

Protocol: adult\_head\_MRV BRAIN W/WO 7-26-19

3-Plane Localizer	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Spin Echo
	Coil Configuration	GEM Head	Imaging Options	Seq, EDR, TRF, Fast, SS, ARC
	Plane	3-PLANE	<b>SCAN RANGE</b>	
	Series Description	3-Plane Localizer	FOV	24.0
	<b>SCAN TIMING</b>		Slice Thickness	10.0
	TE	80.0	Slice Spacing	5.0
	Number of Echoes	1	<b>ACQ TIMING</b>	
	TR	600.0	Freq	288
	Receiver Bandwidth	83.33	Phase	128
	<b>IMAGE ENHANCE</b>		Freq DIR	Unswap
	Filter Choice	None	# of Acq. Before Pause	0
	<b>GATING/TRIGGER</b>		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Auto
	<b>FMRI</b>		Phase Correction	No
	PSD Trigger	Internal	<b>USER CVS</b>	
	View Order	Bottom/Up	User CV1	1.00
	# of Repetitions REST	0	<b>MULTI-PHASE</b>	
	# of Repetitions ACTIVE	0	Seperate Series	0
	<b>SAT</b>		Mask Phase	0
	Tag Type	None	Mask Pause	0
	<b>TRICKS</b>		<b>DIFFUSION</b>	
	Pause On/Off	On	Recon All Images	On
	Auto Subtract	0	<b>CONTRAST</b>	
Auto SCIC	Off	Contrast Yes/No	No	

3-Plane Localizer

Protocol: adult\_head\_MRV BRAIN W/WO 7-26-19

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	3D
Patient Position	Supine	Pulse Sequence	SPGR
Coil Configuration	GEM Head	Imaging Options	EDR, Fast, ZIP512, ZIP2
Plane	OBLIQUE	<b>SCAN RANGE</b>	
Series Description	AXIAL FSPGR PRE	FOV	24.0
<b>SCAN TIMING</b>		Slice Thickness	1.0
Flip Angle	20	Location per Slab	164
TE	Min Full	Overlap Locations	0
Number of Echoes	1	<b>ACQ TIMING</b>	
Receiver Bandwidth	31.25	Freq	240
<b>IMAGE ENHANCE</b>		Phase	240
Filter Choice	None	Freq DIR	A/P
<b>GATING/TRIGGER</b>		NEX	1.00
Auto Trigger Type	Off	Phase FOV	0.90
<b>FMRI</b>		Auto Shim	Auto
Initial State	Control	Phase Correction	No
PSD Trigger	Internal	<b>USER CVS</b>	
View Order	Bottom/Up	User CV23	100.00
# of Repetitions REST	0	<b>MULTI-PHASE</b>	
# of Repetitions ACTIVE	0	Seperate Series	0
<b>SAT</b>		Trigger Delay without AV	0
Tag Type	None	Mask Phase	0
<b>TRICKS</b>		Mask Pause	0
Pause On/Off	On	<b>DIFFUSION</b>	
Auto Subtract	0	Recon All Images	On
Auto SCIC	On	<b>CONTRAST</b>	
		Contrast Yes/No	Yes

