

Protocol: adult_spine_THORACIC PEDIATRIC SCOLIOSIS

LOC	PATIENT POSITION		IMAGING PARAMETERS		LOC
	Patient Entry	Head First	Imaging Mode	2D	
	Patient Position	Supine	Pulse Sequence	Gradient Echo	
	Coil Configuration	HNS by GE (PosteriorHead, Horseshoe, TL)	Imaging Options	NPW, Seq, Fast	
	Plane	3-PLANE	SCAN RANGE		
	Series Description	LOC	FOV	48.0	
	SCAN TIMING		Slice Thickness	5.0	
	Number of Echoes	1	Slice Spacing	5.0	
	IMAGE ENHANCE		ACQ TIMING		
	Filter Choice	None	Freq	256	
	GATING/TRIGGER		Phase	128	
	Auto Trigger Type	Off	Freq DIR	Unswap	
	MULTI-PHASE		NEX	2.00	
	Seperate Series	0	Phase FOV	1.00	
	Mask Phase	0	Auto Shim	Off	
	Mask Pause	0	Phase Correction	No	
	DIFFUSION		FMRI		
	Recon All Images	On	PSD Trigger	Internal	
	CONTRAST		Slice Order	Interleaved	
	Contrast Yes/No	No	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		

Protocol: adult_spine_THORACIC PEDIATRIC SCOLIOSIS

LOC 512	PATIENT POSITION		IMAGING PARAMETERS		LOC 512
	Patient Entry	Head First	Imaging Mode	2D	
	Patient Position	Supine	Pulse Sequence	Gradient Echo	
	Coil Configuration	HNS by GE (PosteriorHead, Horseshoe, TL)	Imaging Options	Seq, Fast	
	SCAN TIMING		SCAN RANGE		
	Plane	3-PLANE	FOV	48.0	
	Series Description	LOC 512	Slice Thickness	5.0	
	Number of Echoes	1	Slice Spacing	10.0	
	IMAGE ENHANCE		ACQ TIMING		
	Filter Choice	None	Freq	512	
	GATING/TRIGGER		Phase	256	
	Auto Trigger Type	Off	Freq DIR	Unswap	
	MULTI-PHASE		NEX	1.00	
	Seperate Series	0	Phase FOV	1.00	
	Mask Phase	0	Auto Shim	Off	
	Mask Pause	0	Phase Correction	No	
	DIFFUSION		FMRI		
	Recon All Images	On	PSD Trigger	Internal	
	CONTRAST		Slice Order	Interleaved	
	Contrast Yes/No	No	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		

Protocol: adult_spine_THORACIC PEDIATRIC SCOLIOSIS

SAG T2	PATIENT POSITION		IMAGING PARAMETERS		SAG T2
	Patient Entry	Head First	Imaging Mode	2D	
	Patient Position	Supine	Pulse Sequence	FSE-XL	
	Coil Configuration	HNS by GE (PosteriorHead, Horseshoe, TL)	Imaging Options	FC, NPW, EDR, TRF, Fast, FR, MRF	
	Plane	OBLIQUE	SCAN RANGE		
	Series Description	SAG T2	FOV	36.0	
	SCAN TIMING		Slice Thickness	4.0	
	Flip Angle	160	Slice Spacing	1.0	
	TE	100.0	ACQ TIMING		
	Number of Echoes	1	Freq	512	
	TR	3034.0	Phase	256	
	Echo Train Length	21	Freq DIR	A/P	
	Receiver Bandwidth	50.00	Fat Shift DIR	Normal (P)	
	IMAGE ENHANCE		NEX	4.00	
	Filter Choice	None	Phase FOV	1.00	
	GATING/TRIGGER		Auto Shim	Auto	
	Auto Trigger Type	Off	Phase Correction	No	
	FMRI		Flow Direction Compensation	Freq	
	PSD Trigger	Internal	USER CVS		
	Slice Order	Interleaved	User CV15	2.00	
	View Order	Bottom/Up	User CV22	1.00	
	# of Repetitions REST	0	TR Min	2800.0	
	# of Repetitions ACTIVE	0	TR Max	11000.0	
	SAT		MULTI-PHASE		
	SAT Location	A	Seperate Series	0	
SAT Location	S	Mask Phase	0		
SAT Location	I	Mask Pause	0		
Tag Type	None	DIFFUSION			
TRICKS		Recon All Images	On		
Pause On/Off	On	CONTRAST			
Auto Subtract	0	Contrast Yes/No	No		
Auto SCIC	2				

