

# SIEMENS MAGNETOM Avanto syngo MR B17

TA: 0:49	\\USER\Ellingson\Clinical_Trials\ERSIAS\AAScout	Voxel size: 3.3x2.5x2.5 mm	Rel. SNR: 1.00	SIEMENS: AAScout
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### Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	Off
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	single

### Routine

Slab group 1	
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	128
FoV read	320 mm
FoV phase	100.0 %
Slice thickness	2.5 mm
TR	2.6 ms
TE	1.23 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	BC

### Contrast

Fat suppr.	None
Water suppr.	None
-----	
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	2
Pause after meas. 1	0.0 s
Multiple series	Off

### Resolution

Base resolution	128
Phase resolution	75 %
Slice resolution	75 %
Phase partial Fourier	Off
Slice partial Fourier	Off
-----	
Matrix Coil Mode	Auto (CP)
-----	
Prescan Normalize	Off
Normalize	Off

### Geometry

Multi-slice mode	Sequential
Series	Ascending
-----	
Special sat.	None
-----	
Set-n-Go Protocol	Off
Table position	H
Table position	0 mm

### Inline Composing

Off

### System

Body	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
BO1	Off
BO2	Off
-----	
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
Auto Coil Select	Default
-----	
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm

### Inline

### Sequence

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Bandwidth	1090 Hz/Px
-----	
Segments	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Non-sel.
RF spoiling	On

# SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\Ellingson\Clinical\_Trials\ERSIAS\trufi\_loc\_multi\_iPAT

TA: 4.6 s    PAT: 2    Voxel size: 1.8x1.2x6.0 mm    Rel. SNR: 1.00    SIEMENS: CV

## Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	On
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

## Routine

Slice group 1	
Slices	3
Dist. factor	300 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Auto	Off
Slice group 2	
Slices	3
Dist. factor	300 %
Position	R8.5 A6.8 H99.6
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Auto	Off
Slice group 3	
Slices	3
Dist. factor	300 %
Position	R8.5 A18.5 H0.3
Orientation	Coronal
Phase enc. dir.	R >> L
Rotation	0.00 deg
Auto	Off
Phase oversampling	0 %
FoV read	450 mm
FoV phase	100.0 %
Slice thickness	6.0 mm
TR	506.24 ms
TE	1.48 ms
Averages	1
Concatenations	9
Filter	Distortion Corr.(2D)
Coil elements	HE1-4;NE1,2;SP1,2

## Contrast

TD	0 ms
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	None
Restore magn.	On
-----	
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

## Resolution

Base resolution	384
Phase resolution	66 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off
-----	
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Integrated
-----	
Image Filter	Off
Distortion Corr. Mode	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off
POCS	Off

## Geometry

Multi-slice mode	Sequential
Series	Descending
-----	
Special sat.	None
-----	
Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

## System

Body	Off
NE2	On
NE1	On
HE2	On
HE4	On
HE1	On
HE3	On
SP4	Off
SP2	On
SP8	Off
SP6	Off
SP3	Off
SP1	On
SP7	Off
SP5	Off
-----	
Positioning mode	ISO
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
-----	
Shim mode	Tune up
Adjust with body coil	On
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto

# SIEMENS MAGNETOM Avanto syngo MR B17

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

## Physio

1st Signal/Mode	None
Segments	139
-----	
Tagging	None
Dark blood	Off
Cine	Off
Inline ventricular function	Off
-----	
Resp. control	Off

## Inline

Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
-----	

## Sequence

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Allowed
Bandwidth	1184 Hz/Px
Optimization	Min. TE
Echo spacing	3.4 ms
Sequence type	Trufi
-----	
Define	Shots
Shots per slice	1
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
Flip angle mode	Constant

# SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\Ellingson\Clinical\_Trials\ERSIAS\ep2d\_diff\_3scan\_trace

TA: 1:45    PAT: 2    Voxel size: 1.8x1.8x3.0 mm    Rel. SNR: 1.00    SIEMENS: ep2d\_diff

### Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

### Routine

Slice group 1	
Slices	50
Dist. factor	0 %
Position	L0.0 A33.0 H29.7
Orientation	T > C-4.4
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	230 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	6100 ms
TE	75 ms
Averages	2
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize
Coil elements	HE1-4

### Contrast

MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
-----	
Averaging mode	Long term
Reconstruction	Magnitude
Delay in TR	0 ms

### Resolution

Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
-----	
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	32
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Separate
-----	
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Raw filter	On
Intensity	Weak
Slope	25
Elliptical filter	Off
Hamming	Off

### Geometry

Multi-slice mode	Interleaved
Series	Interleaved
-----	
Special sat.	None
-----	
Set-n-Go Protocol	Off
Table position	H
Table position	30 mm
Inline Composing	Off

### System

Body	Off
HE2	On
HE4	On
HE1	On
HE3	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
-----	
Positioning mode	ISO
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
-----	
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L0.0 A33.0 H29.7
Orientation	T > C-4.4
Rotation	0.00 deg
R >> L	230 mm
A >> P	230 mm
F >> H	150 mm

### Physio

1st Signal/Mode	None
-----	
Resp. control	Off

### Diff

Diffusion mode	3-Scan Trace
Diff. weightings	3
b-value 1	0 s/mm <sup>2</sup>
b-value 2	500 s/mm <sup>2</sup>
b-value 3	1000 s/mm <sup>2</sup>
Diff. weighted images	Off
Trace weighted images	On
Average ADC maps	On
Individual ADC maps	Off
FA maps	Off
Mosaic	Off
Tensor	Off

# SIEMENS MAGNETOM Avanto syngo MR B17

Noise level	40
Diff. directions	3

---

## Sequence

Introduction	On
Bandwidth	1502 Hz/Px
Free echo spacing	Off
Echo spacing	0.75 ms

---

EPI factor	128
RF pulse type	Normal
Gradient mode	Fast*

SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\Ellingson\Clinical\_Trials\ERSIAS\dti\_30dir

TA: 3:46 PAT: 2 Voxel size: 1.8x1.8x3.0 mm Rel. SNR: 1.00 SIEMENS: ep2d\_diff

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

Routine

Slice group 1	
Slices	50
Dist. factor	0 %
Position	L0.0 A33.0 H29.7
Orientation	T > C-4.4
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	230 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	6600 ms
TE	86 ms
Averages	1
Concatenations	1
Filter	Raw filter, Prescan Normalize
Coil elements	HE1-4

Contrast

MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Averaging mode	Long term
Reconstruction	Magnitude
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	32
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Separate
Distortion Corr.	Off
Prescan Normalize	On
Raw filter	On
Intensity	Weak
Slope	25
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
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Series Interleaved

Special sat.	None
Set-n-Go Protocol	Off
Table position	H
Table position	30 mm
Inline Composing	Off

System

Body	Off
HE2	On
HE4	On
HE1	On
HE3	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off

Positioning mode	ISO
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L0.0 A33.0 H29.7
Orientation	T > C-4.4
Rotation	0.00 deg
R >> L	230 mm
A >> P	230 mm
F >> H	150 mm

Physio

1st Signal/Mode	None
Resp. control	Off

Diff

Diffusion mode	MDDW
Diff. weightings	2
b-value 1	0 s/mm <sup>2</sup>
b-value 2	1000 s/mm <sup>2</sup>
Diff. weighted images	On
Trace weighted images	On
Average ADC maps	On
Individual ADC maps	Off
FA maps	On
Mosaic	On
Tensor	On
Noise level	40
Diff. directions	30

# SIEMENS MAGNETOM Avanto syngo MR B17

## Sequence

Introduction	On
Bandwidth	1502 Hz/Px
Free echo spacing	Off
Echo spacing	0.75 ms
-----	
EPI factor	128
RF pulse type	Normal
Gradient mode	Fast*

# SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\Ellingson\Clinical\_Trials\ERSIAS\axial\_t2\_tse\_dualecho\_T2Map

TA: 3:44    PAT: 2    Voxel size: 0.9x0.9x3.0 mm    Rel. SNR: 1.00    SIEMENS: tse

## Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

## Routine

Slice group 1	
Slices	50
Dist. factor	0 %
Position	R0.6 A21.3 F0.9
Orientation	Transversal
Phase enc. dir.	R >> L
Rotation	90.00 deg
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	6180 ms
TE 1	95 ms
TE 2	272 ms
Averages	1
Concatenations	3
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	HE1-4

## Contrast

TD	0.0 ms
MTC	Off
Magn. preparation	None
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
-----	
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

## Resolution

Base resolution	256
Phase resolution	100 %
Phase partial Fourier	Allowed
Trajectory	Cartesian
Interpolation	Off
-----	
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	30
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Integrated
-----	
Image Filter	Off
Distortion Corr.	On

Mode	2D
Unfiltered images	Off
Unfiltered images	Off
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane

## Geometry

Multi-slice mode	Interleaved
Series	Interleaved
-----	
Special sat.	None
-----	
Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off
-----	
Tim CT mode	Off

## System

Body	Off
HE2	On
HE4	On
HE1	On
HE3	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
-----	
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
-----	
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	R0.6 A21.3 F0.9
Orientation	Transversal
Rotation	90.00 deg
A >> P	240 mm
R >> L	240 mm
F >> H	150 mm

## Physio

1st Signal/Mode	None
-----	
Dark blood	Off
-----	
Resp. control	Off



# SIEMENS MAGNETOM Avanto syngo MR B17

## Inline

Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

---

## Sequence

Introduction	On
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	2
Bandwidth	130 Hz/Px
Flow comp.	No
Allowed delay	10 s
Echo spacing	13.6 ms

---

Define	Turbo factor
Turbo factor	13
Echo trains per slice	11
RF pulse type	Low SAR
Gradient mode	Normal

# SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\Ellingson\Clinical\_Trials\ERSIAS\axial\_gre\_hemo

TA: 2:19    PAT: Off    Voxel size: 1.1x0.9x5.0 mm    Rel. SNR: 1.00    SIEMENS: gre

## Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

## Routine

Slice group 1	
Slices	25
Dist. factor	20 %
Position	L0.0 A33.0 H29.7
Orientation	T > C-4.4
Phase enc. dir.	R >> L
Rotation	90.00 deg
Phase oversampling	0 %
FoV read	220 mm
FoV phase	81.3 %
Slice thickness	5.0 mm
TR	888 ms
TE	20.00 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	HE1-4

## Contrast

MTC	Off
Magn. preparation	None
Flip angle	30 deg
Fat suppr.	None
Water suppr.	None
SWI	Off
-----	
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

## Resolution

Base resolution	256
Phase resolution	75 %
Phase partial Fourier	Off
Interpolation	Off
-----	
PAT mode	None
Matrix Coil Mode	Auto (CP)
-----	
Image Filter	Off
Distortion Corr. Mode	On
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

## Geometry

Multi-slice mode	Interleaved
Series	Interleaved
-----	
Saturation mode	Standard
Special sat.	None
-----	
Set-n-Go Protocol	Off
Table position	H
Table position	30 mm
Inline Composing	Off
-----	
Tim CT mode	Off

## System

Body	Off
HE2	On
HE4	On
HE1	On
HE3	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
-----	
Positioning mode	ISO
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
-----	
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm

## Physio

1st Signal/Mode	None
Segments	1
-----	
Tagging	None
Dark blood	Off
-----	
Resp. control	Off

## Inline

Subtract	Off
Liver registration	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off

# SIEMENS MAGNETOM Avanto syngo MR B17

Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
-----	
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
-----	

## Sequence

Introduction	Off
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Bandwidth	260 Hz/Px
Flow comp.	Slice/Read
-----	
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On

# SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\Ellingson\Clinical\_Trials\ERSIAS\gre\_12echoes\_T2starMap

TA: 4:14    PAT: 2    Voxel size: 1.3x1.3x3.0 mm    Rel. SNR: 1.00    SIEMENS: gre

## Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

## Routine

Slice group 1	
Slices	50
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	500 ms
TE 1	4.00 ms
TE 2	7.98 ms
TE 3	11.96 ms
TE 4	15.94 ms
TE 5	19.92 ms
TE 6	23.90 ms
TE 7	27.88 ms
TE 8	31.86 ms
TE 9	35.84 ms
TE 10	39.82 ms
TE 11	43.80 ms
TE 12	47.78 ms
Averages	1
Concatenations	6
Filter	None
Coil elements	HE1-4

## Contrast

TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	25 deg
Fat suppr.	None
Water suppr.	None
SWI	Off
-----	
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

## Resolution

Base resolution	192
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Integrated

-----	
Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

## Geometry

Multi-slice mode	Interleaved
Series	Interleaved
-----	
Saturation mode	Standard
Special sat.	None
-----	
Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off
-----	
Tim CT mode	Off

## System

Body	Off
HE2	On
HE4	On
HE1	On
HE3	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
-----	
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
-----	
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm

## Physio

# SIEMENS MAGNETOM Avanto syngo MR B17

1st Signal/Mode	None
Segments	1
-----	
Tagging	None
Dark blood	Off
-----	
Resp. control	Off

## Inline

Subtract	Off
Liver registration	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
-----	
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

## Sequence

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	12
Bandwidth 1	260 Hz/Px
Bandwidth 2	260 Hz/Px
Bandwidth 3	260 Hz/Px
Bandwidth 4	260 Hz/Px
Bandwidth 5	260 Hz/Px
Bandwidth 6	260 Hz/Px
Bandwidth 7	260 Hz/Px
Bandwidth 8	260 Hz/Px
Bandwidth 9	260 Hz/Px
Bandwidth 10	260 Hz/Px
Bandwidth 11	260 Hz/Px
Bandwidth 12	260 Hz/Px
Flow comp. 1	No
Flow comp. 2	No
Flow comp. 3	No
Flow comp. 4	No
Flow comp. 5	No
Flow comp. 6	No
Flow comp. 7	No
Flow comp. 8	No
Flow comp. 9	No
Flow comp. 10	No
Flow comp. 11	No
Flow comp. 12	No
Readout mode	Bipolar
-----	
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On

# SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\ellingson\Clinical\_Trials\ERSIAS\axial\_flair

TA: 3:50    PAT: Off    Voxel size: 1.0x0.7x3.0 mm    Rel. SNR: 1.00    SIEMENS: tse

### Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

### Routine

Slice group 1	
Slices	50
Dist. factor	0 %
Position	L0.0 A33.0 H29.7
Orientation	T > C-4.4
Phase enc. dir.	R >> L
Rotation	90.00 deg
Phase oversampling	0 %
FoV read	220 mm
FoV phase	83.8 %
Slice thickness	3.0 mm
TR	7200 ms
TE	82 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Elliptical filter
Coil elements	HE1-4

### Contrast

TD	0.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	2400 ms
Freeze suppressed tissue	Off
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
-----	
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

### Resolution

Base resolution	320
Phase resolution	70 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off
-----	
PAT mode	None
Matrix Coil Mode	Auto (CP)
-----	
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane

### Geometry

Multi-slice mode	Interleaved
Series	Interleaved
-----	
Special sat.	None
-----	
Set-n-Go Protocol	Off
Table position	H
Table position	30 mm
Inline Composing	Off
-----	
Tim CT mode	Off

### System

Body	Off
HE2	On
HE4	On
HE1	On
HE3	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
-----	
Positioning mode	ISO
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
-----	
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L0.0 A33.0 H29.7
Orientation	T > C-4.4
Rotation	90.00 deg
A >> P	220 mm
R >> L	185 mm
F >> H	150 mm

### Physio

1st Signal/Mode	None
-----	
Dark blood	Off
-----	
Resp. control	Off

### Inline

Subtract	Off
----------	-----

# SIEMENS MAGNETOM Avanto syngo MR B17

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

---

## Sequence

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Bandwidth	130 Hz/Px
Flow comp.	No
Allowed delay	0 s
Echo spacing	11.7 ms

