PEDIATRIC BRAIN/ORBIT NON-RB 1.5T

INSTRUCTIONS AND PATIENT PREPARATION

Instructions	Non-RB orbit imaging (all other orbital lesions and tumors including optic nerve glioma) with whole-brain coverage.
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 T2 TSE DIXON, COR T2 TSE DIXON, PRE- and POST TRAN T1 VIBE DIXON, and POST COR T1 TSE DIXON • 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 _T2_TSE_Dixon	Tran_T1_VIBE_Dixon	TRANS rDWI	Cor _T2_TSE_Dixon	Post Tran_T1_VIBE_Dixon	Post COR T1 TSE DIXON	Post TRAN T2 FLAIR	Post SAG 3D T1 SPACE FS
Sequence Name	tfl	tseR	fl	resolve	tseR	fl	tse	tir	spcR
Mode	Single Shot	Interleaved	—	Interleaved	Interleaved	—	Interleaved	Interleaved	—
PAT Mode	GRAPPA	None	None	—	None	None	None	None	GRAPPA
Dimension	3D	—	3D	2D	—	3D	—	2D	3D
Acceleration Factor PE	2	—	—	2	—	—	—	—	2
Acceleration Factor 3D	1	—	—	—	—	—	—	—	1

SCAN PARAMETERS

Scan Description	SAG 3D T1 MPRAGE	Tran _T2_TSE_Dixon	Tran_T1_VIBE_Dixon	TRANS rDWI	Cor _T2_TSE_Dixon	Post Tran_T1_VIBE_Dixon	Post COR T1 TSE DIXON	Post TRAN T2 FLAIR	Post SAG 3D T1 SPACE FS
TR	1540.0 ms	5160.0 ms	6.68 ms	5570.0 ms	4190.0 ms	6.68 ms	669.0 ms	10000.0 ms	900.0 ms
TE	2.82 ms	89.00 ms	2.39 ms / 4.77 ms	66 ms / 107 ms	87.00 ms	2.39 ms / 4.77 ms	13.00 ms	107.00 ms	18.00 ms
TI	900 ms	—	—	—	—	—	—	2600 ms	—
Flip Angle	15 deg	160 deg / 90 deg	11 deg	180 deg	160 deg / 90 deg	11 deg	160 deg / 90 deg	130 deg / 90 deg	120 deg / 90 deg
Turbo Factor	132	21	—	—	21	—	5	12	44
Bandwidth	150 Hz/Px	383 Hz/Px	740 Hz/Px	744 Hz/Px	381 Hz/Px	740 Hz/Px	319 Hz/Px	349 Hz/Px	434 Hz/Px
EPI Factor	—	—	—	101	—	—	—	—	—
Fat Saturation Mode	—	Strong	—	Strong	Strong	—	Strong	Strong	Strong
Fat Suppression	Standard	Dixon	Dixon	Fat Saturation	Dixon	Dixon	Dixon	Fat Saturation	SPAIR
Gradient Mode	Normal	Normal	Fast	Fast	Normal	Fast	Normal	Fast	Fast
RF Pulse Type	Fast	Normal	Fast	Normal	Normal	Fast	Normal	Low SAR	Normal
Asymmetric Echo	Allowed	Off	Weak	—	Off	Weak	Off	—	—

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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 _T2_TSE_Dixon	Tran_T1_VIBE_Dixon	TRANS rDWI	Cor _T2_TSE_Dixon	Post Tran_T1_VIBE_Dixon	Post COR T1 TSE DIXON	Post TRAN T2 FLAIR	Post SAG 3D T1 SPACE FS
Base Resolution	192	256	160	168	320	160	320	256	256
Phase Resolution	100 %	75 %	90 %	100 %	75 %	90 %	70 %	80 %	100 %
Slice Resolution	75 %	—	75 %	—	—	75 %	—	—	75 %
Averages	1	1	1	—	1	1	1	1	1.0
Concatenations	1	2	1	1	3	1	5	2	1
b-value	—	—	—	0 s/mm²/800 s/mm²	—	—	—	—	—
FoV Read	192 mm	130 mm	130 mm	220 mm	150 mm	130 mm	150 mm	210 mm	192 mm
FoV Phase	100.0 %	115.6 %	117.5 %	100.0 %	100.0 %	117.5 %	100.0 %	93.8 %	100.0 %
Phase Encoding Dir.	A >> P	R >> L	R >> L	A >> P	R >> L	R >> L	R >> L	R >> L	A >> P
Phase Oversampling	20 %	15 %	15 %	20 %	10 %	15 %	20 %	0%	10 %
Slice Oversampling	10.0 %	—	100.0 %	—	—	100.0 %	—	—	8.3 %
Phase Partial Fourier	Off	Off	Off	Off	Off	Off	Off	Off	Off
Slice Partial Fourier	Off	—	Off	—	—	Off	—	—	Off
Flow Compensation	None	None	—	—	None	—	None	None	None

SCANNING RANGE

Scan Description	SAG 3D T1 MPRAGE	Tran _T2_TSE_Dixon	Tran_T1_VIBE_Dixon	TRANS rDWI	Cor _T2_TSE_Dixon	Post Tran_T1_VIBE_Dixon	Post COR T1 TSE DIXON	Post TRAN T2 FLAIR	Post SAG 3D T1 SPACE FS
Elliptical Filter	On	Off	Off	—	Off	Off	Off	Off	Off
Normalize	Prescan	Prescan	Prescan	Off	Prescan	Prescan	Prescan	Prescan	Prescan
Distortion Correction	2D	2D	2D	2D	2D	2D	2D	2D	2D
Slice Thickness	1.00 mm	3.0 mm	0.8 mm	4.0 mm	3.0 mm	0.8 mm	3.0 mm	4.0 mm	0.80 mm
Distance Factor	0%	0%	0%	0%	0%	0%	0%	0%	—
Slices	160	35	120	37	45	120	45	41	192
Acquisition Time	3:17 min	4:40 min	3:56 min	4:46 min	5:41 min	3:56 min	6:06 min	5:42 min	6:36 min

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