Protocol: adult_spine_THORACIC PEDIATRIC SCOLIOSIS

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HNS by GE (PosteriorHead, Horseshoe, TL)	Imaging Options	NPW, EDR, TRF, Fast, MRF
Plane	OBLIQUE	SCAN RANGE	
Series Description	SAG T1	FOV	36.0
SCAN TIMING		Slice Thickness	4.0
Flip Angle	160	Slice Spacing	1.0
TE	Min Full	ACQ TIMING	
Number of Echoes	1	Freq	512
TR	452.0	Phase	256
Echo Train Length	3	Freq DIR	A/P
Receiver Bandwidth	50.00	Fat Shift DIR	Normal (P)
IMAGE ENHANCE		NEX	2.00
Filter Choice	None	Phase FOV	1.00
GATING/TRIGGER		Auto Shim	Auto
Auto Trigger Type	Off	Phase Correction	No
FMRI		USER CVS	
PSD Trigger	Internal	User CV15	2.00
Slice Order	Interleaved	User CV21	2.00
View Order	Bottom/Up	User CV22	1.00
# of Repetitions REST	0	TR Min	350.0
# of Repetitions ACTIVE	0	TR Max	750.0
SAT		MULTI-PHASE	
Tag Type	None	Seperate Series	0
TRICKS		Mask Phase	0
Pause On/Off	On	Mask Pause	0
Auto Subtract	0	DIFFUSION	
Auto SCIC	2	Recon All Images	On
		CONTRAST	
		Contrast Yes/No	No

SAG T1

SAG T1

Protocol: adult_spine_THORACIC PEDIATRIC SCOLIOSIS

CORONAL T2 SCOLIOSIS	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	FSE-XL
	Coil Configuration	HNS by GE (PosteriorHead, Horseshoe, TL)	Imaging Options	FC, NPW, EDR, TRF, Fast, FR, MRF
	Plane	OBLIQUE	SCAN RANGE	
	Series Description	CORONAL T2 SCOLIOSIS	FOV	36.0
	SCAN TIMING		Slice Thickness	4.0
	Flip Angle	160	Slice Spacing	1.0
	TE	100.0	ACQ TIMING	
	Number of Echoes	1	Freq	512
	TR	3034.0	Phase	256
	Echo Train Length	21	Freq DIR	A/P
	Receiver Bandwidth	50.00	Fat Shift DIR	Normal (P)
	IMAGE ENHANCE		NEX	4.00
	Filter Choice	None	Phase FOV	1.00
	GATING/TRIGGER		Auto Shim	Auto
	Auto Trigger Type	Off	Phase Correction	No
	FMRI		Flow Direction	Freq
	PSD Trigger	Internal	USER CVS	
	Slice Order	Interleaved	User CV15	2.00
	View Order	Bottom/Up	User CV22	1.00
	# of Repetitions REST	0	TR Min	2800.0
	# of Repetitions ACTIVE	0	TR Max	11000.0
	SAT		MULTI-PHASE	
	SAT Location	A	Seperate Series	0
SAT Location	S	Mask Phase	0	
SAT Location	I	Mask Pause	0	
Tag Type	None	DIFFUSION		
TRICKS		Recon All Images	On	
Pause On/Off	On	CONTRAST		
Auto Subtract	0	Contrast Yes/No	No	
Auto SCIC	2			

CORONAL T2 SCOLIOSIS

Protocol: adult_spine_THORACIC PEDIATRIC SCOLIOSIS

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HNS by GE (PosteriorHead, Horseshoe, TL)	Imaging Options	FC, NPW, Seq, EDR, TRF, Fast, MRF, IrP
Plane	OBLIQUE	PSD Name	frfse-xl
Series Description	SAG STIR	SCAN RANGE	
SCAN TIMING		FOV	36.0
Flip Angle	160	Slice Thickness	4.0
TE	30.0	Slice Spacing	1.0
Number of Echoes	1	ACQ TIMING	
TR	3222.0	Freq	320
TI	140	Phase	224
Echo Train Length	11	Freq DIR	A/P
Receiver Bandwidth	31.25	Fat Shift DIR	Normal (P)
IMAGE ENHANCE		NEX	4.00
Filter Choice	None	Phase FOV	1.00
GATING/TRIGGER		Auto Shim	Auto
Auto Trigger Type	Off	Phase Correction	No
FMRI		Flow Direction Compensation	Freq
PSD Trigger	Internal	USER CVS	
Slice Order	Interleaved	User CV21	1.00
View Order	Bottom/Up	User CV22	1.00
# of Repetitions REST	0	TR Min	3000.0
# of Repetitions ACTIVE	0	TR Max	15000.0
SAT		MULTI-PHASE	
SAT Location	S	Seperate Series	0
SAT Location	I	Mask Phase	0
Tag Type	None	Mask Pause	0
TRICKS		DIFFUSION	
Pause On/Off	On	Recon All Images	On
Auto Subtract	0	CONTRAST	
Auto SCIC	2	Contrast Yes/No	No

