\\USE	\\USER\UserProtocols\Handwerker\VASO_VALSALVA\Quin_pilot_250V				
TA: 0:59	PAT: Off	Voxel size: 1.0×1.0×5.0 mm	Rel. SNR: 1.00	SIEMENS: tfl	

Properties		Interpolation	Off
Prio Recon	Off	PAT mode	None
Before measurement			
After measurement		Image Filter	Off
Load to viewer	On	Distortion Corr.	Off
Inline movie	Off	Prescan Normalize Normalize	Off Off
Auto store images	On	B1 filter	Off
Load to stamp segments	Off	Raw filter	Off
Load images to graphic	Off	Elliptical filter	Off
segments		Linplical filter	Oli
Auto open inline display	Off	Geometry	
Start measurement without	Off	Multi-slice mode	Sequential
further preparation Wait for user to start	Off	Series	Ascending
Start measurements	single		
Start measurements	Sirigie	Table position	Н
Routine		Table position	0 mm
Slice group 1		Inline Composing	Off
Slices	9	System	
Dist. factor	120 %	V32	Off
Position	L0.0 A18.9 F0.7	A32	On
Orientation	Sagittal A >> P	Positioning mode	REF
Phase enc. dir. Rotation	0.00 deg	MSMA	S-C-T
Slice group 2	0.00 deg	Sagittal	R >> L
Slices	5	Coronal	A >> P
Dist. factor	140 %	Transversal	F >> H
Position	L0.0 A16.7 H31.9	Save uncombined	Off
Orientation	T > C-8.8	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	A >> P	AutoAlign	·
Rotation	0.00 deg	Auto Coil Select	Default
Slice group 3	3	Chim made	Tuno un
Slices	5	Shim mode Adjust with body coil	Tune up Off
Dist. factor	300 %	Confirm freq. adjustment	Off
Position	L0.0 A8.1 H1.7	Assume Silicone	Off
Orientation	Coronal	! Ref. amplitude 1H	220.000 V
Phase enc. dir.	R >> L	Adjustment Tolerance	Auto
Rotation	0.00 deg	Adjust volume	,
Phase oversampling	0 %	Position	Isocenter
FoV read	200 mm	Orientation	Transversal
FoV phase	100.0 %	Rotation	0.00 deg
Slice thickness TR	5.0 mm 3000 ms	R >> L	350 mm
TE	3.17 ms	A >> P	263 mm
Averages	1	F >> H	350 mm
Concatenations	19	Physio	
Filter	None	1st Signal/Mode	None
Coil elements	A32		
1		Dark blood	Off
Contrast	0.50	Resp. control	Off
TD Magn. preparation	0 ms Slice-sel. IR	•	
TI	1100 ms	Inline	0"
Flip angle	6 deg	Subtract	Off Off
Fat suppr.	None	Std-Dev-Sag Std-Dev-Cor	
Water suppr.	None	Std-Dev-Col Std-Dev-Tra	Off Off
		Std-Dev-Time	Off
Averaging mode	Long term	MIP-Sag	Off
Reconstruction	Magnitude	MIP-Cor	Off
Measurements	Took massacrass	MIP-Tra	Off
Multiple series	Each measurement	MIP-Time	Off
Resolution		Save original images	On
Base resolution	192		
Phase resolution	100 %	Sequence	
Phase partial Fourier	Off		_
		1/+	

Introduction Dimension Asymmetric echo Bandwidth Flow comp. Echo spacing	On 2D Off 240 Hz/Px No 6.4 ms
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On

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TA: 1:00 PAT: 2 Voxel size: 2.0×2.0×2.0 mm Rel. SNR: 1.00 USER: VASO_109

		PAT mode	GRAPPA
Properties		Accel. factor PE	2
Prio Recon	Off	Ref. lines PE	24
Before measurement		Accel. factor 3D	2 4 1
After measurement		Ref. lines 3D	•
Load to viewer	On		8 Separate
Inline movie	Off	Reference scan mode	Separate
Auto store images	On	Prescan Normalize	Off
Load to stamp segments	Off	Raw filter	Off
Load images to graphic	Off	Elliptical filter	Off
segments		Hamming	Off
Auto open inline display	Off	1	011
Start measurement without	On	Geometry	
further preparation	Oli	Multi-slice mode	Interleaved
Wait for user to start	Off	Series	Ascending
Start measurements	single	0	DII-I E
Start measurements	Sirigle	Special sat.	Parallel F
Routine		Gap	25.0 mm
Slab group 1	_	Thickness	100 mm
Slabs	1	Table position	Н
Dist. factor	50 %	Table position	0 mm
Position	R1.0 A30.7 H12.9		Off
Orientation	T > C-10.5	Inline Composing	Oli
Phase enc. dir.	P >> A	System	
Rotation		V32	Off
	180.00 deg	A32	On
Phase oversampling	0 %	, 10L	<u></u>
Slice oversampling	0.0 %	Positioning mode	FIX
Slices per slab	10	MSMA	S - C - T
FoV read	192.0 mm	Sagittal	R >> L
FoV phase	100.0 %	Coronal	A >> P
Slice thickness	2.00 mm	Transversal	F >> H
TR	1474.00 ms	Save uncombined	Off
TE	22 ms	Coil Combine Mode	Sum of Squares
Averages	1		
Concatenations	1	AutoAlign	
Filter	None	Auto Coil Select	Default
Coil elements	A32	Shim mode	Standard
ı	, 102	Adjust with body coil	Off
Contrast		Confirm freq. adjustment	Off
Perfusion mode	Picore Q2TIPS	Assume Silicone	Off
TI2	950 ms	! Ref. amplitude 1H	220.000 V
TI1	50 ms	l	
TI1s	50 ms	Adjustment Tolerance	Auto
Flip angle	20 deg	Adjust volume	D2 4 A20 0 LI40 0
Fat suppr.	Fat sat.	! Position	R2.4 A30.8 H12.9
Fat sat. mode	Strong	! Orientation	S > T0.7
· ····································		! Rotation	-0.26 deg
Averaging mode	Long term	! F >> H	54 mm
Reconstruction	Magnitude	! A >> P	192 mm
Measurements	41	! R >> L	163 mm
Delay in TR	0 ms	Physic	
Multiple series	Off	Physio 1/Mada	Name
		1st Signal/Mode	None
Perfusion mode	PICORE Q2T	BOLD	
Inversion time 1	50 ms	Motion correction	Off
Saturation stop time	50 ms	Spatial filter	Off
Inversion time 2	950.0 ms	Opaliai fillei	Oil
Flow limit	100.0 cm/s	Sequence	
	. 5515 511116	Introduction	On
Resolution		Dimension	3D
Base resolution	96	Reordering	Linear
Phase resolution	100 %	Contrasts	1
Slice resolution	100 %	Bandwidth	2084 Hz/Px
Phase partial Fourier	Off		Off
Slice partial Fourier	Off	Free echo spacing	_
Interpolation	Off	Echo spacing	0.57 ms
		EPI factor	96

