## \\USER\Nils\Develop\Renzo\_pdf\tfl\_LOCALIZER\_m1

TA: 1:08 PM: REF Voxel size: 1.0×1.0×3.0 mmPAT: Off Rel. SNR: 1.00 : tfl

#### **Properties**

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

#### Routine

noutille	
Slice group	1
Slices	9
Dist. factor	50 %
Position	L0.6 P1.0 F8.2 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	6
Dist. factor	200 %
Position	L0.0 P1.0 H50.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	7
Dist. factor	200 %
Position	L0.0 P1.0 F1.0 mm
Orientation	Coronal
Phase enc. dir.	R >>> L
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	3000.0 ms
TE	2.34 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

#### **Contrast - Common**

TR	3000.0 ms
TE	2.34 ms
Magn. preparation	Slice-sel. IR
ті	1100 ms
Flip angle	6.0 deg
Fat suppr.	None
Water suppr.	None

### **Contrast - Dynamic**

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

#### **Resolution - Common**

FoV read	200 mm	
FoV phase	100.0 %	
Slice thickness	3.0 mm	
Base resolution	192	
Phase resolution	100 %	
Phase partial Fourier	Off	
Interpolation	Off	

#### **Resolution - iPAT**

PAT mode	None

## **Resolution - Filter Image**

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

#### **Resolution - Filter Rawdata**

Raw filter	Off	
Elliptical filter	Off	

#### **Geometry - Common**

<u> </u>	
Slice group	1
Slices	9
Dist. factor	50 %
Position	L0.6 P1.0 F8.2 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	6
Dist. factor	200 %
Position	L0.0 P1.0 H50.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	7
Dist. factor	200 %
Position	L0.0 P1.0 F1.0 mm
Orientation	Coronal
Phase enc. dir.	R>>> L
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	3000.0 ms
Multi-slice mode	Single shot
Series	Interleaved
Concatenations	1

Slice group	1
Position	L0.6 P1.0 F8.2 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Position	L0.0 P1.0 H50.0 mm
Orientation	Transversal
Phase enc. dir.	A >>> P
Slice group	3
Position	L0.0 P1.0 F1.0 mm

Orientation	Coronal
Phase enc. dir.	R>>>L
AutoAlign	
Initial Position	L0.6 P1.0 F8.2
L	0.6 mm
L P F	1.0 mm
F	8.2 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

## **Geometry - Navigator**

## **Geometry - Tim Planning Suite**

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

### **System - Miscellaneous**

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

### **System - Adjustments**

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

## System - Adjust Volume

Isocenter
Transversal
0.00 deg
263 mm
350 mm
350 mm
Off

### System - Tx/Rx

Frequency 1H	297.139685 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	200.000 V

## Physio - Signal1

1st Signal/Mode	None
TR	3000.0 ms
Concatenations	1

### Physio - Cardiac

Magn. preparation	Slice-sel. IR
TI	1100 ms
Fat suppr.	None
Dark blood	Off
FoV read	200 mm
FoV phase	100.0 %
Phase resolution	100 %

### **Physio - PACE**

Resp. control	Off
Concatenations	1

#### **Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

### Inline - MIP

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

#### **Inline - Composing**

Inline Composing	Off
Distortion Corr.	Off

### Inline - MapIt

Save original images	On
MapIt	None
Flip angle	6.0 deg
Measurements	1
TR	3000.0 ms
TE	2.34 ms

### Sequence - Part 1

Introduction	On
Dimension	2D
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	5.6 ms
Bandwidth	240 Hz/Px

# Sequence - Part 2

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

Mode	Off	
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# $\verb|\USER\Nils\Develop\Renzo_pdf\WB_GR_6_nPC| \\$

TA: 1:48 PM: FIX Voxel size: 0.9×0.9×0.8 mmPAT: 6 Rel. SNR: 1.00 : RenzLa8

#### **Properties**

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

### Routine

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

## **Contrast - Common**

TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR
Flip angle	15 deg
Fat suppr.	Fat sat.
Number of TIs	2

## **Contrast - Dynamic**

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#### **Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

### **Resolution - iPAT**

PAT mode	GRAPPA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	45
Reference scan mode	GRE/separate