---

Define	Turbo factor
Turbo factor	13
Echo trains per slice	15
RF pulse type	Normal
Gradient mode	Fast

# SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\Ellingson\Clinical\_Trials\ERSIAS\pgrs3d\_pcasl\_PHC\_2000ms

TA: 3:34    PAT: 2    Voxel size: 3.4x3.4x5.0 mm    Rel. SNR: 1.00    USER: pgrs3d\_pcasl\_PHC\_iPAT

### Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

### Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	7.7 %
Slices per slab	26
FoV read	220 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	3500 ms
TE	22.58 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HE2,4

### Contrast

Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
-----	
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	30
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s

Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Multiple series	Off

### Resolution

Base resolution	64
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	4/8
Interpolation	Off
-----	
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Accel. factor 3D	1
Ref. lines 3D	15
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Separate
-----	
Raw filter	Off

### Geometry

Series	Interleaved
-----	
Sat. region 1	
Thickness	130 mm
Position	Isocenter
Orientation	Transversal
Special sat.	None
-----	
Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

### System

Body	Off
HE2	On
HE4	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
-----	
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
-----	
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off



# SIEMENS MAGNETOM Avanto syngo MR B17

Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	220 mm
A >> P	220 mm
F >> H	130 mm

## Physio

1st Signal/Mode	None
-----------------	------

## Composing

## Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	2004 Hz/Px
Echo spacing	0.6 ms
-----	
Turbo factor	15
EPI factor	31
RF pulse type	Normal
Gradient mode	Fast
-----	
Label plane offset	90 mm
Background Suppr.	On
Suppress arteries	0 s/mm2
Start of time series	2000 ms
Increment time series	100 ms
Length of time series	1 ms
Use adaptive TR	Off
Number of echoes	1
Additional Echo Time	0
Pre sat	On
RF gap	360 usec
RF blocks	80
BS parameter[1]	800 ms
BS parameter[2]	5 ms
BS parameter[3]	0 ms

# SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\Ellingson\Clinical\_Trials\ERSIAS\pgrs3d\_pcasl\_PHC\_M0

TA: 0:15    PAT: 2    Voxel size: 3.4x3.4x5.0 mm    Rel. SNR: 1.00    USER: pgrs3d\_pcasl\_PHC\_iPAT

## Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

## Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	7.7 %
Slices per slab	26
FoV read	220 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	5000 ms
TE	22.58 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HE2,4

## Contrast

Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
-----	
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

## Resolution

Base resolution	64
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	4/8
Interpolation	Off
-----	
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Accel. factor 3D	1
Ref. lines 3D	15
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Separate
-----	
Raw filter	Off

## Geometry

Series	Interleaved
--------	-------------

## Sat. region 1

Thickness	130 mm
Position	Isocenter
Orientation	Transversal
Special sat.	None

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

## System

Body	Off
HE2	On
HE4	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off

Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	220 mm
A >> P	220 mm
F >> H	130 mm

## Physio

1st Signal/Mode	None
-----------------	------

## Composing

## Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	2004 Hz/Px
Echo spacing	0.6 ms

Turbo factor	15
EPI factor	31
RF pulse type	Normal
Gradient mode	Fast

Label plane offset	90 mm
Background Suppr.	Off

## SIEMENS MAGNETOM Avanto syngo MR B17

Suppress arteries	0 s/mm2
Start of time series	4000 ms
Increment time series	100 ms
Length of time series	1 ms
Use adaptive TR	Off
Number of echoes	1
Additional Echo Time	0
Pre sat	On
RF gap	360 usec
RF blocks	2
BS parameter[1]	800 ms
BS parameter[2]	5 ms
BS parameter[3]	0 ms

# SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\Ellingson\Clinical\_Trials\ERSIAS\t1 mprage cor pre

TA: 5:02    PAT: 2    Voxel size: 1.0x1.0x1.0 mm    Rel. SNR: 1.00    SIEMENS: tfl

## Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

## Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	R0.3 A3.9 F70.9
Orientation	Transversal
Phase enc. dir.	R >> L
Rotation	90.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	256
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	1.00 mm
TR	2100 ms
TE	2.49 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HE1-4;SP1

