

Protocol: adult\_spine\_spine\_generic\_20180516\_20180516174349888\_1

3P 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;GEM Spine	Imaging Options	Seq, EDR, Fast, SS, ART, ARC
	Plane	3-PLANE	<b>SCAN RANGE</b>	
	Series Description	3P Localizer	FOV	30.0
	<b>SCAN TIMING</b>		Slice Thickness	5.0
	TE	93.0	Slice Spacing	5.0
	TR	Minimum	<b>ACQ TIMING</b>	
	Receiver Bandwidth	62.50	Freq	256
	<b>IMAGE ENHANCE</b>		Phase	160
	Filter Choice	None	Freq DIR	Unswap
	<b>GATING/TRIGGER</b>		# of Acq. Before Pause	0
	Auto Trigger Type	Off	Phase FOV	1.00
	<b>FMRI</b>		Auto Shim	Auto
	PSD Trigger	Internal	Phase Correction	No
	Slice Order	Interleaved	<b>USER CVS</b>	
	View Order	Bottom/Up	User CV1	1.00
	# of Repetitions REST	0	User CV2	240.00
	# of Repetitions ACTIVE	0	User CV13	1.00
<b>SAT</b>		<b>MULTI-PHASE</b>		
Tag Type	None	Seperate Series	0	
<b>TRICKS</b>		Mask Phase	0	
Pause On/Off	On	Mask Pause	0	
Auto Subtract	0	Acoustic Reduction Level	3	
Auto SCIC	Off	<b>DIFFUSION</b>		
		Recon All Images	On	
		<b>CONTRAST</b>		
		Contrast Yes/No	No	

3P Localizer

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Cal

PATIENT POSITION	
Patient Entry	Head First
Patient Position	Supine
Coil Configuration	GEM Head;GEM Spine
Plane	AXIAL
Series Description	Cal
SCAN TIMING	
Number of Echoes	1
IMAGE ENHANCE	
Filter Choice	None
GATING/TRIGGER	
Auto Trigger Type	Off
MULTI-PHASE	
Seperate Series	0
Mask Phase	0
Mask Pause	0
Acoustic Reduction Level	3
DIFFUSION	
Recon All Images	On
CONTRAST	
Contrast Yes/No	No

IMAGING PARAMETERS	
Imaging Mode	3D
Pulse Sequence	SPGR
Imaging Options	EDR, Fast, ZIP2, Calib, ART
SCAN RANGE	
FOV	50.0
Slice Thickness	15.8
ACQ TIMING	
Freq DIR	R/L
Auto Shim	Auto
Phase Correction	No
FMRI	
PSD Trigger	Internal
Slice Order	Interleaved
View Order	Bottom/Up
# of Repetitions REST	0
# of Repetitions ACTIVE	0
SAT	
Tag Type	None
TRICKS	
Pause On/Off	On
Auto Subtract	0
Auto SCIC	Off

Cal

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T1w

PATIENT POSITION	
Patient Entry	Head First
Patient Position	Supine
Coil Configuration	GEM Head;GEM Spine
Plane	SAGITTAL
Series Description	T1w
SCAN TIMING	
Flip Angle	9
TE	Min Full
TI	1000
Receiver Bandwidth	142.86
IMAGE ENHANCE	
Filter Choice	A
GATING/TRIGGER	
Auto Trigger Type	Off
FMRI	
Initial State	Control
PSD Trigger	Internal
Slice Order	Interleaved
View Order	Bottom/Up
# of Repetitions REST	0
# of Repetitions ACTIVE	0
DIFFUSION	
Recon All Images	On
CONTRAST	
Contrast Yes/No	No

T1w

IMAGING PARAMETERS	
Imaging Mode	3D
Pulse Sequence	SPGR
Imaging Options	EDR, Fast, IrP, Asset
SCAN RANGE	
FOV	32.0
Slice Thickness	1.0
Location per Slab	192
Overlap Locations	0
ACQ TIMING	
Freq	320
Phase	256
Freq DIR	S/I
NEX	1.00
Phase FOV	0.80
Auto Shim	Auto
Phase Correction	No
USER CVS	
User CV6	1.00
User CV23	100.00
MULTI-PHASE	
Seperate Series	0
Mask Phase	0
Mask Pause	0
TRICKS	
Pause On/Off	On
Auto Subtract	0
Auto SCIC	2