### **Resolution - Filter Image**

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

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

### **Geometry - Common**

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Slab group	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	R1.8 A1.4 H26.4
R	1.8 mm
Α	1.4 mm
Н	26.4 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C

T > C	-20.9
> S	0.0

## **Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	Fat sat.

## **Geometry - Tim Planning Suite**

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

#### **System - Miscellaneous**

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

## **System - Adjustments**

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

## **System - Adjust Volume**

! Position	R3.8 A7.5 H24.2 mm
! Orientation	T > C-20.9
! Rotation	0.00 deg
! A >> P	177 mm
!R>>L	177 mm
!F>> H	88 mm
Reset	Off

## System - Tx/Rx

Frequency 1H	297.139685 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

### **BOLD**

Off
Off
0
0
On
On
4.00
20
Baseline
Baseline

#### **BOLD**

Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	11

# Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

## Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	32

#### **Sequence - Special**

Coquento Operiui	
PATRef FA	3 deg
RF duration	2540 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	On
Echo Time Shift	On
Water Exc.	-none-
External PC	-none-
Saturation RF	per Shot
varflip option	0
Inversion Delay	0 us
Relaxation Delay	0 us

Mode Off	,
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## \\USER\Nils\Develop\Renzo\_pdf\WB\_GR\_3\_PC

TA: 2:38 PM: FIX Voxel size: 0.9×0.9×0.8 mmPAT: 3 Rel. SNR: 1.00 : RenzLa8

#### **Properties**

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

### Routine

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	13342.000 ms
TE 1	25.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

#### **Contrast - Common**

TR 1	64.58 ms
TR 2	13342.000 ms
TE 1	25.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR
Flip angle	15 deg
Fat suppr.	Fat sat.
Number of TIs	2

## **Contrast - Dynamic**

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#### **Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

## **Resolution - iPAT**

PAT mode	GRAPPA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	45
Reference scan mode	GRE/separate

### **Resolution - Filter Image**

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

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

### **Geometry - Common**

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	13342.000 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Slab group	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	R1.8 A1.4 H26.4
R	1.8 mm
Α	1.4 mm
Н	26.4 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C

T > C	-20.9
> S	0.0

## **Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	Fat sat.

## **Geometry - Tim Planning Suite**

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

#### **System - Miscellaneous**

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

## **System - Adjustments**

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

## **System - Adjust Volume**

! Position	R3.8 A7.5 H24.2 mm
! Orientation	T > C-20.9
! Rotation	0.00 deg
! A >> P	177 mm
! R >>> L	177 mm
! F >> H	88 mm
Reset	Off

## System - Tx/Rx

Frequency 1H	297.139685 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

### **BOLD**

GLM Statistics	Off	
Dynamic t-maps	Off	
Ignore meas. at start	0	
Ignore after transition	0	
Model transition states	On	
Temp. highpass filter	On	
Threshold	4.00	
Paradigm size	20	
Meas[1]	Baseline	
Meas[2]	Baseline	

#### **BOLD**

Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	11

## Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

## Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	32

#### **Sequence - Special**

•	
PATRef FA	3 deg
RF duration	2540 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	On
Echo Time Shift	On
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
varflip option	0
Inversion Delay	0 us
Relaxation Delay	0 us

Mode	Off
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## \\USER\Nils\Develop\Renzo\_pdf\WB\_GR\_6\_PC

TA: 1:48 PM: FIX Voxel size: 0.9×0.9×0.8 mmPAT: 6 Rel. SNR: 1.00 : RenzLa8

#### **Properties**

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

### Routine

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

## **Contrast - Common**

TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR
Flip angle	15 deg
Fat suppr.	Fat sat.
Number of TIs	2

### **Contrast - Dynamic**

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#### **Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

### **Resolution - iPAT**

PAT mode	GRAPPA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	45
Reference scan mode	GRE/separate

### **Resolution - Filter Image**

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

#### **Resolution - Filter Rawdata**

Raw filter	Off	
Elliptical filter	Off	

### **Geometry - Common**

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Slab group	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	R1.8 A1.4 H26.4
R	1.8 mm
Α	1.4 mm
Н	26.4 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C

T > C	-20.9
> S	0.0

## **Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	Fat sat.

## **Geometry - Tim Planning Suite**

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

### **System - Miscellaneous**

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

## **System - Adjustments**

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

## **System - Adjust Volume**

! Position	R3.8 A7.5 H24.2 mm
! Orientation	T > C-20.9
! Rotation	0.00 deg
! A >> P	177 mm
!R>>L	177 mm
!F>> H	88 mm
Reset	Off