RF pulse type Gradient mode Excitation RF spoiling	Normal Normal Slab-sel. On
Ampl BWDTH thickness use Ernst angle Maxwell Correction log physio files FFT scale dummy prepscan time z shim RF duration RF BWTP EFFECTIVE TR PatPartitions EPI phase correction PAT refscan mode FlashRef BaseRes FlashRef BW FlashRef TE FlashRef FA use CAIPI	95 150 3.1kHz 30 Off Off Off 4.00 3 s 0.00 mT/m*ms 5120 us 25.0 14740 ms 10 local Flash 96 1000 Hz/px 4800 us 5 deg Off

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TA: 10:08 PAT	: 3 Voxel size: 0.7×0.7×0	0.7 mm Rel. SNR: 1.00 USE	ER: tfl_wip900b17a
Description		Distortion Corr.	On
Properties		Mode	3D
Prio Recon	Off	Unfiltered images	Off
Before measurement		Prescan Normalize	Off
After measurement Load to viewer	On	Raw filter	Off
Inline movie	Off	Elliptical filter	Off
Auto store images	On	Geometry	
Load to stamp segments	Off	Multi-slice mode	Single shot
Load images to graphic	Off	Series	Interleaved
segments	Oll	·····	
Auto open inline display	Off	Table position	 Ц
Start measurement without	On	Table position	H 0 mm
further preparation	011	Table position	0 mm Off
Wait for user to start	Off	Inline Composing	Oli
Start measurements	single	System	
1	Single	V32	Off
Routine		A32	On
Slab group 1		Positioning mode	DEE
Slabs	1	Positioning mode	REF
Dist. factor	50 %	MSMA Societal	S-C-T
Position	L0.3 A41.3 F37.9	Sagittal	R >> L
Orientation	Sagittal	Coronal	A >> P
Phase enc. dir.	A >> P	Transversal	F >> H
Rotation	0.00 deg	Save uncombined	Off
Phase oversampling	0 %	Coil Combine Mode	Adaptive Combine
Slice oversampling	7.1 %	Auto Cail Calast	Defecult
Slices per slab	224	Auto Coil Select	Default
FoV read	224 mm	Shim mode	Standard
FoV phase	100.0 %	Adjust with body coil	Off
Slice thickness	0.70 mm	Confirm freq. adjustment	Off
TR	6000 ms	Assume Silicone	Off
TE	3.02 ms	! Ref. amplitude 1H	277.000 V
Averages	1	Adjustment Tolerance	Auto
Concatenations	1	Adjust volume	
Filter	Distortion Corr.(3D)	! Position	R1.3 A35.6 H4.8
Coil elements	A32	! Orientation	T > C-2.0
Contrast		! Rotation	0.00 deg
Magn. preparation	Non-sel. IR		160 mm
TI 1	800 ms	! A >> P	196 mm
TI 2	2700 ms	! F >> H	49 mm
Flip angle 1	4 deg	Physio	
Flip angle 2	5 deg	•	None
Fat suppr.	None	1st Signal/Mode	None
Water suppr.	None	Dark blood	Off
2nd Inversion Contrast	On	Deer	Ο"
		Resp. control	Off
Averaging mode	Long term	Composing	
Reconstruction	Magn./Phase		
Measurements	1	Sequence	
Multiple series	Each measurement	Introduction	On
Resolution		Dimension	3D
Base resolution	320	Elliptical scanning	Off
Phase resolution	100 %	Asymmetric echo	Off
Slice resolution	100 %	Contrasts	1
Phase partial Fourier	6/8	Bandwidth	240 Hz/Px
Slice partial Fourier	6/8	Flow comp.	No
		Echo spacing	7.1 ms
PAT mode	GRAPPA	RF pulse type	Fast
Accel. factor PE	3	Gradient mode	Fast*
Ref. lines PE	32	Excitation	Non-sel.
Accel. factor 3D	1	RF spoiling	On
Reference scan mode	Integrated		
Ī.			
Image Filter	Off	FFT Scale Factor Morphometry Analysis	150 % Off

FID MoCo Logging	Off
FID Coil Phase Corr.	Off
LIN/PAR Swap	Off
Ext. INV Pulse	On
Flip Angle	700
Phase Filter	0 рх
Uniform Image	On
Head Mask on UNI	On
T1 Map	On
Complex Div. Image	On
Denoise Weighting	150
FLAWS	Off

\\USE	ER\UserProtocols\Hand	werker\VASO_VALSALVA\MAF	I_6mm
TA: 2:17	Voxel size: 6.0×6.0×6.	0 mm Rel. SNR: 1.00 USER:	Renzo\MAFI
Properties		Geometry	
Prio Recon	Off	Multi-slice mode	Sequential
Before measurement		Series	Ascending
After measurement		Consist ant	Nama
Load to viewer	On	Special sat.	None
Inline movie	Off	Table position	Н
Auto store images	On	Table position	0 mm
Load to stamp segments	Off	Inline Composing	Off
Load images to graphic	Off	System	
segments Auto open inline display	Off	V32	Off
Start measurement without	On	A32	On
further preparation	011	Desitioning made	REF
Wait for user to start	Off	Positioning mode MSMA	S-C-T
Start measurements	single	Sagittal	R >> L
1-14	3	Coronal	A >> P
Slab group 1		Transversal	F >> H
Slab group 1 Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode	Adaptive Combine
Position	R1.4 A37.3 F30.9	AutoAlign	
Orientation	Sagittal	Auto Coil Select	Default
Phase enc. dir.	A >> P	Shim mode	Standard
Rotation	0.00 deg	Adjust with body coil	Off
Phase oversampling	0 %	Confirm freq. adjustment	Off
Slice oversampling	0.0 %	Assume Silicone	Off
Slices per slab	28	! Ref. amplitude 1H	270.000 V
FoV read	192 mm	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	
Slice thickness	6.00 mm	! Position	R1.3 A35.6 H4.8
TR	150 ms	! Orientation	T > C-2.0
TE 1	1.080 ms	! Rotation	0.00 deg
TE 2 TE 3	1.080 ms 2.09 ms	! R >> L	160 mm
TE 4	3.100 ms	! A >> P	196 mm
Averages	1	! F >> H	49 mm
Concatenations	1	Physio	
Filter	None	1st Signal/Mode	None
Coil elements	A32	Inline	
		Subtract	Off
Contrast MTC	Off	Std-Dev-Sag	Off
Flip angle	90 deg	Std-Dev-Cor	Off
Fat suppr.	None	Std-Dev-Tra	Off
Water suppr.	None	Std-Dev-Time	Off
		······ MIP-Sag	Off
Averaging mode	Short term	MIP-Cor	Off
Reconstruction Measurements	Magn./Phase	MIP-Tra	Off
	1 Off	MIP-Time	Off
Multiple series	Oii	Save original images	On
esolution			
Base resolution	32	Sequence	0"
Phase resolution	100 %	Introduction	Off
Slice resolution	100 %	Dimension Contrasts	3D 4
Phase partial Fourier	Off	Bandwidth	4 1560 Hz/Px
Interpolation	Off		1000 112/FX
Image Filter	Off	Gradient mode	Fast
Distortion Corr.	Off	RF spoiling	On
Prescan Normalize	Off	Online ICE	Off
Normalize	Off	RF pulse type	square
B1 filter	Off	Pulse duration	500 us
Raw filter	Off	Spoil me!	On
Ellintical filter	Off		