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T2w	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	3D
	Patient Position	Supine	Pulse Sequence	Cube
	Coil Configuration	GEM Head;GEM Neck	Imaging Options	FC, NPW, EDR, Fast, FR, ARC
	Plane	OBLIQUE	<b>SCAN RANGE</b>	
	Series Description	T2w	FOV	25.6
	<b>SCAN TIMING</b>		Slice Thickness	0.8
	Flip Angle	90	Location per Slab	64
	TE	120.0	Overlap Locations	0
	TE2	50.0	<b>ACQ TIMING</b>	
	Number of Echoes	1	Freq	320
	TR	2500.0	Phase	320
	TI	50	Freq DIR	S/I
	Echo Train Length	78	NEX	1.00
	Receiver Bandwidth	83.33	Auto Shim	Auto
	<b>IMAGE ENHANCE</b>		Phase Correction	No
	Filter Choice	A	Flow Direction Compensation	Freq
	<b>GATING/TRIGGER</b>		<b>USER CVS</b>	
	Auto Trigger Type	Off	User CV22	2.00
	<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>DIFFUSION</b>	
	# of Repetitions ACTIVE	0	Recon All Images	On
	<b>SAT</b>		<b>CONTRAST</b>	
	Tag Type	None	Contrast Yes/No	No
	<b>TRICKS</b>			
	Pause On/Off	On		
	Auto Subtract	0		
	Auto SCIC	On		

T2w

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DWI

PATIENT POSITION	
Patient Entry	Head First
Patient Position	Supine
Coil Configuration	GEM Head;GEM Neck;GEM Spine
Plane	AXIAL
Series Description	DWI
SCAN TIMING	
TE	Minimum
TR	5000.0
Number of Shots	1
IMAGE ENHANCE	
Filter Choice	None
GATING/TRIGGER	
Auto Trigger Type	Off
FMRI	
PSD Trigger	Internal
Slice Order	Interleaved
View Order	Bottom/Up
# of Repetitions REST	0
# of Repetitions ACTIVE	0
SAT	
Tag Type	None
Fat/Water Saturation	Fat
TRICKS	
Pause On/Off	On
Auto Subtract	0
Auto SCIC	Off

IMAGING PARAMETERS	
Imaging Mode	2D
Pulse Sequence	Spin Echo
Imaging Options	EDR, EPI, DIFF
SCAN RANGE	
FOV	8.6
Slice Thickness	5.0
Slice Spacing	0.0
ACQ TIMING	
Freq	96
Phase	48
Freq DIR	R/L
Phase FOV	0.50
Auto Shim	Auto
Phase Correction	Yes
USER CVS	
User CV5	1.00
User CV17	1.00
MULTI-PHASE	
Seperate Series	0
Mask Phase	0
Mask Pause	0
DIFFUSION	
Optimized TE	Yes
Diffusion Directions	Tensor
Number of Diffusion Directions	30
Number of T2 Images	5
Dual Spin Echo	Off
Diffusion Tenser Processing Output	No Selection
Recon All Images	Off
CONTRAST	
Contrast Yes/No	No

DWI

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GRE-MT1

PATIENT POSITION	
Patient Entry	Head First
Patient Position	Supine
Coil Configuration	GEM Head;GEM Spine
Plane	AXIAL
Series Description	GRE-MT1
SCAN TIMING	
Flip Angle	9
TE	4.0
TR	62.0
Receiver Bandwidth	41.67
IMAGE ENHANCE	
Filter Choice	A
GATING/TRIGGER	
Auto Trigger Type	Off
FMRI	
PSD Trigger	Internal
Slice Order	Interleaved
View Order	Bottom/Up
# of Repetitions REST	0
# of Repetitions ACTIVE	0
SAT	
Tag Type	None
TRICKS	
Pause On/Off	On
Auto Subtract	0
Auto SCIC	Off

IMAGING PARAMETERS	
Imaging Mode	3D
Pulse Sequence	SPGR
Imaging Options	EDR, MgT
SCAN RANGE	
FOV	17.3
Slice Thickness	5.0
ACQ TIMING	
Freq	192
Phase	192
Freq DIR	R/L
NEX	1.00
Phase FOV	1.00
Auto Shim	Auto
Phase Correction	No
USER CVS	
User CV1	1200.00
User CV2	1.00
MULTI-PHASE	
Seperate Series	0
Mask Phase	0
Mask Pause	0
DIFFUSION	
Recon All Images	On
CONTRAST	
Contrast Yes/No	No

GRE-MT1

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GRE-MT0

PATIENT POSITION	
Patient Entry	Head First
Patient Position	Supine
Coil Configuration	GEM Head;GEM Spine
Plane	AXIAL
Series Description	GRE-MT0
SCAN TIMING	
Flip Angle	9
TE	4.0
TR	62.0
Receiver Bandwidth	41.67
IMAGE ENHANCE	
Filter Choice	A
GATING/TRIGGER	
Auto Trigger Type	Off
MULTI-PHASE	
Seperate Series	0
Mask Phase	0
Mask Pause	0
DIFFUSION	
Recon All Images	On
CONTRAST	
Contrast Yes/No	No