## System - Tx/Rx

Frequency 1H	297.139685 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

### **BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline

#### **BOLD**

Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	11

## Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

### Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	32

### Sequence - Special

•	
PATRef FA	3 deg
RF duration	2540 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	On
Echo Time Shift	On
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
varflip option	0
Inversion Delay	0 us
Relaxation Delay	0 us

Mode	Off
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## \\USER\Nils\Develop\Renzo\_pdf\WB\_CAI\_3\_nPC

TA: 2:38 PM: FIX Voxel size: 0.9×0.9×0.8 mmPAT: 3 Rel. SNR: 1.00 : RenzLa8

#### **Properties**

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

### Routine

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	13342.000 ms
TE 1	25.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

## **Contrast - Common**

TR 1	64.58 ms
TR 2	13342.000 ms
TE 1	25.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR
Flip angle	15 deg
Fat suppr.	Fat sat.
Number of TIs	2

### **Contrast - Dynamic**

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Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	11
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

#### **Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

#### **Resolution - iPAT**

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	45
CAIPI 3D Shift	0
Reference scan mode	GRE/separate
CAIPIRINHA mode	Free

### **Resolution - Filter Image**

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

### **Resolution - Filter Rawdata**

Raw filter	Off	
Elliptical filter	Off	

## **Geometry - Common**

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	13342.000 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Slab group	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	R1.8 A1.4 H26.4
R	1.8 mm
Α	1.4 mm
Н	26.4 mm

Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.9
> S	0.0

## **Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	Fat sat.

## **Geometry - Tim Planning Suite**

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

# **System - Miscellaneous**

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

### **System - Adjustments**

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

## **System - Adjust Volume**

! Position	R3.8 A7.5 H24.2 mm
! Orientation	T > C-20.9
! Rotation	0.00 deg
! A >> P	177 mm
!R>>L	177 mm
! F >> H	88 mm
Reset	Off

## System - Tx/Rx

Frequency 1H	297.139685 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

### **BOLD**

GLM Statistics	Off	
Dynamic t-maps	Off	
Ignore meas. at start	0	
Ignore after transition	0	
Model transition states	On	
Temp. highpass filter	On	
Threshold	4.00	
Paradigm size	20	

#### **BOLD**

Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	11

## Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

## Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	32

PATRef FA	3 deg
RF duration	2540 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	On
Echo Time Shift	On
Water Exc.	-none-
External PC	-none-
Saturation RF	per Shot
varflip option	0
Inversion Delay	0 us
Relaxation Delay	0 us

Mode	Off	

## \\USER\Nils\Develop\Renzo\_pdf\WB\_CAI\_6\_nPC

TA: 1:48 PM: FIX Voxel size: 0.9×0.9×0.8 mmPAT: 6 Rel. SNR: 1.00 : RenzLa8

#### **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	Off
preparation	
Wait for user to start	Off
Start measurements	Single measurement

### Routine

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

## **Contrast - Common**

TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR
Flip angle	15 deg
Fat suppr.	Fat sat.
Number of TIs	2

### **Contrast - Dynamic**

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gnitude
s
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) s
s
) s
) s
s
) s
s
) s

#### **Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

#### **Resolution - iPAT**

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	45
CAIPI 3D Shift	0
Reference scan mode	GRE/separate
CAIPIRINHA mode	Free

## **Resolution - Filter Image**

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

### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

## **Geometry - Common**

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Slab group	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	R1.8 A1.4 H26.4
R	1.8 mm
Α	1.4 mm
Ін	26.4 mm

Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.9
> S	0.0

## **Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	Fat sat.

## **Geometry - Tim Planning Suite**

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

## **System - Miscellaneous**

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

### **System - Adjustments**

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

## **System - Adjust Volume**

! Position	R3.8 A7.5 H24.2 mm
! Orientation	T > C-20.9
! Rotation	0.00 deg
! A >> P	177 mm
!R>>>L	177 mm
!F>>H	88 mm
Reset	Off

## System - Tx/Rx

Frequency 1H	297.139685 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

## **BOLD**

GLM Statistics	Off	
Dynamic t-maps	Off	
Ignore meas. at start	0	
Ignore after transition	0	
Model transition states	On	
Temp. highpass filter	On	
Threshold	4.00	
Paradigm size	20	

