PEDIATRIC TOTAL SPINE 2-6 3T

INSTRUCTIONS AND PATIENT PREPARATION

Anatomical Region	Total Spine 2-6
Field Strength	3.0T
Coil	See the Coil Configuration row in the first parameters table below (varies by sequence).
Position & Landmark	Head first, supine. Landmark: center of the coil in use (typically central to the ROI).
Contrast	Weight-based gadolinium contrast per your institution's protocol, supervising radiologist, and the agent's FDA prescribing information. Postcontrast sequences are marked **+C**.

PATIENT POSITION

PATIENT POSITION — SEQUENCES 1-9 OF 18

Scan Description	TOP-3Plane Loc	BOT-3Plane Loc	Upr-Sag T1 FLAIR DL	Lwr-Sag T1 FLAIR DL	Upr-Sag T2 Fat DL	Lwr-Sag T2 Fat DL	C-Ax 2D MERGE	C-Ax T1 DL	T-Ax T2* GRE PEDS
Coil Configuration	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA
Plane	3-PLANE	3-PLANE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE

PATIENT POSITION — SEQUENCES 10-18 OF 18

Scan Description	T-Ax T1 DL	L-Ax T2 DL	L-Ax T1 DL	+C C-Sag T1 Fat DL	C +C Ax T1 DL	+C T-Sag T1 Fat DL	T +C Ax T1 DL	+C L-Sag T1 Fat DL	L+C Ax T1 DL
Coil Configuration	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA	GE19chGEMHNUFace, GE40chGEMPA
Plane	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE

IMAGING PARAMETERS

IMAGING PARAMETERS — SEQUENCES 1-9 OF 18

Scan Description	TOP-3Plane Loc	BOT-3Plane Loc	Upr-Sag T1 FLAIR DL	Lwr-Sag T1 FLAIR DL	Upr-Sag T2 Fat DL	Lwr-Sag T2 Fat DL	C-Ax 2D MERGE	C-Ax T1 DL	T-Ax T2* GRE PEDS
Imaging Mode	2D	2D	2D	2D	2D	2D	2D	2D	2D
Imaging Options	Seq, EDR, Fast, SS, ARC	Seq, EDR, Fast, SS, ARC	FC, Seq, EDR, TRF, Fast, T1flair	FC, Seq, EDR, TRF, Fast, T1flair	FC, EDR, TRF, Fast, FR	FC, EDR, TRF, Fast, FR	FC, EDR, Fast	EDR, TRF, Fast, ZIP512, ARC	EDR, Fast
Pulse Sequence	Spin Echo	Spin Echo	FSE-XL	FSE-XL	FSE-XL	FSE-XL	MERGE	FSE-XL	Gradient Echo
ARC Phase	2	2	—	—	—	—	—	1.5	—

IMAGING PARAMETERS — SEQUENCES 10-18 OF 18

Scan Description	T-Ax T1 DL	L-Ax T2 DL	L-Ax T1 DL	+C C-Sag T1 Fat DL	C +C Ax T1 DL	+C T-Sag T1 Fat DL	T +C Ax T1 DL	+C L-Sag T1 Fat DL	L+C Ax T1 DL
Imaging Mode	2D	2D	2D	2D	2D	2D	2D	2D	2D
Imaging Options	EDR, TRF, Fast, ZIP512	FC, EDR, TRF, Fast, ZIP512	EDR, TRF, Fast, ZIP512, ARC	EDR, TRF, Fast	EDR, TRF, Fast, ZIP512, ARC	EDR, TRF, Fast	EDR, TRF, Fast, ZIP512	EDR, TRF, Fast	EDR, TRF, Fast, ZIP512, ARC
Pulse Sequence	FSE-XL	FSE-XL	FSE-XL	FSE-XL	FSE-XL	FSE-XL	FSE-XL	FSE-XL	FSE-XL
ARC Phase	—	—	1.5	—	1.5	—	—	—	1.5

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Pediatric

IMAGING FORUMS, INC.