SAG STIR

SAG STIR

Protocol: adult_spine_THORACIC PEDIATRIC SCOLIOSIS

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HNS by GE (PosteriorHead, Horseshoe, TL)	Imaging Options	FC, NPW, EDR, TRF, Fast, FR, MRF
Plane	OBLIQUE	SCAN RANGE	
Series Description	AX T2 SLAB	FOV	20.0
SCAN TIMING		Slice Thickness	6.0
Flip Angle	160	Slice Spacing	2.0
TE	85.0	ACQ TIMING	
Number of Echoes	1	Freq	288
TR	4064.0	Phase	224
Echo Train Length	23	Freq DIR	A/P
Receiver Bandwidth	41.67	Fat Shift DIR	Normal (A)
IMAGE ENHANCE		NEX	4.00
Filter Choice	None	Phase FOV	1.00
GATING/TRIGGER		Auto Shim	Auto
Auto Trigger Type	Off	Phase Correction	No
FMRI		Flow Direction Compensation	Slice
PSD Trigger	Internal	USER CVS	
Slice Order	Interleaved	User CV15	2.00
View Order	Bottom/Up	User CV22	1.00
# of Repetitions REST	0	TR Min	2800.0
# of Repetitions ACTIVE	0	TR Max	6000.0
SAT		MULTI-PHASE	
SAT Location	A	Seperate Series	0
SAT Location	S	Mask Phase	0
SAT Location	I	Mask Pause	0
Tag Type	None	DIFFUSION	
TRICKS		Recon All Images	On
Pause On/Off	On	CONTRAST	
Auto Subtract	0	Contrast Yes/No	No
Auto SCIC	2		

AX T2 SLAB

AX T2 SLAB

Protocol: adult_spine_THORACIC PEDIATRIC SCOLIOSIS

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	Spin Echo
Coil Configuration	HNS by GE (PosteriorHead, Horseshoe, TL)	Imaging Options	Fast, SS
Plane	OBLIQUE	SCAN RANGE	
Series Description	---OPTIONS---	FOV	22.0
SCAN TIMING		Slice Thickness	5.0
TE	Minimum	Slice Spacing	1.0
TR	Minimum	ACQ TIMING	
Receiver Bandwidth	83.33	Freq	128
IMAGE ENHANCE		Phase	128
Filter Choice	None	Freq DIR	A/P
GATING/TRIGGER		NEX	1.0
Auto Trigger Type	Off	# of Acq. Before Pause	0
FMRI		Phase FOV	1.00
PSD Trigger	Internal	Auto Shim	Auto
Slice Order	Interleaved	Phase Correction	No
View Order	Bottom/Up	USER CVS	
# of Repetitions REST	0	User CV2	240.00
# of Repetitions ACTIVE	0	User CV13	1.00
SAT		TR Min	0.0
Tag Type	None	TR Max	0.0
TRICKS		MULTI-PHASE	
Pause On/Off	On	Seperate Series	0
Auto Subtract	0	Mask Phase	0
Auto SCIC	Off	Mask Pause	0
		DIFFUSION	
		Recon All Images	On
		CONTRAST	
		Contrast Yes/No	No

Protocol: adult_spine_THORACIC PEDIATRIC SCOLIOSIS

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HNS by GE (PosteriorHead, Horseshoe, TL)	Imaging Options	NPW, EDR, TRF, Fast
Plane	OBLIQUE	SCAN RANGE	
Series Description	Ax T1 FSE	FOV	20.0
SCAN TIMING		Slice Thickness	6.0
Flip Angle	160	Slice Spacing	2.0
TE	Min Full	ACQ TIMING	
Number of Echoes	1	Freq	288
TR	500.0	Phase	224
Echo Train Length	2	Freq DIR	Swap
Receiver Bandwidth	20.83	Fat Shift DIR	Normal
IMAGE ENHANCE		NEX	2.00
Filter Choice	None	Phase FOV	1.00
GATING/TRIGGER		Auto Shim	Auto
Auto Trigger Type	Off	Phase Correction	No
FMRI		USER CVS	
PSD Trigger	Internal	User CV7	1.00
Slice Order	Interleaved	User CV15	2.00
View Order	Bottom/Up	User CV17	1.00
# of Repetitions REST	0	User CV22	1.00
# of Repetitions ACTIVE	0	MULTI-PHASE	
SAT		Seperate Series	0
SAT Location	A	Mask Phase	0
Tag Type	None	Mask Pause	0
TRICKS		DIFFUSION	
Pause On/Off	On	Recon All Images	On
Auto Subtract	0	CONTRAST	
Auto SCIC	2	Contrast Yes/No	No
OTHERS			
Protocol Notes	Prescribe anterior sat		