TR2/TR1

5

Elliptical filter

Off

N dummy TRs
Sample T1
Diffusion damping d= bD
Diffusion coefficient D
RF spoil phase increment
Number of pulse shapes

TX/RX Nucleus
TX/RX delta frequency

20
1800 ms
0.6000
2.2000 µm2/ms
129.3 deg
1

Finite Record Finite Recor	Properties		Elliptical filter	Off
Before measurement		Off	Hamming	Off
After measurement Load to viewer On Inline movie Off Auto store images On Auto store images On Continue Off		Oli	Coomotry	
Load to siewer				
Inline movie		_		
Auto store images		_	Series	Ascending
Table position			Special sat	None
Load images to graphic segments			Special Sat.	
Load images to graphic segments Auto open inline display Start measurement without further preparation Wait for user to start Start measurements Single Positioning mode FIX Sagittal R S C - T Sagittal Sag	Load to stamp segments	Off	Table position	Н
Inline Composing	Load images to graphic	Off		0 mm
Auto Open inline display System V32	segments			Off
Start measurement without further preparation Wait for user to start Off A32		Off		
Further preparation Wait for user to start		On		
Wait for user to start Start measurements Start measurements Start measurements Start measurements Single Positioning mode FIX				Off
Start measurements		Off	A32	On
Routine			Destination and	FIV
Salpt group 1	T otal mododromonio	Single		
Slabs	Routine			
Dist. factor	Slab group 1			
Position	Slabs	1	Coronal	
Position	Dist. factor	50 %	Transversal	
Orientation T > C-7.2 Coil Combine Mode AutoAlign and Au	Position	R1.0 A21.0 H2.8		
Phase enc. dir. P >> A Auto Coil Select Default	Orientation		Coil Combine Mode	Sum of Squares
Rotation				
Phase oversampling			Auto Coil Select	Default
Silce oversampling		•		
Silices per slab				
FoV read				_
FoV phase 100.0 % Slice thickness 2.00 mm TR 50 ms TE 22 ms Position Re.4 A20.2 Ho.3 Position R.2.4 A20.2 Ho.3 Position P			Confirm freq. adjustment	
Silice thickness		_		Off
TR			! Ref. amplitude 1H	220.000 V
TE			Adjustment Tolerance	Auto
TE			Adjust volume	
Rotation Filter None Filter Rotation Filter None Filter Rotation Filter None Filter Filter None Filter Fi		22 ms	! Position	R2.4 A20.2 H0.3
Rotation Filter None	Averages	1	! Orientation	S > T0.7
Filter	Concatenations	1		
A >> P 192 mm	Filter	None		<u> </u>
Contrast IR>> L 163 mm MTC Off Physio Filip angle 13 deg 1st Signal/Mode None Fat suppr. Fat sat. BOLD Averaging mode Long term Motion correction Off Reconstruction Magnitude Motion correction Off Measurements 11 Sequence Multiple series Off Introduction Off Resolution 96 Introduction Off Phase resolution 100 % Reordering Linear Contrasts 1 Bandwidth 2604 Hz/Px Free echo spacing Off Free echo spacing Off Slice partial Fourier Off Echo spacing 0.58 ms Slice partial Fourier Off Epi factor 96 FAT mode GRAPPA Gradient mode Normal Accel. factor PE 2 Excitation Slab-sel. Ref. lines PE 24 RF spoiling On Accel.	Coil elements	A32		-
MTC Flip angle Fat suppr. Fat sat. Averaging mode Reconstruction Magnitude Measurements Multiple series Off Phase resolution Phase resolution Phase partial Fourier Slice partial Fourier Slice partial Fourier Off Slines PE Accel. factor PE Accel. factor 3D Reference scan mode Resolution For Fat sat. BOLD Motion correction Off Spatial filter Off Spatial filter Off Sequence Introduction Off Dimension Sequence Introduction Off Dimension Sequence Introduction Off Dimension SaD Reordering Linear Contrasts 1 Bandwidth 2604 Hz/Px Free echo spacing Off Echo spacing Off Repulse type Normal Sequence Diff Echo spacing Off Repulse type Normal Sequence Introduction Off Dimension SaD Reordering Linear Contrasts 1 Entroduction Off Sequence Introduction Off Dimension SaD Reordering Linear Contrasts 1 Entroduction Off Dimension SaD Reordering Linear Contrasts 1 Entroduction Off Dimension SaD Reordering Linear Contrasts 1 Entroduction Off Echo spacing Off Echo s	•			_
Flip angle			! N >> L	103 11111
Fat suppr. Fat sat. Averaging mode Reconstruction Magnitude Reconstruction Magnitude Measurements 11 Delay in TR Multiple series Off Base resolution Phase resolution Phase partial Fourier Interpolation Off Interpolation PAT mode Accel. factor PE Accel. factor 3D Reference scan mode Reference scan mode Reference scan mode Reconstruction Magnitude Motion correction Spatial filter Off Introduction Off Dimension Sequence Introduction Off Eerdering Linear Contrasts 1 Bandwidth 2604 Hz/Px Sequence Introduction Off Echo spacing Off Off Echo spacing Off Off Echo spacing Off Off Echo spacing Off Off Off Echo spacing Off Off Off Off Off Off Off Off Off Of			Physio	
Fat suppr. Fat sat. BOLD			1st Signal/Mode	None
Averaging mode Reconstruction Magnitude Measurements Delay in TR Multiple series Off Resolution Base resolution Phase resolution Slice resolution Off Slice partial Fourier Off Slice partial Fourier Interpolation Off Sequence Introduction Dimension Reordering Contrasts 1 Bandwidth 2604 Hz/Px Free echo spacing Off Echo spacing Off Slice partial Fourier Off Interpolation Off Spatial filter Off Dimension AD Reordering Contrasts 1 Bandwidth 2604 Hz/Px Free echo spacing Off Echo spacing Off Fecho spacing Off Spatial filter Off Spatial filter Off Dimension Off Spatial filter Off Dimension Off Spatial filter Off Dimension Off Dimension Off Spatial filter Off Off Dimension Off Dimension Off Spatial filter Off Dimension Off Dimension Off Dimension Off Spatial filter Off Dimension Off Dimension Off Dimension Off Spatial filter Off Dimension Off Dimension Off Dimension Off Spatial filter Off Dimension Off Dimension Off Spatial filter Off Dimension Off Dimension Off Spatial filter Off Spatial filter Off Spatial filter Off Dimension Off Spatial filter Off Dimension Off Spatial filter Off Spatial filter Off Spatial filter Off Dimension Off Spatial filter Off Spatial filer Off Spatial filer Off Spatial filer Off Spatial filer Off Neortical files Off Neortical files Off Neortical files Off Spatial	Fat suppr.	Fat sat.		
Reconstruction Magnitude Measurements 11 Delay in TR 0 ms Sequence Multiple series Off Resolution Base resolution 96 Phase resolution 100 % Slice resolution 100 % Slice partial Fourier Off Interpolation Off Interpolation Off Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Gradient mode Normal Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Reference scan mode Separate Magnitude Spatial filter Off Interpolation Off Sequence Introduction Off Dimension 3D Reordering Linear Contrasts 1 Bandwidth 2604 Hz/Px Free echo spacing Off Echo spacing 0.58 ms EPI factor 96 RF pulse type Normal Gradient mode Normal Excitation Slab-sel. RF spoiling On Normal Slab-sel. RF spoiling On Maxwell Correction Off Distortion Corr. Off Prescan Normalize Off Spatial filter Off Dimension 3D Reordering Linear Contrasts 1 Pandwidth 2604 Hz/Px Free echo spacing Off FPT scale 4.00 Off Maxwell Correction Off FFT scale 4.00 Z shim 0.00 mT/m*ms	Avoraging mode	Longtorm	BOLD	