IMAGE RECON

IMAGE RECON — SEQUENCES 1-9 OF 18

Scan Description	TOP-3Plane Loc	BOT-3Plane Loc	Upr-Sag T1 FLAIR DL	Lwr-Sag T1 FLAIR DL	Upr-Sag T2 Fat DL	Lwr-Sag T2 Fat DL	C-Ax 2D MERGE	C-Ax T1 DL	T-Ax T2* GRE PEDS
Recon DL Strength	Off	—	Medium	Medium	Medium	Medium	Off	Medium	Off
Intensity Correction	NONE	NONE	SCENIC	SCENIC	PURE	PURE	SCENIC	SCENIC	SCENIC
Intensity Filter	None	None	None	None	None	None	None	None	None
Save Original	Off	Off	On	On	On	On	On	Off	On

IMAGE RECON — SEQUENCES 10-18 OF 18

Scan Description	T-Ax T1 DL	L-Ax T2 DL	L-Ax T1 DL	+C C-Sag T1 Fat DL	C +C Ax T1 DL	+C T-Sag T1 Fat DL	T +C Ax T1 DL	+C L-Sag T1 Fat DL	L+C Ax T1 DL
Recon DL Strength	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Intensity Correction	SCENIC	SCENIC	SCENIC	SCENIC	SCENIC	SCENIC	SCENIC	SCENIC	SCENIC
Intensity Filter	None	None	None	None	None	None	None	None	None
Save Original	Off	Off	Off	On	Off	On	Off	On	Off

SCAN RANGE

SCAN RANGE — SEQUENCES 1-9 OF 18

Scan Description	TOP-3Plane Loc	BOT-3Plane Loc	Upr-Sag T1 FLAIR DL	Lwr-Sag T1 FLAIR DL	Upr-Sag T2 Fat DL	Lwr-Sag T2 Fat DL	C-Ax 2D MERGE	C-Ax T1 DL	T-Ax T2* GRE PEDS
FOV	45	45	24	24	24	24	16	16	18
Slice Thickness	5	5	4	4	4	4	4	4	4
Slice Spacing	5	5	0.2	0.2	0.2	0.2	0	0.4	0.5
Overlap Locations	0	—	0	0	0	0	0	0	0
No Phase Wrap	1	1	1.5	1.5	1.5	1.5	2	2	2
Number of Slices	—	—	17	17	17	17	—	21	21

SCAN RANGE — SEQUENCES 10-18 OF 18

Scan Description	T-Ax T1 DL	L-Ax T2 DL	L-Ax T1 DL	+C C-Sag T1 Fat DL	C +C Ax T1 DL	+C T-Sag T1 Fat DL	T +C Ax T1 DL	+C L-Sag T1 Fat DL	L+C Ax T1 DL
FOV	16	16	16	20	16	26	16	24	16
Slice Thickness	4	4	4	4	4	4	4	4	4
Slice Spacing	0.4	0.4	0.4	0.2	0.4	0.2	0.4	0.2	0.4
Overlap Locations	0	0	0	0	0	0	0	0	0
No Phase Wrap	2	2	1.9	1.5	2	1.5	2	1.5	1.9
Number of Slices	21	1	1	14	21	14	21	14	1

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Pediatric

IMAGING FORUMS, INC.

ACQUISITION TIMING

ACQUISITION TIMING — SEQUENCES 1-9 OF 18

Scan Description	TOP-3Plane Loc	BOT-3Plane Loc	Upr-Sag T1 FLAIR DL	Lwr-Sag T1 FLAIR DL	Upr-Sag T2 Fat DL	Lwr-Sag T2 Fat DL	C-Ax 2D MERGE	C-Ax T1 DL	T-Ax T2* GRE PEDS
Acq Voxel Size	1.2 X 2.8 X 5.0	1.2 X 2.8 X 5.0	0.8 X 0.9 X 4.0	0.8 X 0.9 X 4.0	0.8 X 0.9 X 4.0	0.8 X 0.9 X 4.0	0.6 X 0.8 X 4.0	0.7 X 0.9 X 4.0	0.6 X 0.9 X 4.0
Freq	384	384	320	320	320	320	288	220	288
Phase	160	160	256	256	256	256	192	180	192
Freq DIR	Unswap	Unswap	A/P	A/P	A/P	A/P	Swap	R/L	A/P
# of Acq. Before Pause	0	0	—	—	—	—	—	0	—
Phase FOV	1	1	1	1	1	1	0.7	0.7	1
Auto Shim	Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto
Phase Correct	Off	Off	Off	Off	Off	Off	Off	Off	Off
RF Drive Mode	Quadrature (CP)	Quadrature	Quadrature (CP)	Quadrature (CP)	Preset	Preset	Quadrature (CP)	Preset	Preset
Excitation Mode	Selective	Selective	Selective	Selective	Selective	Selective	Selective	Selective	Selective
NEX	—	—	1	1	1.5	1.5	1	1	1
Flow Comp Direction	—	—	Freq	Freq	Freq	Freq	—	—	—
Fat Shift DIR	—	—	Normal (P)	Normal (P)	Normal (P)	Normal (P)	—	Normal (L)	—