Ax T1 FSE

Ax T1 FSE

Protocol: adult_spine_THORACIC PEDIATRIC SCOLIOSIS

+C Ax T1 FSE F/S	PATIENT POSITION		IMAGING PARAMETERS		+C Ax T1 FSE F/S
	Patient Entry	Head First	Imaging Mode	2D	
	Patient Position	Supine	Pulse Sequence	FSE-XL	
	Coil Configuration	HNS by GE (PosteriorHead, Horseshoe, TL)	Imaging Options	NPW, EDR, TRF, Fast	
	Plane	OBLIQUE	SCAN RANGE		
	Series Description	+C Ax T1 FSE F/S	FOV	20.0	
	SCAN TIMING		Slice Thickness	6.0	
	Flip Angle	160	Slice Spacing	2.0	
	TE	Min Full	ACQ TIMING		
	Number of Echoes	1	Freq	288	
	TR	500.0	Phase	224	
	Echo Train Length	2	Freq DIR	Swap	
	Receiver Bandwidth	20.83	Fat Shift DIR	Normal	
	IMAGE ENHANCE		NEX	2.00	
	Filter Choice	None	Phase FOV	1.00	
	GATING/TRIGGER		Auto Shim	Auto	
	Auto Trigger Type	Off	Phase Correction	No	
	FMRI		USER CVS		
	PSD Trigger	Internal	User CV7	1.00	
	Slice Order	Interleaved	User CV15	2.00	
	View Order	Bottom/Up	User CV17	1.00	
	# of Repetitions REST	0	User CV19	1.00	
	# of Repetitions ACTIVE	0	User CV22	1.00	
	SAT		MULTI-PHASE		
	SAT Location	A	Seperate Series	0	
	Tag Type	None	Mask Phase	0	
	Fat/Water Saturation	Fat	Mask Pause	0	
	TRICKS		DIFFUSION		
	Pause On/Off	On	Recon All Images	On	
	Auto Subtract	0	CONTRAST		
Auto SCIC	2	Contrast Yes/No	Yes		
OTHERS					
Protocol Notes	Prescribe anterior sat				

Protocol: adult_spine_THORACIC PEDIATRIC SCOLIOSIS

+C Sag T1 FSE F/S	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	FSE-XL
	Coil Configuration	HNS by GE (PosteriorHead, Horseshoe, TL)	Imaging Options	NPW, EDR, TRF, Fast, MRF
	Plane	OBLIQUE	SCAN RANGE	
	Series Description	+C Sag T1 FSE F/S	FOV	36.0
	SCAN TIMING		Slice Thickness	4.0
	Flip Angle	160	Slice Spacing	1.0
	TE	Min Full	ACQ TIMING	
	Number of Echoes	1	Freq	320
	TR	478.0	Phase	224
	Echo Train Length	4	Freq DIR	Swap
	Receiver Bandwidth	27.78	Fat Shift DIR	Normal
	IMAGE ENHANCE		NEX	3.00
	Filter Choice	None	# of Acq. Before Pause	0
	GATING/TRIGGER		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Auto
	FMRI		Phase Correction	No
	PSD Trigger	Internal	USER CVS	
	Slice Order	Interleaved	User CV15	2.00
	View Order	Bottom/Up	User CV19	1.00
	# of Repetitions REST	0	User CV21	2.00
	# of Repetitions ACTIVE	0	User CV22	1.00
	SAT		MULTI-PHASE	
	SAT Location	A	Seperate Series	0
SAT Location	S	Mask Phase	0	
SAT Location	I	Mask Pause	0	
Tag Type	None	DIFFUSION		
Fat/Water Saturation	Fat	Recon All Images	On	
TRICKS		CONTRAST		
Pause On/Off	On	Contrast Yes/No	Yes	
Auto Subtract	0			
Auto SCIC	2			

+C Sag T1 FSE F/S