#### **BOLD**

Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	11

## Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

## Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	32

<u> </u>	
PATRef FA	3 deg
RF duration	2540 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	On
Echo Time Shift	On
Water Exc.	-none-
External PC	-none-
Saturation RF	per Shot
varflip option	0
Inversion Delay	0 us
Relaxation Delay	0 us

Mode	Off	

## \\USER\Nils\Develop\Renzo\_pdf\WB\_CAI\_3\_PC

TA: 2:38 PM: FIX Voxel size: 0.9×0.9×0.8 mmPAT: 3 Rel. SNR: 1.00 : RenzLa8

#### **Properties**

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

### Routine

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	13342.000 ms
TE 1	25.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

## **Contrast - Common**

TR 1	64.58 ms
TR 2	13342.000 ms
TE 1	25.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR
Flip angle	15 deg
Fat suppr.	Fat sat.
Number of TIs	2

### **Contrast - Dynamic**

Averages       1         Averaging mode       Long term         Reconstruction       Magnitude         Measurements       11         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		
Reconstruction Magnitude  Measurements 11  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. 8 0.0 s	Averages	1
Measurements 11 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. 7 0.0 s Pause after meas. 8 0.0 s Pause after meas. 9 0.0 s	Averaging mode	Long term
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	Reconstruction	Magnitude
Pause after meas. 2  Pause after meas. 3  Pause after meas. 4  Pause after meas. 4  Pause after meas. 5  Pause after meas. 6  Pause after meas. 7  Pause after meas. 7  Pause after meas. 8  Pause after meas. 9  Oo s  Pause after meas. 9  Oo s	Measurements	11
Pause after meas. 3 O.0 s Pause after meas. 4 O.0 s Pause after meas. 5 O.0 s Pause after meas. 6 O.0 s Pause after meas. 7 O.0 s Pause after meas. 8 O.0 s Pause after meas. 8 O.0 s Pause after meas. 9 O.0 s	Pause after meas. 1	0.0 s
Pause after meas. 4  Pause after meas. 5  Pause after meas. 6  Pause after meas. 7  Pause after meas. 7  Pause after meas. 8  Pause after meas. 9  O.0 s  O.0 s  O.0 s  O.0 s  O.0 s	Pause after meas. 2	0.0 s
Pause after meas. 5  Pause after meas. 6  Pause after meas. 7  Pause after meas. 8  Pause after meas. 8  Pause after meas. 9  0.0 s  0.0 s	Pause after meas. 3	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. 4	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. 5	0.0 s
Pause after meas. 8 0.0 s Pause after meas. 9 0.0 s	Pause after meas. 6	0.0 s
Pause after meas. 9 0.0 s	Pause after meas. 7	0.0 s
	Pause after meas. 8	0.0 s
Pause after meas. 10 0.0 s	Pause after meas. 9	0.0 s
	Pause after meas. 10	0.0 s

#### **Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

#### **Resolution - iPAT**

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	45
CAIPI 3D Shift	0
Reference scan mode	GRE/separate
CAIPIRINHA mode	Free

## **Resolution - Filter Image**

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

### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

## **Geometry - Common**

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	13342.000 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Slab group	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	R1.8 A1.4 H26.4
R	1.8 mm
Α	1.4 mm
Н	26.4 mm

Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.9
> S	0.0

## **Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	Fat sat.

## **Geometry - Tim Planning Suite**

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

# **System - Miscellaneous**

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

### **System - Adjustments**

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

### **System - Adjust Volume**

! Position	R3.8 A7.5 H24.2 mm
! Orientation	T > C-20.9
! Rotation	0.00 deg
! A >> P	177 mm
!R>>L	177 mm
!F>>H	88 mm
Reset	Off

## System - Tx/Rx

Frequency 1H	297.139685 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

### **BOLD**

GLM Statistics	Off	
Dynamic t-maps	Off	
Ignore meas. at start	0	
Ignore after transition	0	
Model transition states	On	
Temp. highpass filter	On	
Threshold	4.00	
Paradigm size	20	

#### **BOLD**

Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	11

## Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

## Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	32

PATRef FA	3 deg
RF duration	2540 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	On
Echo Time Shift	On
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
varflip option	0
Inversion Delay	0 us
Relaxation Delay	0 us