ACQUISITION TIMING — SEQUENCES 10-18 OF 18

Scan Description	T-Ax T1 DL	L-Ax T2 DL	L-Ax T1 DL	+C C-Sag T1 Fat DL	C +C Ax T1 DL	+C T-Sag T1 Fat DL	T +C Ax T1 DL	+C L-Sag T1 Fat DL	L+C Ax T1 DL
Acq Voxel Size	0.7 X 0.9 X 4.0	0.5 X 0.7 X 4.0	0.8 X 1.0 X 4.0	0.6 X 1.0 X 4.0	0.7 X 0.9 X 4.0	0.8 X 1.4 X 4.0	0.7 X 0.9 X 4.0	0.8 X 1.3 X 4.0	0.8 X 1.0 X 4.0
Freq	220	320	200	320	220	320	220	320	200
Phase	180	224	160	192	180	192	180	192	160
Freq DIR	R/L	R/L	R/L	A/P	R/L	A/P	R/L	A/P	R/L
# of Acq. Before Pause	0	—	—	0	0	0	0	0	—
Phase FOV	0.6	0.7	0.7	1	0.7	1	0.6	1	0.7
Auto Shim	Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto
Phase Correct	Off	Off	Off	Off	Off	Off	Off	Off	Off
RF Drive Mode	Preset	Preset	Preset	Preset	Preset	Preset	Preset	Preset	Preset
Excitation Mode	Selective	Selective	Selective	Selective	Selective	Selective	Selective	Selective	Selective
NEX	1	1	1	1	1	1	1	1	1
Flow Comp Direction	—	Slice	—	—	—	—	—	—	—
Fat Shift DIR	Normal (L)	Normal (L)	Normal (L)	Normal (P)	Normal (L)	Normal (P)	Normal (L)	Normal (P)	Normal (L)

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Pediatric

IMAGING FORUMS, INC.

SCAN TIMING

SCAN TIMING — SEQUENCES 1-9 OF 18

Scan Description	TOP-3Plane Loc	BOT-3Plane Loc	Upr-Sag T1 FLAIR DL	Lwr-Sag T1 FLAIR DL	Upr-Sag T2 Fat DL	Lwr-Sag T2 Fat DL	C-Ax 2D MERGE	C-Ax T1 DL	T-Ax T2* GRE PEDS
TE	80	80	24	24	85	85	—	18	Min Full
Number of Echoes	1	1	1	1	1	1	3	1	1
TR	1000	740.1	2600	2600	5437	5437	850	701	675
Receiver Bandwidth	83.33	83.33	62.5	62.5	62.5	62.5	41.67	31.25	41.67
Flip Angle	—	—	142	142	142	142	20	111	20
TI	—	—	809	809	—	—	—	—	—
Echo Train Length	—	—	8	8	25	25	—	3	—

SCAN TIMING — SEQUENCES 10-18 OF 18

Scan Description	T-Ax T1 DL	L-Ax T2 DL	L-Ax T1 DL	+C C-Sag T1 Fat DL	C +C Ax T1 DL	+C T-Sag T1 Fat DL	T +C Ax T1 DL	+C L-Sag T1 Fat DL	L+C Ax T1 DL
TE	18	140	18	18	18	18	18	18	18
Number of Echoes	1	1	1	1	1	1	1	1	1
TR	603	3000	500	700	701	600	701	600	500
Receiver Bandwidth	31.25	41.67	31.25	41.67	31.25	41.67	31.25	41.67	31.25
Flip Angle	111	150	111	120	111	120	111	120	111
TI	—	—	—	—	—	—	—	—	—
Echo Train Length	2	17	3	4	3	4	3	4	3

CONTRAST

CONTRAST — SEQUENCES 1-9 OF 18

Scan Description	TOP-3Plane Loc	BOT-3Plane Loc	Upr-Sag T1 FLAIR DL	Lwr-Sag T1 FLAIR DL	Upr-Sag T2 Fat DL	Lwr-Sag T2 Fat DL	C-Ax 2D MERGE	C-Ax T1 DL	T-Ax T2* GRE PEDS
Contrast Yes/No	No	No	No	No	No	No	No	No	No