Measurements Delay in TR 0 ms Multiple series Off Resolution 96 Phase resolution Phase resolution Slice resolution Phase partial Fourier Off Interpolation 100 % Free echo spacing Off Echo spacing Off Phase partial Fourier Off Slice partial Fourier Off PAT mode Accel. factor PE 2 Ref. lines PE Accel. factor 3D Ref. lines 3D Reference scan mode Separate EPI factor PE Accel. factor 3D Reference scan mode Separate EPI factor Spacing Off PET Scale Sequence Multiple series Off Dimension Slab-sel. Ref. spoiling Off Dimension Slab-sel. Ref. lines PE Accel. factor Off Separate 1 mitroduction Off Sequence Introduction Off Dimension Slab Sequence Contrasts 1 Introduction Off Sequence 1 mitroduction Off Sequence Entroduction Off Sequence 1 mitroduction Off Sequence Introduction Off Sequence 0 mitroduction Off Sequence Base resolution Off Sequence 1 mitroduction Off Sequence Base resolution Off Sequence 2 mitroduction Off Sequence EPI factor 96 96 RF pulse type Normal Slab-sel. Normal Slab-sel. Ref. spoiling On				
Delay in TR Multiple series Off Resolution Base resolution Phase resolution Phase resolution Slice resolution Phase partial Fourier Slice partial Fourier Off Interpolation Off PAT mode Accel. factor PE Ref. lines PE Accel. factor 3D Reference scan mode Sequence Introduction Off Dimension Reordering Contrasts 1 Bandwidth 2604 Hz/Px Free echo spacing Off Echo spacing Off Echo spacing Off RF pulse type Normal Gradient mode Normal Excitation Slab-sel. RF spoiling On Sequence Introduction Off Dimension Reordering Linear Contrasts 1 Bandwidth 2604 Hz/Px Since acho spacing Off Echo spacing Off FF spoiling On Off Off Off Off Off Off Off Off Off			Spatial filter	Off
Multiple series Off Resolution Base resolution 96 Phase resolution 100 % Slice resolution 100 % Phase partial Fourier Off Interpolation Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Reference scan mode Separate Distortion Corr. Prescan Normalize Off Dimension 3D Reordering Linear Contrasts 1 Bandwidth 2604 Hz/Px Free echo spacing Off Echo spacing 0.58 ms EPI factor 96 RF pulse type Normal Gradient mode Normal Excitation Slab-sel. RF spoiling On use Ernst angle Off Maxwell Correction Off Iog physio files Off FFT scale 4.00 z shim 0.00 mT/m*ms			Soguence	
Resolution Base resolution 96 Phase resolution 100 % Slice resolution 100 % Phase partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Ref. lines PE 24 Ref. lines SD 8 Reference scan mode Separate Dimension 3D Reordering Linear Contrasts 1 Bandwidth 2604 Hz/Px Free echo spacing Off Echo spacing 0.58 ms Slice partial Fourier Off Echo spacing 0.58 ms EPI factor 96 RF pulse type Normal Gradient mode Normal Excitation Slab-sel. RF spoiling On Use Ernst angle Off Maxwell Correction Off Iog physio files Off Distortion Corr. Off Prescan Normalize Off Distortion Corr. Off Prescan Normalize Off Distortion Corr. Off Distortion Corr. Off Prescan Normalize Off Distortion Corr. Off Prescan Normalize Off Distortion Corr. Off Prescan Normalize Off Distortion Corr. Off Distortion Corr. Off Prescan Normalize Off Distortion Corr. Off Distortion Corr. Off Prescan Normalize Off Distortion Corr. Off				0"
Resolution Base resolution Phase resolution Slice resolution Phase partial Fourier Slice partial Fourier Off Interpolation Off PAT mode Accel. factor PE Accel. factor 3D Reference scan mode Distortion Corr. Distortion Corr. Prescan Normalize Distortion Corr. D	Multiple series	Off		
Base resolution 96 Phase resolution 100 % Slice resolution 100 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off PAT mode Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D 8 Reference scan mode Separate Bandwidth 2604 Hz/Px Free echo spacing Off Echo spacing 0.58 ms EPI factor 96 RF pulse type Normal Gradient mode Normal Excitation Slab-sel. RF spoiling On Was Ernst angle Off Maxwell Correction Off Interpolation Off Separate Separate Separate 4.00 Prescan Normalize Off PFT scale 2 shim 0.00 mT/m*ms	Resolution			
Phase resolution 100 % Slice resolution 100 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Ref. lines 3D 8 Reference scan mode Separate Distortion Corr. Off Distortion Corr. Prescan Normalize Off Distortion Corr. Slice partial Fourier Off ECho spacing O.58 ms EPI factor 96 RF pulse type Normal Gradient mode Normal Excitation Slab-sel. RF spoiling On Waxwell Correction Off Interpolation Off Interpo		96	-	
Slice resolution 100 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D 8 Reference scan mode Separate Distortion Corr. Prescan Normalize Off Description Off Pree echo spacing Off Echo spacing 0.58 ms EPI factor 96 RF pulse type Normal Excitation Slab-sel. RF spoiling On use Ernst angle Off Maxwell Correction Off Iog physio files Off FFT scale 4.00 Z shim 0.00 mT/m*ms				-
Phase partial Fourier Off Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D 8 Reference scan mode Separate Distortion Corr. Off Distortion Corr. Phase partial Fourier Off Slice partial Fourier Off Echo spacing 0.58 ms Chospital Fecho spacing 0.58 ms Echo spacing 0.58 ms Echo spacing 0.58 ms EPI factor 96 RF pulse type Normal Excitation Slab-sel. RF spoiling On Use Ernst angle Off Maxwell Correction Off Iog physio files Off FFT scale 4.00 Z shim 0.00 mT/m*ms				
Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D Ref. lines 3D Ref. lines 3D Reference scan mode Separate Distortion Corr. Distortion Corr. Piscontage of the specified of the s				
Interpolation Off EPI factor 96 RF pulse type Normal GRAPPA Gradient mode Normal Excitation Slab-sel. Ref. lines PE 24 RF spoiling On Ref. lines 3D 8 use Ernst angle Off Reference scan mode Separate Maxwell Correction Off Distortion Corr. Off FFT scale 4.00 Presscan Normalize Off SRAPPA Gradient mode Normal Excitation Slab-sel. RF spoiling On Maxwell Correction Off FFT scale 4.00 Z shim 0.00 mT/m*ms			Echo spacing	0.58 ms
PAT mode GRAPPA Gradient mode Normal Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D 8 Reference scan mode Separate Maxwell Correction Off Distortion Corr. Off FT scale 4.00 Prescan Normalize Off z shim 0.00 mT/m*ms			EDI factor	00
PAT mode Accel. factor PE Ref. lines PE Accel. factor 3D Ref. lines 3D Ref. lines 3D Reference scan mode Distortion Corr. Prescan Normalize Off Off Describitors Off Off Describitors Off Off Off Off Off Describitors Off Off Off Off Off Off Off Off Off Of	Interpolation	Off		
Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D 8 Reference scan mode Separate Use Ernst angle Off Distortion Corr. Off FT scale 4.00 Prescan Normalize Off Z shim 0.00 mT/m*ms	PAT mode	GRAPPA		
Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D 8 Reference scan mode Separate Use Ernst angle Off Distortion Corr. Off FT scale 4.00 Prescan Normalize Off Z shim 0.00 mT/m*ms				
Accel. factor 3D 1 Ref. lines 3D 8 Reference scan mode Separate use Ernst angle Off Distortion Corr. Off Iog physio files Off Prescan Normalize Off Z shim 0.00 mT/m*ms				
Ref. lines 3D 8 Reference scan mode Separate use Ernst angle Off Maxwell Correction Off log physio files Off Prescan Normalize Off Prescan Normalize Off Off Separate vise Ernst angle Off Maxwell Correction Off so physio files FT scale 4.00 z shim 0.00 mT/m*ms			RF spoiling	On
Reference scan mode Distortion Corr. Prescan Normalize Off Off Off Separate Maxwell Correction log physio files FFT scale z shim One Off 000 mT/m*ms			use Fract anale	Off
Distortion Corr. Off FFT scale 4.00 Prescan Normalize Off z shim 0.00 mT/m*ms				
Distortion Corr. Off Prescan Normalize Off Sout filter One Distortion Corr. Off FFT scale z shim 0.00 mT/m*ms	Reference scan mode	oeparate		_
Prescan Normalize Off z shim 0.00 mT/m*ms	Distortion Corr.	Off		
Dow filter 0.00 III/III III3				
RF duration 5120 us				
	1		KE duration	51∠U US