Mode	Off	

## \\USER\Nils\Develop\Renzo\_pdf\WB\_CAI\_6\_PC

TA: 1:48 PM: FIX Voxel size: 0.9×0.9×0.8 mmPAT: 6 Rel. SNR: 1.00 : RenzLa8

#### **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	Off
preparation	
Wait for user to start	Off
Start measurements	Single measurement

### Routine

Olah awassa	1
Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

## **Contrast - Common**

TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR
Flip angle	15 deg
Fat suppr.	Fat sat.
Number of TIs	2

### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	11
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

#### **Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

#### **Resolution - iPAT**

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	45
CAIPI 3D Shift	0
Reference scan mode	GRE/separate
CAIPIRINHA mode	Free

### **Resolution - Filter Image**

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

### **Resolution - Filter Rawdata**

Raw filter	Off	
Elliptical filter	Off	

## **Geometry - Common**

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Slab group	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	R1.8 A1.4 H26.4
R	1.8 mm
Α	1.4 mm
Ін	26.4 mm

Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.9
> S	0.0

## **Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	Fat sat.

## **Geometry - Tim Planning Suite**

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

### **System - Miscellaneous**

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

### **System - Adjustments**

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

## System - Adjust Volume

! Position	R3.8 A7.5 H24.2 mm
! Orientation	T > C-20.9
! Rotation	0.00 deg
! A >> P	177 mm
!R>>L	177 mm
! F >> H	88 mm
Reset	Off

## System - Tx/Rx

0
000 V

### **BOLD**

GLM Statistics	Off	
Dynamic t-maps	Off	
Ignore meas. at start	0	
Ignore after transition	0	
Model transition states	On	
Temp. highpass filter	On	
Threshold	4.00	
Paradigm size	20	

#### **BOLD**

Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	11

## Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

## Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	32

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PATRef FA	3 deg
RF duration	2540 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	On
Echo Time Shift	On
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
varflip option	0
Inversion Delay	0 us
Relaxation Delay	0 us

Mode	Off	

## $\verb|\USERNils|Develop|Renzo_pdf|WB_CAI_6_PC_FOVshift|$

TA: 1:48 PM: FIX Voxel size: 0.9×0.9×0.8 mmPAT: 6 Rel. SNR: 1.00 : RenzLa8

#### **Properties**

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

### Routine

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

## **Contrast - Common**

TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR
Flip angle	15 deg
Fat suppr.	Fat sat.
Number of TIs	2

### **Contrast - Dynamic**

Averages       1         Averaging mode       Long term         Reconstruction       Magnitude         Measurements       11         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	<u> </u>	
Reconstruction Magnitude Measurements 11 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. 7 0.0 s Pause after meas. 8 0.0 s Pause after meas. 9 0.0 s	Averages	1
Measurements       11         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	Averaging mode	Long term
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	Reconstruction	Magnitude
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. 8 0.0 s Pause after meas. 9 0.0 s	Measurements	11
Pause after meas. 3 O.0 s Pause after meas. 4 O.0 s Pause after meas. 5 O.0 s Pause after meas. 6 O.0 s Pause after meas. 7 O.0 s Pause after meas. 8 O.0 s Pause after meas. 8 O.0 s	Pause after meas. 1	0.0 s
Pause after meas. 4  Pause after meas. 5  Pause after meas. 6  Pause after meas. 7  Pause after meas. 8  Pause after meas. 8  Pause after meas. 9  O.0 s  O.0 s  O.0 s  O.0 s  O.0 s	Pause after meas. 2	0.0 s
Pause after meas. 5  Pause after meas. 6  Pause after meas. 7  Pause after meas. 8  Pause after meas. 8  Pause after meas. 9  O.0 s  Pause after meas. 9  O.0 s	Pause after meas. 3	0.0 s
Pause after meas. 6  Pause after meas. 7  Pause after meas. 8  Pause after meas. 9  0.0 s  0.0 s  0.0 s	Pause after meas. 4	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. 5	0.0 s
Pause after meas. 8 0.0 s Pause after meas. 9 0.0 s	Pause after meas. 6	0.0 s
Pause after meas. 9 0.0 s	Pause after meas. 7	0.0 s
	Pause after meas. 8	0.0 s
Pause after meas. 10 0.0 s	Pause after meas. 9	0.0 s
	Pause after meas. 10	0.0 s

