PEDIATRIC TUMOR BRAIN 3T

INSTRUCTIONS AND PATIENT PREPARATION

Anatomical Region	Tumor Brain
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

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
Coil Configuration	GE48chHeadPos, GE48chHeadAnt	GE48chHeadAnt, GE48chHeadPos	GE48chHeadAnt, GE48chHeadPos	GE48chHeadPos, GE48chHeadAnt	GE48chHeadPos, GE48chHeadAnt	GE48chHeadPos, GE48chHeadAnt	GE48chHeadPos, GE48chHeadAnt	GE48chHeadPos, GE48chHeadAnt	GE48chHeadPos, GE48chHeadAnt	GE48chHeadPos, GE48chHeadAnt
Plane	3-PLANE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE	OBLIQUE	SAGITTAL	OBLIQUE	CORONAL

IMAGING PARAMETERS

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
Imaging Mode	2D	2D	2D	2D	2D	3D	2D	3D	3D	3D
Imaging Options	Seq, EDR, TRF, Fast, SS, ARC	Seq, EDR, TRF, Fast, T1flair	EDR, TRF, Fast, FR, ARC	Asset	EDR	EDR, Fast, ZIP512, ARC, HS, IrP	MPh, Asset	EDR, Fast, ZIP512, T2P, ARC, IrP	EDR, Fast, ZIP512, ARC, IrP	EDR, Fast, FR, ARC
Pulse Sequence	Spin Echo	FSE-XL	PROPELLER	DW EPI	Gradient Echo	BRAVO	Gradient Echo EPI	Cube T2 FLAIR	BRAVO	Cube
ARC Phase	2	—	2	—	—	2	—	2	2	2
Phase	—	—	—	2	—	—	2	—	—	—
ARC Slice	—	—	—	—	—	1	—	2	1	2
HyperSense	—	—	—	—	—	1.2	—	—	—	—

IMAGE RECON

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
Recon DL Strength	Off	Medium	Medium	—	—	Off	—	Off	—	—
Intensity Correction	NONE	SCENIC	PURE	PURE	PURE	PURE	NONE	PURE	PURE	PURE
Intensity Filter	None	None	None	None	None	None	None	None	None	None
Save Original	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off

SCAN RANGE

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
FOV	30	20	20	20	20	23	22	23	23	24
Slice Thickness	10	3	3	4	4	0.6	5	0.8	0.6	0.5
Slice Spacing	5	1	0	0.5	0.5	—	1	—	—	—
Overlap Locations	0	0	0	—	—	0	—	0	0	0
No Phase Wrap	1	1	1.5	1	1	1	1	1	1	1
Number of Slices	—	—	—	27	25	1	16	—	1	—
Slices per Slab	—	—	—	—	—	272	—	236	272	392
No Slab Wrap	—	—	—	—	—	1.03	—	1.03	—	—
Slice Resolution(%)	—	—	—	—	—	50	—	50	50	50

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

IMAGING FORUMS, INC.

ACQUISITION TIMING

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
Acq Voxel Size	1.2 X 2.3 X 10.0	0.6 X 0.7 X 3.0	0.5 X 0.5 X 3.0	1.6 X 1.6 X 4.0	0.6 X 0.9 X 4.0	0.9 X 0.9 X 1.2	2.3 X 2.3 X 5.0	0.9 X 0.9 X 1.6	0.9 X 0.9 X 1.2	0.8 X 0.8 X 1.0
Freq	256	352	384	128	320	256	96	256	256	288
Phase	128	280	—	128	224	256	96	256	256	288
Freq DIR	Unswap	Unswap	Unswap	R/L	A/P	A/P	Swap	S/I	A/P	S/I
# of Acq. Before Pause	0	0	—	—	—	—	—	—	—	—
Phase FOV	1	1	—	1	0.75	1	0.9	0.9	1	0.7
Auto Shim	Auto	Auto	On	Auto	Auto	Auto	Auto	Auto	Auto	Auto
Phase Correct	Off	Off	Off	On	Off	Off	On	Off	Off	Off
RF Drive Mode	Preset	Preset	Preset	Preset	Preset	Preset	Preset	Optimized	Preset	Preset
Excitation Mode	Selective	Selective	Selective	Selective	Selective	Selective	Selective	Selective	Selective	Selective
NEX	—	1	1.5	—	1	1	1	1	1	1
Fat Shift DIR	—	Normal	Normal	—	—	Reversed (P)	—	Normal (S)	Reversed	—