RF BWTP 25.0
EFFECTIVE TR 500 ms
PatPartitions 10
EPI phase correction local
PAT refscan mode Flash
FlashRef BaseRes 96

FlashRef BW 1000 Hz/px
FlashRef TE 4800 us
FlashRef FA 5 deg
use CAIPI Off
dummy prepscan time 3 s

\\USER\UserProtocols\Handwerker\VASO_VALSALVA\Valsalva_3DVASO_3x1_flash_CAIPI_PF_1.2x1.2x1.7_
TA: 9:44 PAT: 3 Voxel size: 1.1×1.1×1.7 mm Rel. SNR: 1.00 USER: VASO_109

_		PAT mode	GRAPPA
Properties		- Accel. factor PE	3
Prio Recon	Off	Ref. lines PE	36
Before measurement		Accel. factor 3D	1
After measurement	0-	Ref. lines 3D	12
Load to viewer	On O#	Reference scan mode	Separate
Inline movie	Off	Dragge Normaliza	Off
Auto store images Load to stamp segments	On Off	Prescan Normalize Raw filter	Off
Load images to graphic	Off	Elliptical filter	Off
segments	Oli	Hamming	Off
Auto open inline display	Off	l lamining	On
Start measurement without	On	Geometry	
further preparation	.	Multi-slice mode	Interleaved
Wait for user to start	Off	Series	Ascending
Start measurements	single	Special sat.	Parallel F
Danting	3	Gap	25.0 mm
Routine		- Thickness	100 mm
Slab group 1	4		
Slabs Dist. factor	1 50 %	Table position	Н
Position	50 % L0.0 A11.4 H37.4	Table position	0 mm
Orientation	T > C-10.0	Inline Composing	Off
Phase enc. dir.	P >> A	System	
Rotation	180.00 deg	V32	Off
Phase oversampling	0 %	A32	On
Slice oversampling	0.0 %		FIV
Slices per slab	12	Positioning mode	FIX
FoV read	170.0 mm	MSMA Sociital	S-C-T
FoV phase	100.0 %	Sagittal Coronal	R >> L A >> P
Slice thickness	1.70 mm	Transversal	A >> P F >> H
TR	1502.00 ms	Save uncombined	Off
TE	26 ms	Coil Combine Mode	Sum of Squares
Averages	1	AutoAlign	
Concatenations	1	Auto Coil Select	Default
Filter	None		
Coil elements	A32	Shim mode	Standard
Contrast		Adjust with body coil	Off
Perfusion mode	Picore Q2TIPS	Confirm freq. adjustment	Off
TI2	750 ms	Assume Silicone	Off
TI1	50 ms	! Ref. amplitude 1H	220.000 V
Tils	50 ms	Adjustment Tolerance	Auto
Flip angle	21 deg	Adjust volume	10044411074
Fat suppr.	Fat sat.	! Position	L0.0 A11.4 H37.4
Fat sat. mode	Strong	! Orientation	T > C-8.7
		! Rotation	-180.00 deg
Averaging mode	Long term	! R >> L ! A >> P	177 mm 177 mm
Reconstruction	Magn./Phase	! A >> P ! F >> H	54 mm
Measurements	389	! F >> FI	54 IIIII
Delay in TR	0 ms	Physio	
Multiple series	Off	1st Signal/Mode	None
Perfusion mode	PICORE Q2T	BOLD	
Inversion time 1	50 ms	Motion correction	Off
Saturation stop time	50 ms	Spatial filter	Off
Inversion time 2	750.0 ms	· ·	
Flow limit	100.0 cm/s	Sequence	
Resolution		Introduction	On
Base resolution	148	_ Dimension	3D
	148 100 %	Reordering	Linear
Phase resolution Slice resolution	100 %	Contrasts	1
Phase partial Fourier	Off	Bandwidth	1608 Hz/Px
Slice partial Fourier	Off	Free echo spacing	Off
Interpolation	Off	Echo spacing	0.79 ms
······	<u> </u>	EPI factor	148
		1	

RF pulse type Gradient mode Excitation RF spoiling	Normal Normal Slab-sel. On
Ampl BWDTH thickness use Ernst angle Maxwell Correction log physio files FFT scale dummy prepscan time z shim RF duration RF BWTP EFFECTIVE TR PatPartitions EPI phase correction PAT refscan mode FlashRef BaseRes FlashRef BW FlashRef TE FlashRef FA use CAIPI	95 150 3.1kHz 30 Off Off Off Off 3.00 3 s 0.00 mT/m*ms 5120 us 25.0 18024 ms 12 local Flash 148 1000 Hz/px 4800 us 5 deg Off