## Contrast

Magn. preparation	Non-sel. IR
T1	1100 ms
Flip angle	15 deg
Fat suppr.	None
Water suppr.	None
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

## Resolution

Base resolution	256
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	32
Accel. factor 3D	1
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	Off

Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

## Geometry

Multi-slice mode	Single shot
Series	Ascending
Set-n-Go Protocol	Off
Table position	F
Table position	71 mm
Inline Composing	Off

## System

Body	Off
HE2	On
HE4	On
HE1	On
HE3	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	On
SP7	Off
SP5	Off
Positioning mode	ISO
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm

## Physio

1st Signal/Mode	None
Dark blood	Off
Resp. control	Off

## Inline

Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off

# SIEMENS MAGNETOM Avanto syngo MR B17

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

---

## Sequence

Introduction	On
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Allowed
Bandwidth	180 Hz/Px
Flow comp.	No
Echo spacing	7.5 ms

---

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

SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\Ellingson\Clinical\_Trials\ERSIAS\ep2d\_perf\_CE p2

TA: 2:32 PAT: 2 Voxel size: 1.9x1.9x5.0 mm Rel. SNR: 1.00 SIEMENS: ep2d\_fid

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

Routine

Slice group 1	
Slices	18
Dist. factor	0 %
Position	L1.2 A25.9 H47.7
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	1210 ms
TE	23 ms
Averages	1
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize
Coil elements	HE1-4

Contrast

MTC	Off
Flip angle	35 deg
Fat suppr.	Fat sat.
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	120
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	128
Phase resolution	100 %
Phase partial Fourier	7/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Matrix Coil Mode	Dual
Reference scan mode	Separate
Distortion Corr. Mode	On 2D
Unfiltered images	Off
Unfiltered images	Off
Prescan Normalize	On
Raw filter	On
Intensity	Weak

Slope	25
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Interleaved
Special sat.	None
Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System

Body	Off
HE2	On
HE4	On
HE1	On
HE3	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off

Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L1.2 A25.9 H47.7
Orientation	Transversal
Rotation	0.00 deg
R >> L	240 mm
A >> P	240 mm
F >> H	90 mm

Physio

1st Signal/Mode	None
-----------------	------

Perf

GBP	On
PBP	On
TTP	On
Original images	On
Starting ignore meas	2

Sequence

Introduction	On
Bandwidth	1502 Hz/Px
Free echo spacing	Off

# SIEMENS MAGNETOM Avanto syngo MR B17

Echo spacing	0.75 ms
EPI factor	128
RF pulse type	Normal
Gradient mode	Fast*

# SIEMENS MAGNETOM Avanto syngo MR B17

\\USER\Ellingson\Clinical\_Trials\ERSIAS\t1 mprage cor post

TA: 5:02    PAT: 2    Voxel size: 1.0x1.0x1.0 mm    Rel. SNR: 1.00    SIEMENS: tfl

## Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

## Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	R0.3 A3.9 F70.9
Orientation	Transversal
Phase enc. dir.	R >> L
Rotation	90.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	256
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	1.00 mm
TR	2100 ms
TE	2.49 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HE1-4;SP1

## Contrast

Magn. preparation	Non-sel. IR
T1	1100 ms
Flip angle	15 deg
Fat suppr.	None
Water suppr.	None
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

## Resolution

Base resolution	256
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	32
Accel. factor 3D	1
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	Off

Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

## Geometry

Multi-slice mode	Single shot
Series	Ascending
Set-n-Go Protocol	Off
Table position	F
Table position	71 mm
Inline Composing	Off

## System

Body	Off
HE2	On
HE4	On
HE1	On
HE3	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	On
SP7	Off
SP5	Off
Positioning mode	ISO
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm

## Physio

1st Signal/Mode	None
Dark blood	Off
Resp. control	Off

## Inline

Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off



# SIEMENS MAGNETOM Avanto syngo MR B17

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

---

## Sequence

Introduction	On
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Allowed
Bandwidth	180 Hz/Px
Flow comp.	No
Echo spacing	7.5 ms

---

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