GRE-MT0

IMAGING PARAMETERS	
Imaging Mode	3D
Pulse Sequence	SPGR
Imaging Options	EDR
SCAN RANGE	
FOV	17.3
Slice Thickness	5.0
ACQ TIMING	
Freq	192
Phase	192
Freq DIR	R/L
NEX	1.00
Phase FOV	1.00
Auto Shim	Auto
Phase Correction	No
FMRI	
PSD Trigger	Internal
Slice Order	Interleaved
View Order	Bottom/Up
# of Repetitions REST	0
# of Repetitions ACTIVE	0
SAT	
Tag Type	None
TRICKS	
Pause On/Off	On
Auto Subtract	0
Auto SCIC	Off

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GRE-T1w

PATIENT POSITION	
Patient Entry	Head First
Patient Position	Supine
Coil Configuration	GEM Head;GEM Spine
Plane	AXIAL
Series Description	GRE-T1w
SCAN TIMING	
Flip Angle	15
TE	4.0
TR	15.0
Receiver Bandwidth	41.67
IMAGE ENHANCE	
Filter Choice	A
GATING/TRIGGER	
Auto Trigger Type	Off
MULTI-PHASE	
Seperate Series	0
Mask Phase	0
Mask Pause	0
DIFFUSION	
Recon All Images	On
CONTRAST	
Contrast Yes/No	No

GRE-T1w

IMAGING PARAMETERS	
Imaging Mode	3D
Pulse Sequence	SPGR
Imaging Options	EDR
SCAN RANGE	
FOV	17.3
Slice Thickness	5.0
ACQ TIMING	
Freq	192
Phase	192
Freq DIR	R/L
NEX	1.00
Phase FOV	1.00
Auto Shim	Auto
Phase Correction	No
FMRI	
PSD Trigger	Internal
Slice Order	Interleaved
View Order	Bottom/Up
# of Repetitions REST	0
# of Repetitions ACTIVE	0
SAT	
Tag Type	None
TRICKS	
Pause On/Off	On
Auto Subtract	0
Auto SCIC	Off



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GRE-ME

PATIENT POSITION	
Patient Entry	Head First
Patient Position	Supine
Coil Configuration	GEM Head;GEM Spine
Plane	AXIAL
Series Description	GRE-ME
SCAN TIMING	
Flip Angle	30
TR	600.0
Receiver Bandwidth	62.50
IMAGE ENHANCE	
Filter Choice	A
GATING/TRIGGER	
Auto Trigger Type	Off
MULTI-PHASE	
Seperate Series	0
Mask Phase	0
Mask Pause	0
DIFFUSION	
Recon All Images	On
CONTRAST	
Contrast Yes/No	No

GRE-ME

IMAGING PARAMETERS	
Imaging Mode	2D
Pulse Sequence	MERGE
Imaging Options	FC, EDR, Fast, ARC
SCAN RANGE	
FOV	22.4
Slice Thickness	5.0
Slice Spacing	0.0
ACQ TIMING	
Freq	448
Phase	448
Freq DIR	R/L
NEX	2.00
Phase FOV	1.00
Auto Shim	Auto
Phase Correction	No
FMRI	
PSD Trigger	Internal
Slice Order	Interleaved
View Order	Bottom/Up
# of Repetitions REST	0
# of Repetitions ACTIVE	0
SAT	
Tag Type	None
TRICKS	
Pause On/Off	On
Auto Subtract	0
Auto SCIC	Off

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SNR_sag	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Gradient Echo
	Coil Configuration	GEM Head;GEM Spine	Imaging Options	EDR
	Plane	SAGITTAL	<b>SCAN RANGE</b>	
	Series Description	SNR_sag	FOV	25.6
	<b>SCAN TIMING</b>		Slice Thickness	5.0
	Flip Angle	10	Slice Spacing	0.0
	TE	4.0	<b>ACQ TIMING</b>	
	Number of Echoes	1	Freq	256
	TR	250.0	Phase	256
	Receiver Bandwidth	15.63	Freq DIR	S/I
	<b>IMAGE ENHANCE</b>		NEX	1.00
	Filter Choice	None	Phase FOV	1.00
	<b>GATING/TRIGGER</b>		Auto Shim	Auto
	Auto Trigger Type	Off	Phase Correction	No
	<b>MULTI-PHASE</b>		<b>FMRI</b>	
	Seperate Series	0	PSD Trigger	Internal
	Mask Phase	0	Slice Order	Interleaved
	Mask Pause	0	View Order	Bottom/Up
	<b>DIFFUSION</b>		# of Repetitions REST	0
	Recon All Images	On	# of Repetitions ACTIVE	0
	<b>CONTRAST</b>		<b>SAT</b>	
	Contrast Yes/No	No	Tag Type	None
			<b>TRICKS</b>	
			Pause On/Off	On
			Auto Subtract	0
			Auto SCIC	Off

SNR\_sag