AXIAL FSPGR PRE

AXIAL FSPGR PRE

Protocol: adult\_head\_MRV BRAIN W/WO 7-26-19

3D COR Phase Contrast	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>		3D COR Phase Contrast
	Patient Entry	Head First	Imaging Mode	2D	
	Patient Position	Supine	Pulse Sequence	Vasc PC	
	Coil Configuration	GEM Head	Imaging Options	FC, EDR	
	Plane	OBLIQUE	<b>SCAN RANGE</b>		
	Series Description	3D COR Phase Contrast	FOV	24.0	
	<b>SCAN TIMING</b>		Slice Thickness	50.0	
	Flip Angle	20	Slice Spacing	0.0	
	Number of Echoes	1	<b>ACQ TIMING</b>		
	TR	33.0	Freq	256	
	Receiver Bandwidth	15.63	Phase	256	
	<b>IMAGE ENHANCE</b>		Freq DIR	Unswap	
	Filter Choice	None	NEX	4.00	
	<b>GATING/TRIGGER</b>		Phase FOV	1.00	
	Auto Trigger Type	Off	Auto Shim	Auto	
	<b>MULTI-PHASE</b>		Phase Correction	No	
	Seperate Series	0	<b>FMRI</b>		
	Mask Phase	0	PSD Trigger	Internal	
	Mask Pause	0	View Order	Bottom/Up	
	<b>VASCULAR</b>		# of Repetitions REST	0	
	# of Collapse Images	On	# of Repetitions ACTIVE	0	
	Flow Analysis	All	<b>SAT</b>		
	Additional Flow Images	8	Tag Type	None	
	Flow Recon Type	Complex Diff.	<b>DIFFUSION</b>		
	Velocity Encoding	20.0	Recon All Images	On	
	<b>TRICKS</b>		<b>CONTRAST</b>		
	Pause On/Off	On	Contrast Yes/No	No	
	Auto Subtract	0			
Auto SCIC	Off				

Protocol: adult\_head\_MRV BRAIN W/WO 7-26-19

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	Vasc PC
Coil Configuration	GEM Head	Imaging Options	FC, EDR
Plane	OBLIQUE	<b>SCAN RANGE</b>	
Series Description	3D Sag Phase Contrast	FOV	24.0
<b>SCAN TIMING</b>		Slice Thickness	50.0
Flip Angle	20	Slice Spacing	0.0
Number of Echoes	1	<b>ACQ TIMING</b>	
TR	33.0	Freq	256
Receiver Bandwidth	15.63	Phase	256
<b>IMAGE ENHANCE</b>		Freq DIR	Unswap
Filter Choice	None	NEX	4.00
<b>GATING/TRIGGER</b>		Phase FOV	1.00
Auto Trigger Type	Off	Auto Shim	Auto
<b>MULTI-PHASE</b>		Phase Correction	No
Seperate Series	0	<b>FMRI</b>	
Mask Phase	0	PSD Trigger	Internal
Mask Pause	0	View Order	Bottom/Up
<b>VASCULAR</b>		# of Repetitions REST	0
# of Collapse Images	On	# of Repetitions ACTIVE	0
Flow Analysis	All	<b>SAT</b>	
Additional Flow Images	8	Tag Type	None
Flow Recon Type	Complex Diff.	<b>DIFFUSION</b>	
Velocity Encoding	20.0	Recon All Images	On
<b>TRICKS</b>		<b>CONTRAST</b>	
Pause On/Off	On	Contrast Yes/No	No
Auto Subtract	0		
Auto SCIC	Off		

3D Sag Phase Contrast

3D Sag Phase Contrast

Protocol: adult\_head\_MRV BRAIN W/WO 7-26-19

3D SAG Inhance Velocity	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>		3D SAG Inhance Velocity
	Patient Entry	Head First	Imaging Mode	3D	
	Patient Position	Supine	Pulse Sequence	Inhance Velocity	
	Coil Configuration	GEM Head	Imaging Options	ZIP2, Asset	
	Plane	SAGITTAL	<b>SCAN RANGE</b>		
	Series Description	3D SAG Inhance Velocity	FOV	24.0	
	<b>SCAN TIMING</b>		Slice Thickness	1.4	
	Flip Angle	10	<b>ACQ TIMING</b>		
	TE	Minimum	Freq	320	
	Number of Echoes	1	Phase	192	
	TR	Minimum	Freq DIR	S/I	
	Receiver Bandwidth	31.25	Phase FOV	0.90	
	<b>IMAGE ENHANCE</b>		Auto Shim	Auto	
	Filter Choice	None	Phase Correction	No	
	<b>GATING/TRIGGER</b>		<b>USER CVS</b>		
	Auto Trigger Type	Off	User CV23	80.00	
	<b>FMRI</b>		<b>MULTI-PHASE</b>		
	PSD Trigger	Internal	Seperate Series	0	
	Slice Order	Interleaved	Mask Phase	0	
	View Order	Bottom/Up	Mask Pause	0	
	# of Repetitions REST	0	<b>VASCULAR</b>		
	# of Repetitions ACTIVE	0	# of Collapse Images	On	
	<b>SAT</b>		# of Projection Images	0	
	Tag Type	None	Flow Analysis	All	
	<b>DIFUSION</b>		Additional Flow Images	8	
	Recon All Images	On	Flow Recon Type	Complex Diff.	
	<b>CONTRAST</b>		Velocity Encoding	40.0	
	Contrast Yes/No	No	<b>TRICKS</b>		
		Pause On/Off	On		
		Auto Subtract	0		
		Auto SCIC	Off		

