PEDIATRIC BRAIN TUMOR CORE 1.5T

INSTRUCTIONS AND PATIENT PREPARATION

Instructions	Core imaging used on all pediatric brain protocols. Optional sequences added based on clinical indication.
Position	Head first supine
Coil	Head 20 or Head 64
Contrast Timing	T2 is performed immediately post contrast to allow time for peak contrast enhancement on T1 imaging.
Patient Preparation	Landmark per department pediatric protocol — pending sign-off.

CONTRAST AGENT PARAMETERS

Contrast Agent	Dose	Injection Rate	Dose Timing Method and Scan Delay
Gadopiclenol (VUEWAY)	0.05 mmol/kg	Hand Bolus or Power Injection	Per department pediatric contrast protocol — pending technologist/radiologist sign-off.
Comments	• Use minimal dose for patients with a GFR <60 mL/sec • Report agent administered and dose		

IMAGING PARAMETERS

Scan Description	SAG 3D T1 MPRAGE	TRANS rDWI	TRAN SWI	Post TRAN T2 TSE	Post TRAN T2 FLAIR FS	Post SAG 3D T1 SPACE FS	Post SAG 3D T1 MPRAGE
Sequence Name	tfl	resolve	swi_r	tseR_rr	tir	spcR	tfl
Mode	Single Shot	Interleaved	Interleaved	Interleaved	Interleaved	—	Single Shot
PAT Mode	GRAPPA	—	GRAPPA	None	None	GRAPPA	GRAPPA
Dimension	3D	2D	3D	2D	2D	3D	3D
Acceleration Factor PE	2	2	2	—	—	2	2
Acceleration Factor 3D	1	—	1	—	—	1	1

SCAN PARAMETERS

Scan Description	SAG 3D T1 MPRAGE	TRANS rDWI	TRAN SWI	Post TRAN T2 TSE	Post TRAN T2 FLAIR FS	Post SAG 3D T1 SPACE FS	Post SAG 3D T1 MPRAGE
TR	1700.0 ms	5630.0 ms	49.0 ms	4260.0 ms	10000.0 ms	900.0 ms	1700.0 ms
TE	2.57 ms	63 ms / 101 ms	40.00 ms	99.00 ms	109.00 ms	18.00 ms	2.57 ms
TI	900 ms	—	—	—	2600 ms	—	900 ms
Flip Angle	8 deg	180 deg	15 deg	180 deg / 90 deg	150 deg / 90 deg	120 deg / 90 deg	8 deg
Turbo Factor	158	—	—	15	16	44	158
Bandwidth	170 Hz/Px	847 Hz/Px	80 Hz/Px	130 Hz/Px	190 Hz/Px	434 Hz/Px	170 Hz/Px
EPI Factor	—	82	—	—	—	—	—
Fat Saturation Mode	—	Strong	—	—	Strong	Strong	—
Fat Suppression	Standard	Fat Saturation	Standard	Standard	Fat Saturation	Fat Saturation	Standard
Gradient Mode	Normal	Fast	Fast	Normal	Normal	Fast	Normal
RF Pulse Type	Fast	Normal	Fast	Normal	Normal	Normal	Fast
Asymmetric Echo	Allowed	—	Off	—	—	—	Allowed

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Supported by an educational grant from Bracco Diagnostics Inc.

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

IMAGING FORUMS, INC.

ACQUISITION PARAMETERS

Scan Description	SAG 3D T1 MPRAGE	TRANS rDWI	TRAN SWI	Post TRAN T2 TSE	Post TRAN T2 FLAIR FS	Post SAG 3D T1 SPACE FS	Post SAG 3D T1 MPRAGE
Base Resolution	192	164	320	256	256	256	192
Phase Resolution	100 %	100 %	85 %	94 %	100 %	100 %	100 %
Slice Resolution	82 %	—	81 %	—	—	75 %	82 %
Averages	1	—	1	2	1	1.0	1
Concatenations	1	1	1	2	2	1	1
b-value	—	0 s/mm²/1000 s/mm²	—	—	—	—	—
FoV Read	200 mm	230 mm	220 mm	210 mm	210 mm	192 mm	200 mm
FoV Phase	100.0 %	100.0 %	87.5 %	90.6 %	90.6 %	100.0 %	100.0 %
Phase Encoding Dir.	A >> P	A >> P	R >> L	R >> L	R >> L	A >> P	A >> P
Phase Oversampling	10 %	0%	0%	0%	0%	10 %	10 %
Slice Oversampling	20.0 %	—	0.0 %	—	—	16.7 %	20.0 %
Phase Partial Fourier	Off	Off	Off	Off	Off	Off	Off
Slice Partial Fourier	Off	—	Off	—	—	Off	Off
Flow Compensation	None	—	On	Read	None	None	None

SCANNING RANGE

Scan Description	SAG 3D T1 MPRAGE	TRANS rDWI	TRAN SWI	Post TRAN T2 TSE	Post TRAN T2 FLAIR FS	Post SAG 3D T1 SPACE FS	Post SAG 3D T1 MPRAGE
Elliptical Filter	Off	—	Off	On	On	Off	Off
Normalize	Prescan	Prescan	Prescan	Prescan	Prescan	Prescan	Prescan
Distortion Correction	2D	2D	2D	2D	2D	2D	2D
Slice Thickness	1.00 mm	4.0 mm	1.20 mm	4.0 mm	4.0 mm	0.80 mm	1.00 mm
Distance Factor	0%	0%	0%	0%	0%	—	0%
Slices	160	39	72	41	41	192	160
Acquisition Time	3:20 min	2:34 min	6:14 min	4:26 min	5:22 min	7:06 min	3:20 min

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