PEDIATRIC ROUTINE COMPLETE SPINE (SMALLER PATIENTS) 3T

INSTRUCTIONS AND PATIENT PREPARATION

Instructions	Position the patient in supine position with head pointing towards the magnet Position the patient over the spine coil, and position the head in the head coil and immobilize with cushions Give a pillow under the patient's knees for extra comfort Sedation vs bundle and feed is the ordering provider's decision
Common Indications	Pain Infection Demyelination Trauma Tumor Gait Disturbance
Position	Head First Supine
Coil	Head/Neck 20ch Spine Coil
Landmark	Mid neck
Patient Population	These protocols are intended for smaller patients and serve as starting points. If a smaller FOV is needed, the parameters are modified accordingly.

IMAGING PARAMETERS

Scan Description	I_AAspine_scout	II_AAspine_scout	III_AAspine_scout	SAG T2WI STIR ENTIRE SPINE	SAG T1WI ENTIRE SPINE	SAG TRUFISP ENTIRE SPINE	AX T2WI ENTIRE SPINE	AX T1WI VIBE CONUS DOWN
Sequence Name	fl	fl	fl	tir_rr	tir	tfi	tse_rs	fl
Dimension	3D	3D	3D	2D	2D	3D	2D	3D
Acceleration mode	GRAPPA	GRAPPA	GRAPPA	None	GRAPPA	GRAPPA	None	None
Acceleration Factor PE	3	3	3	—	2	2	—	—
Acceleration Factor 3D	1	1	1	—	—	1	—	—
Reference Lines PE	24	24	24	—	27	24	—	—
Reference Scans	Integrated	Integrated	Integrated	—	Integrated	Integrated	—	—
Deep Resolve	—	—	—	Off	Off	—	Off	—

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MR Gadopiclenol (VUEWAY®) Protocol for Siemens MRI Scanners
Pediatric

IMAGING FORUMS, INC.

SCAN PARAMETERS

Scan Description	I_AAspine_scout	II_AAspine_scout	III_AAspine_scout	SAG T2WI STIR ENTIRE SPINE	SAG T1WI ENTIRE SPINE	SAG TRUFISP ENTIRE SPINE	AX T2WI ENTIRE SPINE	AX T1WI VIBE CONUS DOWN
TR	3.30 ms	3.30 ms	3.30 ms	3500.0 ms	2000.0 ms	1352.89 ms	4400.0 ms	7.00 ms
TE	1.27 ms	1.27 ms	1.27 ms	53.00 ms	9.90 ms	2.12 ms	102.00 ms	2.57 ms
TI	—	—	—	220 ms	900 ms	—	—	—
Flip Angle	8 deg	8 deg	8 deg	150 deg	150 deg	70 deg	160 deg	12 deg
Bandwidth	550 Hz/Px	550 Hz/Px	550 Hz/Px	296 Hz/Px	275 Hz/Px	574 Hz/Px	251 Hz/Px	220 Hz/Px
Turbo Factor	—	—	—	16	5	—	17	—
Echo Spacing	—	—	—	8.82 ms	9.92 ms	4.86 ms	11.4 ms	—
Echo Trains per Slice	—	—	—	32	54	—	22	—
Gradient Mode	Normal	Normal	Normal	Fast	Fast	Fast	Fast	Fast
RF Pulse Type	Fast	Fast	Fast	Normal	Low SAR	Normal	Low SAR	Fast
RF Spoiling	On	On	On	—	—	—	—	On
Asymmetric Echo	Weak	Weak	Weak	—	—	Weak	—	Weak
Flow Compensation	—	—	—	Read	None	—	Slice	—
Reduce Motion Sens.	—	—	—	On	On	—	On	—
Phase Correction	—	—	—	Automatic	Automatic	—	Automatic	—

CONTRAST & MAGNETIZATION

Scan Description	I_AAspine_scout	II_AAspine_scout	III_AAspine_scout	SAG T2WI STIR ENTIRE SPINE	SAG T1WI ENTIRE SPINE	SAG TRUFISP ENTIRE SPINE	AX T2WI ENTIRE SPINE	AX T1WI VIBE CONUS DOWN
Fat-Water Contrast	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Magn. Preparation	—	—	—	Slice-sel. IR	Slice-sel. IR	None	None	—
MTC	—	—	—	Off	Off	—	Off	—
Dark Blood	—	—	—	Off	Off	Off	Off	—
Contrasts	1	1	1	1	1	1	1	1
Reconstruction	Magnitude	Magnitude	Magnitude	Magnitude	Magnitude	Magnitude	Magnitude	Magnitude
Wrap-up Magn.	—	—	—	None	None	None	None	—