Protocol: adult\_head\_MRV BRAIN W/WO 7-26-19

2D COR TOF SPGR	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>		2D COR TOF SPGR
	Patient Entry	Head First	Imaging Mode	2D	
	Patient Position	Supine	Pulse Sequence	Vasc TOF SPGR	
	Coil Configuration	GEM Head	Imaging Options	FC, Seq, EDR	
	Plane	OBLIQUE	<b>SCAN RANGE</b>		
	Series Description	2D COR TOF SPGR	FOV	22.0	
	<b>SCAN TIMING</b>		Slice Thickness	1.5	
	Flip Angle	50	Slice Spacing	0.0	
	TE	Minimum	<b>ACQ TIMING</b>		
	Number of Echoes	1	Freq	256	
	TR	Minimum	Phase	128	
	Receiver Bandwidth	15.63	Freq DIR	S/I	
	<b>IMAGE ENHANCE</b>		NEX	1.00	
	Filter Choice	None	# of Acq. Before Pause	0	
	<b>GATING/TRIGGER</b>		Phase FOV	0.75	
	Auto Trigger Type	Off	Auto Shim	Auto	
	<b>MULTI-PHASE</b>		Phase Correction	No	
	Seperate Series	0	<b>FMRI</b>		
	Mask Phase	0	PSD Trigger	Internal	
	Mask Pause	0	View Order	Bottom/Up	
	<b>VASCULAR</b>		# of Repetitions REST	0	
	# of Collapse Images	On	# of Repetitions ACTIVE	0	
	# of Projection Images	19	<b>SAT</b>		
	<b>TRICKS</b>		SAT Location	I	
	Pause On/Off	On	Tag Type	None	
	Auto Subtract	0	<b>DIFFUSION</b>		
	Auto SCIC	Off	Recon All Images	On	
			<b>CONTRAST</b>		
		Contrast Yes/No	No		

Protocol: adult\_head\_MRV BRAIN W/WO 7-26-19

AXIAL FSPGR POST WITH CORONAL REFORMS	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	3D
	Patient Position	Supine	Pulse Sequence	SPGR
	Coil Configuration	GEM Head	Imaging Options	EDR, Fast, ZIP512, ZIP2
	Plane	OBLIQUE	<b>SCAN RANGE</b>	
	Series Description	AXIAL FSPGR POST WITH CORONAL REFORMS	FOV	24.0
	<b>SCAN TIMING</b>		Slice Thickness	1.0
	Flip Angle	20	Location per Slab	164
	TE	Min Full	Overlap Locations	0
	Number of Echoes	1	<b>ACQ TIMING</b>	
	Receiver Bandwidth	31.25	Freq	240
	<b>IMAGE ENHANCE</b>		Phase	240
	Filter Choice	None	Freq DIR	A/P
	<b>GATING/TRIGGER</b>		NEX	1.00
	Auto Trigger Type	Off	Phase FOV	0.90
	<b>FMRI</b>		Auto Shim	Auto
	Initial State	Control	Phase Correction	No
	PSD Trigger	Internal	<b>USER CVS</b>	
	View Order	Bottom/Up	User CV23	100.00
	# of Repetitions REST	0	<b>MULTI-PHASE</b>	
	# of Repetitions ACTIVE	0	Seperate Series	0
	<b>SAT</b>		Trigger Delay without AV	0
	Tag Type	None	Mask Phase	0
	<b>TRICKS</b>		Mask Pause	0
	Pause On/Off	On	<b>DIFFUSION</b>	
	Auto Subtract	0	Recon All Images	On
	Auto SCIC	On	<b>CONTRAST</b>	
			Contrast Yes/No	Yes

AXIAL FSPGR POST WITH CORONAL REFORMS