\\USER\UserPro	tocols\Handwerker\VASO_V	ALSALVA\BOLD_matched	_to_VASO_3DEPI
	PAT: 3 Voxel size: 1.1×1.1×		unknown:
Properties		Elliptical filter	Off
Prio Recon	Off	- Hamming	Off
Before measurement		Geometry	
After measurement		Multi-slice mode	Interleaved
Load to viewer	On	Series	Ascending
Inline movie	Off	Special set	None
Auto store images	On	Special sat.	None
Load to stamp segments	Off	Table position	Н
Load images to graphic	Off	Table position	0 mm
segments	0"	Inline Composing	Off
Auto open inline display Start measurement without	Off On	System	
further preparation	Oli	V32	Off
Wait for user to start	Off	A32	On
Start measurements	single	Desitioning and	FIV
1	5.1.9.5	Positioning mode MSMA	FIX S - C - T
Routine		Sagittal	8 - C - 1 R >> L
Slab group 1	4	Coronal	A >> P
Slabs	1 50 %	Transversal	F >> H
Dist. factor Position	50 % L0.0 A11.4 H37.4	Save uncombined	Off
Orientation	T > C-10.0	Coil Combine Mode	Sum of Squares
Phase enc. dir.	P >> A	AutoAlign	
Rotation	180.00 deg	Auto Coil Select	Default
Phase oversampling	0 %	China mada	Ctandard
Slice oversampling	0.0 %	Shim mode Adjust with body coil	Standard Off
Slices per slab	12	Confirm freq. adjustment	Off
FoV read	170 mm	Assume Silicone	Off
FoV phase	100.0 %	! Ref. amplitude 1H	220.000 V
Slice thickness	1.70 mm	Adjustment Tolerance	Auto
TR	62 ms	Adjust volume	,
TE	26 ms	! Position	L0.0 A11.4 H37.4
Averages	1	! Orientation	T > C-8.7
Concatenations	1 Name	! Rotation	-180.00 deg
Filter Coil elements	None A32	! R >> L	177 mm
Con elements	A32	! A >> P	177 mm
Contrast		! F >> H	54 mm
MTC	Off	Physio	
Flip angle	14 deg	1st Signal/Mode	None
Fat suppr.	Fat sat.	BOLD	
Averaging mode	Long term	Motion correction	Off
Reconstruction	Magn./Phase	Spatial filter	Off
Measurements	779	1 .	
Delay in TR	0 ms	Sequence	0"
Multiple series	Off	Introduction	Off
Resolution		Dimension Reordering	3D Linear
Base resolution	148	Reordering Contrasts	Linear 1
Phase resolution	100 %	Bandwidth	ı 1608 Hz/Px
Slice resolution	100 %	Free echo spacing	Off
Phase partial Fourier	Off	Echo spacing	0.79 ms
Slice partial Fourier	Off		
Interpolation	Off	EPI factor	148
PAT mode	GRAPPA	RF pulse type	Normal Fact
Accel. factor PE	3	Gradient mode Excitation	Fast Slab-sel.
Ref. lines PE	36	RF spoiling	On
Accel. factor 3D	1		O11
Ref. lines 3D	8	use Ernst angle	Off
Reference scan mode	Separate	Maxwell Correction	Off
Distortion Corr.	Off	log physio files	Off
Prescan Normalize	Off	FFT scale	4.00 0.00 mT/m*ms

z shim

RF duration

0.00 mT/m*ms

5120 us

Prescan Normalize

Raw filter

Off

On

RF BWTP 25.0 EFFECTIVE TR 744 ms PatPartitions 12 EPI phase correction local PAT refscan mode Flash FlashRef BaseRes 148 FlashRef BW 1000 Hz/px FlashRef TE 4800 us FlashRef FA 5 deg use CAIPI Off

3 s

dummy prepscan time

\\USER\UserProtocols\Handwerker\VASO_VALSALVA\3DVASO_no_inv_fast_TR_used_in_pilots TA: 3:21 PAT: 2 Voxel size: 2.0×2.0×2.0 mm Rel. SNR: 1.00 USER: VASO_109