#### **Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

#### **Resolution - iPAT**

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	45
CAIPI 3D Shift	1
Reference scan mode	GRE/separate
CAIPIRINHA mode	Free

## **Resolution - Filter Image**

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

### **Resolution - Filter Rawdata**

Raw filter	Off	
Elliptical filter	Off	

## **Geometry - Common**

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Slab group	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	R1.8 A1.4 H26.4
R	1.8 mm
Α	1.4 mm
н	26.4 mm

Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.9
> S	0.0

## **Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	Fat sat.

## **Geometry - Tim Planning Suite**

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

### **System - Miscellaneous**

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

### **System - Adjustments**

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

## **System - Adjust Volume**

! Position	R3.8 A7.5 H24.2 mm
! Orientation	T > C-20.9
! Rotation	0.00 deg
! A >> P	177 mm
!R>>L	177 mm
! F >> H	88 mm
Reset	Off

## System - Tx/Rx

297.139685 MHz
1
Low
1.000
Off
250.000 V

### **BOLD**

GLM Statistics	Off	
Dynamic t-maps	Off	
Ignore meas. at start	0	
Ignore after transition	0	
Model transition states	On	
Temp. highpass filter	On	
Threshold	4.00	
Paradigm size	20	

#### **BOLD**

Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	11

## Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

## Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	32

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PATRef FA	3 deg
RF duration	2540 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	On
Echo Time Shift	On
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
varflip option	0
Inversion Delay	0 us
Relaxation Delay	0 us

Mode	Off	

## \\USER\Nils\Develop\Renzo\_pdf\WB\_CAI\_6\_nPC\_FOVshift

TA: 1:48 PM: FIX Voxel size: 0.9×0.9×0.8 mmPAT: 6 Rel. SNR: 1.00 : RenzLa8

#### **Properties**

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

### Routine

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

## **Contrast - Common**

TR 1	64.58 ms
TR 2	8749.000 ms
TE 1	25.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR
Flip angle	15 deg
Fat suppr.	Fat sat.
Number of TIs	2

### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	11
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

#### **Resolution - Common**

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

#### **Resolution - iPAT**

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	45
CAIPI 3D Shift	1
Reference scan mode	GRE/separate
CAIPIRINHA mode	Free

### **Resolution - Filter Image**

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

#### **Resolution - Filter Rawdata**

Raw filter	Off	
Elliptical filter	Off	

#### **Geometry - Common**

Slab group	1
Slabs	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	96
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	64.58 ms
TR 2	8749.000 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Slab group	1
Position	R1.8 A1.4 H26.4 mm
Orientation	T > C-20.9
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	R1.8 A1.4 H26.4
R	1.8 mm
Α	1.4 mm
Ін	26.4 mm

Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.9
> S	0.0

## **Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	Fat sat.

## **Geometry - Tim Planning Suite**

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

# **System - Miscellaneous**

Positioning mode	FIX
Table position	Н
Table position	0 mm
MSMA	S - C - T
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Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Default

### **System - Adjustments**

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Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

### **System - Adjust Volume**

! Position	R3.8 A7.5 H24.2 mm
! Orientation	T > C-20.9
! Rotation	0.00 deg
! A >> P	177 mm
! R >> L	177 mm
! F >>> H	88 mm
Reset	Off

## System - Tx/Rx

Frequency 1H	297.139685 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	250.000 V

### **BOLD**

GLM Statistics	Off	
Dynamic t-maps	Off	
Ignore meas. at start	0	
Ignore after transition	0	
Model transition states	On	
Temp. highpass filter	On	
Threshold	4.00	
Paradigm size	20	

#### **BOLD**

Meas[1]	Baseline
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Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	11

## Sequence - Part 1

Introduction	On
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Gradient mode	Fast
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RF spoiling	On
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PATRef FA	3 deg
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Slab Scale	90 %
Ernst T1	1200 ms
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Volume dummy shots	0
Dummy Measurements	0
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	On
Echo Time Shift	On
Water Exc.	-none-
External PC	-none-
Saturation RF	per Shot
varflip option	0
Inversion Delay	0 us
Relaxation Delay	0 us

		_
Mode	Off	