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ACQUISITION PARAMETERS

Scan Description	I_AAspine_scout	II_AAspine_scout	III_AAspine_scout	SAG T2WI STIR ENTIRE SPINE	SAG T1WI ENTIRE SPINE	SAG TRUFISP ENTIRE SPINE	AX T2WI ENTIRE SPINE	AX T1WI VIBE CONUS DOWN
Base Resolution	240	240	240	256	256	256	240	224
Phase Resolution	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Slice Resolution	68 %	68 %	68 %	—	—	80 %	—	100 %
Averages	1	1	1	1	1	2	1	1
Concatenations	1	1	1	2	2	1	3	1
FoV Read	400 mm	400 mm	400 mm	160 mm	160 mm	160 mm	140 mm	140 mm
FoV Phase	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
Phase Encoding Dir.	F >> H	F >> H	F >> H	A >> P	A >> P	A >> P	A >> P	A >> P
Phase Oversampling	10 %	10 %	10 %	100 %	100 %	100 %	50 %	50 %
Slice Oversampling	7.1 %	7.1 %	7.1 %	—	—	57.1 %	—	62.5 %
Phase Partial Fourier	6/8	6/8	6/8	Off	Off	Off	Off	Off
Slice Partial Fourier	6/8	6/8	6/8	—	—	Off	—	Off
Interpolation	—	—	—	Off	Off	On	Off	Off
Trajectory	Cartesian	Cartesian	Cartesian	—	—	Cartesian	—	Cartesian
Multi-Slice Mode	Sequential	Sequential	Sequential	Interleaved	Interleaved	Sequential	Interleaved	—

SCANNING RANGE

Scan Description	I_AAspine_scout	II_AAspine_scout	III_AAspine_scout	SAG T2WI STIR ENTIRE SPINE	SAG T1WI ENTIRE SPINE	SAG TRUFISP ENTIRE SPINE	AX T2WI ENTIRE SPINE	AX T1WI VIBE CONUS DOWN
Slice Thickness	1.7 mm	1.7 mm	1.7 mm	3.0 mm	3.0 mm	1.00 mm	3.0 mm	3.0 mm
Slices	112 Slices per Slab	112 Slices per Slab	112 Slices per Slab	15 Slices	15 Slices	56 Slices per Slab	56 Slices	64 Slices per Slab
Distance Factor	20 %	20 %	20 %	10 %	10 %	-9 %	10 %	20 %
Special Saturation	—	—	—	None	None	None	None	None
Raw Filter	Off	Off	Off	Off	Off	Off	Off	Off
Elliptical Filter	Off	Off	Off	On	On	Off	On	On
Image Filter	Off	Off	Off	On	On	Off	On	Off
Distortion Correction	3D	3D	3D	2D	2D	2D	2D	2D
Normalize	Prescan	Prescan	Prescan	Prescan	Prescan	Prescan	Prescan	Prescan
Noise Masking	Off	Off	Off	—	—	—	—	Off
Time of Acquisition	19 sec	19 sec	19 sec	3:51 min	3:40 min	3:11 min	5:05 min	4:06 min

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POST-PROCESSING / INLINE

Scan Description	I_AAspine_scout	II_AAspine_scout	III_AAspine_scout	SAG T2WI STIR ENTIRE SPINE	SAG T1WI ENTIRE SPINE	SAG TRUFISP ENTIRE SPINE	AX T2WI ENTIRE SPINE	AX T1WI VIBE CONUS DOWN
Subtract	Off	Off	Off	Off	Off	Off	Off	Off
Subtract Measurements	1	1	1	1	1	1	1	1
StdDev	Off	Off	Off	Off	Off	Off	Off	Off
MIP Sagittal	Off	Off	Off	Off	Off	Off	Off	Off
MIP Coronal	Off	Off	Off	Off	Off	Off	Off	Off
MIP Transversal	Off	Off	Off	Off	Off	Off	Off	Off
MIP Time	Off	Off	Off	Off	Off	Off	Off	Off
Radial MIP	Off	Off	Off	Off	Off	Off	Off	Off
MPR Sagittal	Off	Off	Off	Off	Off	Off	Off	Off
MPR Coronal	Off	Off	Off	Off	Off	Off	Off	Off
MPR Transversal	Off	Off	Off	Off	Off	Off	Off	Off
Inline Composing	On	On	On	On	On	On	On	Off

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