Properties			I DAT mada	CDADDA
Pilo Recon Diff Ref. Inse PE 24 Accel factor 3D 1 1 1 1 1 1 1 1 1			PAT mode Accel, factor PF	GRAPPA 2
Before measurement After measurement After measurement After measurement Coad to viewer On Infine movie Off Auto store images On Off Coad to store images On Off Coad to store images Off O		Off		
After measurement Load to viewer On Inline movie Off Auto store images Load to stamp segments Off Reference scan mode Separate Off Reference scan mode Off Off Reference scan mode Off				
Inline movie			Ref. lines 3D	8
Auto store images			Reference scan mode	Separate
Load to stamp segments			Dragge Name ding	
Load images to graphic segments Auto open inline display Off Amming Off				- · · ·
Segments				
Auto Open inline display Start measurement without further preparation Wait for user to start Start measurements Single Series Ascending		Oli	•	
Start measurement without further preparation Wait for user to start Start measurements Single Series Ascending Series Series Ascending Series		Off	Halling	Oli
Further preparation Wait for user to start Sart measurements Single Series Ascending				
Wait for user to start Off Series Ascending			Multi-slice mode	
Statr measurements		Off	Series	Ascending
Side group 1		single	Special sat.	Parallel F
Slab group 1	Douting	ŭ		
Salab				
Dist factor		4		
Position				
Orientation T > C-10.5 Phase enc. dir. P >> A Rotation 180.00 deg Phase oversampling 0.0 % Slice oversampling 0.0 % Slice sper slab 10 FoV read 192.0 mm FoV phase 100.0 % Slice thickness 2.00 mm TR 517.10 ms TE 22 ms Averages 1 Concatenations 1 Filter None Coil elements A32 Contrast A32 Contrast A32 Ferfusion mode Picore Q2TIPS T12 100 ms T13 50 ms Flip angle 12 deg Fat suppr. Fat sat. Fat suppr. Fat sat. Fat sat. mode Weak Averaging mode Long term Averaging mode Long term Reconstruction Magnitude Measurements 389 Delay in TR				
Phase enc. dir.			inline Composing	OII
Rotation			System	
Phase oversampling			V32	Off
Slice oversampling		•	A32	On
Silices per slab 10 192.0 mm FoV phase 190.0 % 2.00 mm 50 km/s 2.00 mm 50 km/s 50 km			Positioning mode	EIV
FoV read				
FoV phase 100.0 % Coronal A >> P				
Silice thickness 2.00 mm Transversal F >> H Transversal Texauton Transversal Texauton Transversal Texauton Tex	FoV phase	100.0 %		
TR		2.00 mm		
TE				
Averages 1		22 ms		
Auto Coil Select Default		1		
Filter		1		Default
Adjust with body coil Off			China manda	Ctandord
Perfusion mode	Coil elements	A32		
Perfusion mode	Contrast			
Ti2	Perfusion mode	Picore Q2TIPS		
T11		100 ms		
Tils				
Filip angle				
Fat sat. mode		· ·		R2.4 A21.2 H18.4
Reconstruction			! Orientation	S > T0.7 > C0.1
Reconstruction Magnitude	Fat sat. mode	Weak	! Rotation	9.92 deg
ReconstructionMagnitude! A >> P192 mmMeasurements389! R >> L163 mmDelay in TR0 msPhysioMultiple seriesOff1st Signal/ModeNonePerfusion modePICORE Q2TBOLDInversion time 150 msBOLDSaturation stop time50 msMotion correctionOffInversion time 2100.0 msSpatial filterOffFlow limit100.0 cm/sSequenceResolutionIntroductionOn DimensionOn DimensionBase resolution96ReorderingLinearPhase resolution100 %ReorderingLinearSlice resolution100 %Bandwidth2084 Hz/PxPhase partial FourierOffFree echo spacingOffSlice partial FourierOffEcho spacing0.57 ms	Averaging mode	Long term		
Measurements389! R >> L163 mmDelay in TR0 msPhysioMultiple seriesOff1st Signal/ModeNonePerfusion modePICORE Q2TBOLDInversion time 150 msMotion correctionOffSaturation stop time50 msSpatial filterOffInversion time 2100.0 msSequenceFlow limit100.0 cm/sSequenceResolutionIntroductionOn DimensionOn DimensionBase resolution96ReorderingLinearPhase resolution100 %ReorderingLinearSlice resolution100 %Bandwidth2084 Hz/PxPhase partial FourierOffFree echo spacingOffSlice partial FourierOffEcho spacing0.57 ms				
Multiple series Off Perfusion mode PICORE Q2T Inversion time 1 Saturation stop time Inversion time 2 Flow limit Base resolution Phase resolution Slice resolution Phase partial Fourier Slice partial Fourier Interpolation Off 1st Signal/Mode None Motion correction Spatial filter Off Spatial filter Off Spatial filter Off Sequence Introduction Dimension Reordering Contrasts 1 Bandwidth 2084 Hz/Px Free echo spacing Cot7 ms	Measurements		! R >> L	163 mm
Multiple series Off Perfusion mode Inversion time 1 Saturation stop time Inversion time 2 Flow limit Resolution Base resolution Phase resolution Slice resolution Phase partial Fourier Slice partial Fourier Interpolation Off 1st Signal/Mode None BOLD Motion correction Spatial filter Off Spatial filter Off Spatial filter Off Spatial filter Off Sequence Introduction Dimension Reordering Contrasts 1 Bandwidth 2084 Hz/Px Free echo spacing Off Echo spacing Off Sister space Off Slice partial Fourier Off Spatial Filter	Delay in TR	0 ms	Physio	
Perfusion mode	Multiple series	Off		None
Inversion time 1 50 ms Saturation stop time 50 ms Inversion time 2 100.0 ms Flow limit 100.0 cm/s Resolution Base resolution 96 Phase resolution 100 % Slice resolution 100 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off Sequence Introduction On Dimension 3D Reordering Linear Contrasts 1 Bandwidth 2084 Hz/Px Free echo spacing Off Echo spacing 0.57 ms	Parfusion mode	PICORE OOT		
Saturation stop time 50 ms Spatial filter Off Inversion time 2 100.0 ms Flow limit 100.0 cm/s Resolution Base resolution 96 Phase resolution 100 % Slice resolution 100 % Phase partial Fourier Slice partial Fourier Off Slice partial Fourier Off Interpolation Off Sequence Introduction On Dimension 3D Reordering Linear Contrasts 1 Bandwidth 2084 Hz/Px Free echo spacing Off Echo spacing 0.57 ms				0"
Inversion time 2 100.0 ms Flow limit 100.0 cm/s Resolution Base resolution 96 Phase resolution 100 % Slice resolution 100 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off Slice resolution Off Slice partial Fourier Off Echo spacing 0.57 ms				
Flow limit 100.0 cm/s Resolution Base resolution 96 Phase resolution 100 % Slice resolution 100 % Phase partial Fourier Off Slice partial Fourier Off Introduction On Dimension 3D Reordering Linear Contrasts 1 Bandwidth 2084 Hz/Px Free echo spacing Off Echo spacing 0.57 ms	•		Spatial filter	OII
Resolution Base resolution 96 Phase resolution 100 % Slice resolution 100 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off Introduction On Dimension 3D Reordering Linear Contrasts 1 Bandwidth 2084 Hz/Px Free echo spacing Off Echo spacing 0.57 ms			Sequence	
Base resolution 96 Phase resolution 100 % Slice resolution 100 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off Slice partial Fourier Off		- 2111		On
Phase resolution 100 % Contrasts 1 Slice resolution 100 % Bandwidth 2084 Hz/Px Phase partial Fourier Off Free echo spacing Off Slice partial Fourier Off Echo spacing 0.57 ms Interpolation Off		00	_ Dimension	3D
Slice resolution 100 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off Slice resolution 100 % Bandwidth 2084 Hz/Px Free echo spacing Off Echo spacing 0.57 ms			•	Linear
Phase partial Fourier Off Free echo spacing Off Slice partial Fourier Off Echo spacing 0.57 ms Interpolation Off				-
Slice partial Fourier Off Echo spacing 0.57 ms Interpolation Off				
Interpolation Off				
	- I		Echo spacing	0.57 ms
	······		EPI factor	96

RF pulse type Gradient mode Excitation RF spoiling	Normal Normal Slab-sel. On
Ampl BWDTH thickness use Ernst angle Maxwell Correction log physio files FFT scale dummy prepscan time z shim RF duration RF BWTP EFFECTIVE TR PatPartitions EPI phase correction PAT refscan mode FlashRef BaseRes FlashRef BW FlashRef TE FlashRef FA use CAIPI	0 150 3.1kHz 30 Off Off Off 4.00 3 s 0.00 mT/m*ms 5120 us 25.0 5171 ms 10 local Flash 96 1000 Hz/px 4800 us 5 deg Off

\\USER\UserProtocols\Handwerker\VASO_VALSALVA\3DVASO_GRAPPA2_PF68_two_hemispheres_10Slice
TA: 9:47 PAT: 2 Voxel size: 0.8×0.8×1.8 mm Rel. SNR: 1.00 USER: VASO_109

