	40 %
Position	Isocenter
Orientation	T > C-42.5 > S33.6
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	31 %
FoV read	340 mm
FoV phase	75.0 %
Slice thickness	15.0 mm
TR	197.85 ms
TE	1.31 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	197.85 ms
TE	1.31 ms
Magn. preparation	Non-sel. SR perf
TI	110 ms
Flip angle	10 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	30
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s

Contrast - Dynamic

Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s
Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Multiple series	Each slice

Resolution - Common

FoV read	340 mm
FoV phase	75.0 %
Slice thickness	15.0 mm
Base resolution	192
Phase resolution	73 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	128
Reference scan mode	Integrated

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	40 %
Position	Isocenter
Orientation	T > C-42.5 > S33.6
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	75.0 %
Slice thickness	15.0 mm
TR	197.85 ms
Multi-slice mode	Single shot

Geometry - Common

Series	Descending
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	T > C-42.5 > S33.6
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	26.84 deg
Initial Orientation	T > C
T > C	-42.5
> S	33.6

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

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	Off - AutoCoilSelect

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	T > C-42.5 > S33.6
Rotation	26.84 deg
A >> P	255 mm
R >> L	340 mm
F >> H	57 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	700 ms
Trigger pulse	2
Trigger delay	0 ms
TR	197.85 ms
Concatenations	1
Segments	69
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. SR perf
TI	110 ms
Fat suppr.	None
Dark blood	Off
FoV read	340 mm
FoV phase	75.0 %
Phase resolution	73 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	30
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. SR perf
Contrasts	1
TE	1.31 ms
TR	197.85 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Single shot

Sequence - Part 1

Echo spacing	2.5 ms
Sequence type	Gre
Bandwidth	1184 Hz/Px

Sequence - Part 2

Define	Segments
Segments	69
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Cardiac\ALTERED SEQUENCES- TAILORED PROTOCOLS\STRESS MRI\cine_tf2d_SA_Stress_Level1

TA: 2.7 s PM: FIX Voxel size: 1.8×1.8×9.0 mmPAT: 2 Rel. SNR: 1.00 : tfl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	On
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	4
Dist. factor	50 %
Position	Isocenter
Orientation	T > C-42.5 > S33.6
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	31 %
FoV read	340 mm
FoV phase	75.0 %
Slice thickness	9.0 mm
TR	285.62 ms
TE	1.41 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1,2

Contrast - Common

TR	285.62 ms
TE	1.41 ms
TD	0 ms
Magn. preparation	Non-sel. SR perf
TI	155 ms
Flip angle	12 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	3
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Proton Dens. Maps	0
Multiple series	Each slice

Resolution - Common

FoV read	340 mm
FoV phase	75.0 %
Slice thickness	9.0 mm
Base resolution	192
Phase resolution	89 %

Resolution - Common

Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	128
Reference scan mode	GRE/separate

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	4
Dist. factor	50 %
Position	Isocenter
Orientation	T > C-42.5 > S33.6
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	75.0 %
Slice thickness	9.0 mm
TR	285.62 ms
Multi-slice mode	Single shot
Series	Descending
Concatenations	2

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	Isocenter
Orientation	T > C-42.5 > S33.6
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	26.84 deg
Initial Orientation	T > C
T > C	-42.5
> S	33.6

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Cardiac
Adjust with body coil	On
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	T > C-42.5 > S33.6
Rotation	26.84 deg
A >> P	255 mm
R >> L	340 mm
F >> H	50 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.672133 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	225 ± 213 ms
Average cycle	No Signal ms
Captured cycle	225 ± 213 ms
Acquisition window	974 ms
Trigger pulse	1
Trigger delay	0 ms
TR	285.62 ms
Concatenations	2
Segments	84
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. SR perf
TI	155 ms
Fat suppr.	None
Dark blood	Off
FoV read	340 mm
FoV phase	75.0 %
Phase resolution	89 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - Cardiac

Motion Correction	Advanced

Physio - PACE

Resp. control	Off
Concatenations	2

Inline - Common

Subtract	Off
Measurements	3
StdDev	Off
Motion Correction	Advanced
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. SR perf
Contrasts	1
TE	1.41 ms
TR	285.62 ms
Motion Correction	Advanced
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	No
Optimization	Min. TE
Multi-slice mode	Single shot
Echo spacing	3.1 ms
Sequence type	Gre
Bandwidth	651 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	84
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s