PEDIATRIC BRAIN/ORBIT RETINOBLASTOMA 3T

INSTRUCTIONS AND PATIENT PREPARATION

Instructions	Retinoblastoma (RB) orbit and whole-brain imaging.
Position	Head first supine
Coil	Head 20 or Head 64
Patient Preparation	Landmark per department pediatric protocol — pending sign-off.
Coverage	**Whole Brain coverage** — Pre-contrast Sag 3D T1 MPRAGE, TRAN rDWI; Post-contrast TRAN T2 FLAIR, SAG 3D T1 SPACE FS **Orbit coverage** — TRAN CISS, COR CISS, TRAN T1 VIBE DIXON PRE & POST • Superior — Superior margin of midbrain • Inferior — Mid maxilla • Anterior — Tip of nose • Posterior — Mid pons • Left to Right — Skin to skin

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	TRAN CISS	COR CISS	TRANS rDWI	Tran_T1_VIBE_Dixon	Post Tran_T1_VIBE_Dixon	Post TRAN T2 FLAIR DR	Post SAG 3D T1 SPACE FS
Sequence Name	tfl	ci	ci	resolve	fl	fl	tir	spcR
Mode	Single Shot	Sequential	Sequential	Interleaved	—	—	Interleaved	—
PAT Mode	GRAPPA	—	—	—	None	None	GRAPPA	CS
Dimension	3D	3D	3D	2D	3D	3D	2D	3D
Acceleration Factor PE	2	—	—	2	—	—	2	—
Acceleration Factor 3D	1	—	—	—	—	—	—	—

SCAN PARAMETERS

Scan Description	SAG 3D T1 MPRAGE	TRAN CISS	COR CISS	TRANS rDWI	Tran_T1_VIBE_Dixon	Post Tran_T1_VIBE_Dixon	Post TRAN T2 FLAIR DR	Post SAG 3D T1 SPACE FS
TR	1540.0 ms	8.34 ms	8.37 ms	5160.0 ms	5.69 ms	5.69 ms	10000.0 ms	900.0 ms
TE	2.76 ms	3.81 ms	3.83 ms	58 ms / 100 ms	2.46 ms / 3.69 ms	2.46 ms / 3.69 ms	106.00 ms	19.00 ms
TI	900 ms	—	—	—	—	—	2600 ms	—
Flip Angle	15 deg	50 deg	50 deg	180 deg	11 deg	11 deg	130 deg	—
Turbo Factor	132	—	—	—	—	—	12	44
Bandwidth	150 Hz/Px	454 Hz/Px	444 Hz/Px	875 Hz/Px	740 Hz/Px	740 Hz/Px	349 Hz/Px	434 Hz/Px
EPI Factor	—	—	—	101	—	—	—	—
Fat Saturation Mode	—	—	—	Strong	—	—	Strong	Strong
Fat Suppression	Standard	Standard	Standard	Fat Saturation	Dixon	Dixon	Fat Saturation	Fat Saturation
Gradient Mode	Normal	Fast	Fast	Fast	Fast	Fast	Fast	Fast
RF Pulse Type	Fast	Low SAR	Low SAR	Normal	Fast	Fast	Low SAR	Normal
Asymmetric Echo	Allowed	Allowed	Allowed	—	Weak	Weak	—	—

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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	TRAN CISS	COR CISS	TRANS rDWI	Tran_T1_VIBE_Dixon	Post Tran_T1_VIBE_Dixon	Post TRAN T2 FLAIR DR	Post SAG 3D T1 SPACE FS
Base Resolution	192	256	256	168	160	160	256	256
Phase Resolution	100 %	100 %	100 %	100 %	90 %	90 %	80 %	100 %
Slice Resolution	75 %	100 %	100 %	—	75 %	75 %	—	75 %
Averages	1	1	1	—	1	1	1	1.0
Concatenations	1	—	—	1	1	1	2	1
b-value	—	—	—	0 s/mm²/800 s/mm²	—	—	—	—
FoV Read	192 mm	130 mm	130 mm	220 mm	130 mm	130 mm	210 mm	192 mm
FoV Phase	100.0 %	115.6 %	115.6 %	100.0 %	117.5 %	117.5 %	93.8 %	100.0 %
Phase Encoding Dir.	A >> P	R >> L	R >> L	A >> P	R >> L	R >> L	R >> L	A >> P
Phase Oversampling	20 %	10 %	5%	20 %	15 %	15 %	0%	10 %
Slice Oversampling	10.0 %	62.5 %	33.3 %	—	100.0 %	100.0 %	—	16.7 %
Phase Partial Fourier	Off	Off	Off	Off	Off	Off	Off	Off
Slice Partial Fourier	Off	Off	Off	—	Off	Off	—	Off
Flow Compensation	None	None	None	—	—	—	None	None

SCANNING RANGE

Scan Description	SAG 3D T1 MPRAGE	TRAN CISS	COR CISS	TRANS rDWI	Tran_T1_VIBE_Dixon	Post Tran_T1_VIBE_Dixon	Post TRAN T2 FLAIR DR	Post SAG 3D T1 SPACE FS
Elliptical Filter	On	On	On	—	Off	Off	Off	Off
Normalize	Prescan	Prescan	Prescan	Prescan	Prescan	Prescan	Prescan	Prescan
Distortion Correction	2D	2D	2D	2D	2D	2D	2D	2D
Slice Thickness	1.00 mm	1.45 mm	1.45 mm	4.0 mm	0.8 mm	0.8 mm	4.0 mm	0.80 mm
Distance Factor	0%	0%	0%	0%	0%	0%	0%	—
Slices	160	64	60	37	120	120	41	192
Acquisition Time	3:17 min	7:25 min	5:28 min	3:23 min	3:20 min	3:20 min	3:22 min	4:32 min

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