		PAT mode	GRAPPA
Properties		Accel. factor PE	2
Prio Recon	Off	Ref. lines PE	24
Before measurement		Accel. factor 3D	2 4 1
After measurement		Ref. lines 3D	•
Load to viewer	On		8 Separate
Inline movie	Off	Reference scan mode	Separate
Auto store images	On	Prescan Normalize	Off
Load to stamp segments	Off	Raw filter	Off
Load images to graphic	Off	Elliptical filter	Off
segments		Hamming	Off
Auto open inline display	Off	1	J.,
Start measurement without	On	Geometry	
further preparation		Multi-slice mode	Interleaved
Wait for user to start	Off	Series	Ascending
Start measurements	single	Chariel aut	Dorollol C
Start measurements	Sirigle	Special sat.	Parallel F
Routine		Gap	25.0 mm
Slab group 1		Thickness	100 mm
Slabs	1	Table position	Н
Dist. factor	50 %	Table position	0 mm
Position	L35.8 A12.8 H29.8	Inline Composing	Off
Orientation	T > S-28.6 > C0.3	I mine composing	Oil
Phase enc. dir.	R >> L	System	
Rotation	120.00 deg	V32	Off
Phase oversampling	0 %	A32	On
Slice oversampling	0.0 %		
		Positioning mode	FIX
Slices per slab	10	MSMA	S - C - T
FoV read	34.4 mm	Sagittal	R >> L
FoV phase	300.0 %	Coronal	A >> P
Slice thickness	1.80 mm	Transversal	F >> H
TR	1510.00 ms	Save uncombined	Off
TE	24 ms	Coil Combine Mode	Sum of Squares
Averages	1	AutoAlign	
Concatenations	1	Auto Coil Select	Default
Filter	None		
Coil elements	A32	Shim mode	Standard
Contract		Adjust with body coil	Off
Contrast	Disease OOTIDO	Confirm freq. adjustment	Off
Perfusion mode	Picore Q2TIPS	Assume Silicone	Off
TI2	750 ms	! Ref. amplitude 1H	220.000 V
TI1	50 ms	Adjustment Tolerance	Auto
TI1s	50 ms	Adjust volume	
Flip angle	27 deg	! Position	L0.0 A16.2 H23.9
Fat suppr.	Fat sat.	! Orientation	T > C-8.7
Fat sat. mode	Strong	! Rotation	-180.00 deg
		! R >> L	177 mm
Averaging mode	Long term	! A >> P	177 mm
Reconstruction	Magn./Phase	! F >> H	54 mm
Measurements	389	'Г <i>>></i> П	5 4 IIIIII
Delay in TR	0 ms	Physio	
Multiple series	Off	1st Signal/Mode	None
Perfusion mode	PICORE Q2T	1	
		BOLD	
Inversion time 1	50 ms	Motion correction	Off
Saturation stop time	50 ms	Spatial filter	Off
Inversion time 2	750.0 ms	Soguence	
Flow limit	100.0 cm/s	Sequence	On.
Resolution		Introduction	On 3D
Base resolution	44	Dimension	3D
Phase resolution	100 %	Reordering	Linear
Slice resolution	100 %	Contrasts	1
	6/8	Bandwidth	1042 Hz/Px
Phase partial Fourier		Free echo spacing	Off
Slice partial Fourier	Off	Echo spacing	1.08 ms
Interpolation	Off	EPI factor	132
1		EFITACIOI	102

RF pulse type Gradient mode Excitation RF spoiling	Normal Normal Slab-sel. On
Ampl BWDTH thickness use Ernst angle Maxwell Correction log physio files FFT scale dummy prepscan time z shim RF duration RF BWTP EFFECTIVE TR PatPartitions EPI phase correction PAT refscan mode FlashRef BaseRes FlashRef BW FlashRef TE FlashRef FA use CAIPI	115 150 3.1kHz 30 Off Off Off Off 1.00 3 s 0.00 mT/m*ms 2560 us 25.0 15100 ms 10 local Flash 44 1000 Hz/px 4800 us 5 deg Off

\\USER\UserProtocols\Handwerker\VASO_VALSALVA\BOLD_matched_to_VASO_3DEPI

TA: 1:05 PAT: 3 Voxel size: 1.7×1.7×1.7 mm Rel. SNR: 1.00 UNKNOWN:			
		l Prescan Normalize	Off
Properties		Raw filter	On
Prio Recon	Off	Elliptical filter	Off
Before measurement		Hamming	Off
After measurement		1	
Load to viewer	On O"	Geometry	
Inline movie	Off	Multi-slice mode	Interleaved
Auto store images	On O#	Series	Ascending
Load to stamp segments	Off	Special sat.	None
Load images to graphic	Off		
segments	0#	Table position	H
Auto open inline display	Off On	Table position	0 mm
Start measurement without	On	Inline Composing	Off
further preparation Wait for user to start	Off	System	
Start measurements		V32	Off
Start measurements	single	A32	On
Routine			
Slab group 1		Positioning mode	FIX
Slabs	1	MSMA	S-C-T
Dist. factor	50 %	Sagittal	R >> L
Position	R5.1 A18.3 H36.0	Coronal	A >> P
Orientation	Transversal	Transversal	F >> H
Phase enc. dir.	P >> A	Save uncombined	On
Rotation	180.00 deg	Coil Combine Mode	Sum of Squares
Phase oversampling	0 %	AutoAlign	
Slice oversampling	0.0 %	Auto Coil Select	Default
Slices per slab	12	Shim mode	Standard
FoV read	170 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	1.70 mm	Assume Silicone	Off
TR	100 ms	! Ref. amplitude 1H	220.000 V
TE 1	19 ms	Adjustment Tolerance	Auto
TE 2	46 ms	Adjust volume	71010
TE 3	73 ms	! Position	R24.3 A10.1 H20.1
Averages	1	! Orientation	S > T0.5
Concatenations	1	! Rotation	-0.26 deg
Filter	None	! F >> H	68 mm
Coil elements	A32	! A >> P	64 mm
Contrast		! R >> L	84 mm
MTC	Off		
Flip angle	14 deg	Physio	
Fat suppr.	Fat sat.	1st Signal/Mode	None
		······ BOLD	
Averaging mode	Long term	Motion correction	Off
Reconstruction	Magn./Phase	Spatial filter	Off
Measurements	50	· ·	
Delay in TR	0 ms	Sequence	~
Multiple series	Off	Introduction	Off
Resolution		Dimension	3D
Base resolution	100	Reordering	Linear
Phase resolution	100 %	Contrasts	3
Slice resolution	100 %	Bandwidth	1666 Hz/Px
Phase partial Fourier	Off	Free echo spacing	Off
Slice partial Fourier	Off	Echo spacing	0.76 ms
Interpolation	Off	EPI factor	100
		RF pulse type	Normal
PAT mode	GRAPPA	Gradient mode	Fast
Accel. factor PE	3	Excitation	Slab-sel.
Ref. lines PE	36	RF spoiling	On
Accel. factor 3D	1		
Ref. lines 3D	8	delay 1st & 2nd echo	0 ms
Reference scan mode	Separate	delay later echoes	0 ms
Distortion Corr		echo combination	none (separate)
Distortion Corr.	Off	use Ernst angle	Off

Off Maxwell Correction log physio files Off FFT scale 4.00 z shim 0.00 mT/m*ms RF duration 5120 us **RF BWTP** 25.0 EFFECTIVE TR 1200 ms PatPartitions 12 EPI phase correction local PAT refscan mode Flash FlashRef BaseRes 100 1000 Hz/px FlashRef BW FlashRef TE 4800 us FlashRef FA 5 deg use CAIPI Off

3 s

dummy prepscan time