SCAN TIMING

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
TE	80	24	100	Minimum	25	—	30	Maximum	—	24
Number of Echoes	1	1	1	1	1	1	1	1	1	1
TR	1000	3500	3349	8500	800	—	1500	6000	—	550
Receiver Bandwidth	83.33	83.33	50	—	31.25	31.25	—	35.71	31.25	62.5
Flip Angle	—	111	142	—	20	12	30	—	12	—
TI	—	932	—	—	—	450	—	1740	450	—
Echo Train Length	—	8	26	—	—	—	—	170	—	24
Number of Shots	—	—	—	1	—	—	1	—	—	—
Recovery Time	—	—	—	—	—	0	—	—	0	—

CONTRAST

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
Contrast Yes/No	No	No	No	No	No	No	+C	+C	+C	+C

OTHERS

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
Anatomical Region	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain
3D Geometry Correction	—	—	—	—	—	On	Off	On	On	On

AIRX

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
Anatomical Reference	—	None	None	—	—	None	—	—	—	—
Anatomical Plane	—	None	None	—	—	None	—	—	—	—

SATURATION

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
Fat/Water Saturation	—	—	Fat	—	—	—	—	Fat	—	Fat
SAT Location I	—	—	—	—	—	—	Default	—	—	—

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NW
IMAGING FORUMS, INC.

DIFFUSION

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
Multi b-values	—	—	—	1000.0;	—	—	—	—	—	—
Optimized TE	—	—	—	On	—	—	—	—	—	—
Multi NEX Values	—	—	—	1;	—	—	—	—	—	—
Diffusion Directions	—	—	—	All	—	—	—	—	—	—
Number of Diffusion Directions	—	—	—	3	—	—	—	—	—	—
Number of T2 Images	—	—	—	1	—	—	—	—	—	—
NEX For T2	—	—	—	1	—	—	—	—	—	—
Dual Spin Echo	—	—	—	Off	—	—	—	—	—	—
# Synthetic b-values	—	—	—	0	—	—	—	—	—	—
Recon All Images	—	—	—	On	—	—	—	—	—	—
Real Time Field Adjustment	—	—	—	On	—	—	—	—	—	—

GATING / TRIGGER

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
Auto Trigger Type	—	—	—	Off	Off	—	Off	—	Off	Off
Pause After Navigator Prescan	—	—	—	—	0	—	0	—	—	—

MULTI-PHASE

Scan Description	3-Plane Loc	Sag T1 FLAIR DL	Ax T2 PROPELLER Fat	Ax DWI	Ax T2* GRE	Pre Ax T1 Stealth	TUMOR-Ax PERFUSION	+C Sag T2 CUBE FLAIR	+C Ax T1 Stealth	+C Cor T1 Cube VASC
Slice per Location	—	—	—	—	—	—	75	—	—	—
Phase Acquisition Order	—	—	—	—	—	—	Interleaved	—	—	—
Delay after Acquisition	—	—	—	—	—	—	Minimum	—	—	—
Delay after Acquisition without AV	—	—	—	—	—	—	0	—	—	—
Seperate Series	—	—	—	—	—	—	0	—	—	—
Mask Phase	—	—	—	—	—	—	Off	—	—	—
Mask Pause	—	—	—	—	—	—	Off	—	—	—

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