CONTRAST — SEQUENCES 10-18 OF 18

Scan Description	T-Ax T1 DL	L-Ax T2 DL	L-Ax T1 DL	+C C-Sag T1 Fat DL	C +C Ax T1 DL	+C T-Sag T1 Fat DL	T +C Ax T1 DL	+C L-Sag T1 Fat DL	L+C Ax T1 DL
Contrast Yes/No	No	No	No	+C	No	+C	No	+C	+C

OTHERS

OTHERS — SEQUENCES 1-9 OF 18

Scan Description	TOP-3Plane Loc	BOT-3Plane Loc	Upr-Sag T1 FLAIR DL	Lwr-Sag T1 FLAIR DL	Upr-Sag T2 Fat DL	Lwr-Sag T2 Fat DL	C-Ax 2D MERGE	C-Ax T1 DL	T-Ax T2* GRE PEDS
3D Geometry Correction	Off	Off	—	—	—	—	—	—	—
Anatomical Region	Cervico-thoracic spine	Thoraco-lumbar spine	Cervico-thoracic spine	Lumbar spine	Cervico-thoracic spine	Lumbar spine	Cervical spine	Cervical spine	Thoracic spine

OTHERS — SEQUENCES 10-18 OF 18

Scan Description	T-Ax T1 DL	L-Ax T2 DL	L-Ax T1 DL	+C C-Sag T1 Fat DL	C +C Ax T1 DL	+C T-Sag T1 Fat DL	T +C Ax T1 DL	+C L-Sag T1 Fat DL	L+C Ax T1 DL
3D Geometry Correction	—	—	—	—	—	—	—	—	—
Anatomical Region	Thoracic spine	Lumbar spine	Lumbar spine	Cervical spine	Cervical spine	Thoracic spine	Thoracic spine	Lumbar spine	Lumbar spine

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GATING / TRIGGER

GATING / TRIGGER — SEQUENCES 1-9 OF 18

Scan Description	TOP-3Plane Loc	BOT-3Plane Loc	Upr-Sag T1 FLAIR DL	Lwr-Sag T1 FLAIR DL	Upr-Sag T2 Fat DL	Lwr-Sag T2 Fat DL	C-Ax 2D MERGE	C-Ax T1 DL	T-Ax T2* GRE PEDS
Auto Trigger Type	—	Off	—	—	—	—	—	—	—
Pause After Navigator Prescan	—	—	—	—	—	—	0	—	0

GATING / TRIGGER — SEQUENCES 10-18 OF 18

Scan Description	T-Ax T1 DL	L-Ax T2 DL	L-Ax T1 DL	+C C-Sag T1 Fat DL	C +C Ax T1 DL	+C T-Sag T1 Fat DL	T +C Ax T1 DL	+C L-Sag T1 Fat DL	L+C Ax T1 DL
Auto Trigger Type	—	—	—	—	—	—	—	—	—
Pause After Navigator Prescan	—	—	—	—	—	—	—	—	—

SATURATION

SATURATION — SEQUENCES 1-9 OF 18

Scan Description	TOP-3Plane Loc	BOT-3Plane Loc	Upr-Sag T1 FLAIR DL	Lwr-Sag T1 FLAIR DL	Upr-Sag T2 Fat DL	Lwr-Sag T2 Fat DL	C-Ax 2D MERGE	C-Ax T1 DL	T-Ax T2* GRE PEDS
SAT Location A	—	—	A0.0	A0.0	A0.0	A0.0	—	A14.7	—
SAT Location P	—	—	A43.8	A43.8	A43.8	A43.8	—	—	—
Fat/Water Saturation	—	—	—	—	Fat	Fat	—	—	—
SAT Location S	—	—	—	—	—	—	—	—	—
SAT Location I	—	—	—	—	—	—	—	—	—

SATURATION — SEQUENCES 10-18 OF 18

Scan Description	T-Ax T1 DL	L-Ax T2 DL	L-Ax T1 DL	+C C-Sag T1 Fat DL	C +C Ax T1 DL	+C T-Sag T1 Fat DL	T +C Ax T1 DL	+C L-Sag T1 Fat DL	L+C Ax T1 DL
SAT Location A	P41.1	A5.0	A5.0	A17.8	A14.7	A17.8	P41.1	A17.8	A5.0
SAT Location P	—	—	—	—	—	—	—	—	—
Fat/Water Saturation	—	—	—	Fat	—	Fat	—	Fat	—
SAT Location S	—	Default	Default	—	—	—	—	—	Default
SAT Location I	—	Default	Default	—	—	—	—	—	Default

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