PEDIATRIC BRAIN OPTIONAL ADD-ON 3T

INSTRUCTIONS AND PATIENT PREPARATION

Instructions	Optional sequences added to the brain core based on clinical indication.
Position	Head first supine
Coil	Head 20 or Head 64
Patient Preparation	Landmark per department pediatric protocol — pending sign-off.
Add-On Sequence Indications and Coverage	• **Optic Pathway Glioma** — COR T2 TSE W/ FAT SAT: Cover mid globe through floor of 4th ventricle. • **Craniopharyngioma** — COR CISS (SELLA): Cover back of globe to mid thalamus. • **Embryonal Tumor** — Replace TRAN T2 FLAIR FS with TRAN T2 FLAIR FS 2.5 (only difference between the sequences is slice thickness). • **Scalp or Osseous Calvarial Lesion** — COR STIR covering all soft tissue from tip of nose through posterior scalp. • **IAC** — TRAN CISS IAC (ISO). MPR images into Coronal and Sagittal planes. This is a very long isotropic sequence. If a radiologist is available to check the images, coverage can be narrowed down. If no radiologist available, coverage is as follows: Superior — Above midbrain; Inferior — Lower border of C2; Anterior — Mid orbit; Posterior — Soft tissue of occipital scalp; Left to Right — Skin to skin. • **High Grade Glioma** — TRAN DSC WHOLE BRAIN: see Contrast Agent Parameters above for injection timing.

CONTRAST AGENT PARAMETERS

Contrast Agent	Dose	Injection Rate	Dose Timing Method and Scan Delay
Gadopiclenol (VUEWAY)	0.05 mmol/kg	DSC: power injected at 4 mL/s	DSC perfusion (TRAN DSC WHOLE BRAIN) — injected during the 15th dynamic; acquired for 60 dynamics
Comments	• Among these optional sequences, contrast affects only the DSC perfusion and the TRAN T2 FLAIR FS; the other add-ons may be acquired at any time or as clinically indicated. CISS is typically performed pre-contrast. • Use minimal dose for patients with a GFR <60 mL/sec • Report agent administered and dose		

IMAGING PARAMETERS

Scan Description	TRAN DSC WHOLE BRAIN	COR T2 TSE W FAT SAT DR	COR CISS (SELLA)	TRAN T2 FLAIR FS 2.5	COR STIR DR	TRAN CISS IAC (ISO)
Clinical Indication	High Grade Glioma	Optic Pathway Glioma	Craniopharyngioma	Embryonal Tumor	Scalp or Osseous Calvarial Lesion	IAC
Sequence Name	epfid	tse_rs	ci	tir	tir	ci
Mode	Interleaved	Interleaved	Sequential	Interleaved	Interleaved	Sequential
PAT Mode	GRAPPA	GRAPPA	—	GRAPPA	GRAPPA	—
Dimension	—	2D	3D	2D	2D	3D
Acceleration Factor PE	2	2	—	2	2	—
Acceleration Factor 3D	—	—	—	—	—	—

SCAN PARAMETERS

Scan Description	TRAN DSC WHOLE BRAIN	COR T2 TSE W FAT SAT DR	COR CISS (SELLA)	TRAN T2 FLAIR FS 2.5	COR STIR DR	TRAN CISS IAC (ISO)
TR	2720.0 ms	5610.0 ms	6.10 ms	10000.0 ms	4500.0 ms	8.03 ms
TE	25.00 ms	100.00 ms	2.64 ms	107.00 ms	25.00 ms	3.69 ms
TI	—	—	—	2600 ms	200 ms	—
Flip Angle	30 deg	140 deg	50 deg	130 deg	180 deg	50 deg
Turbo Factor	—	19	—	12	7	—
Bandwidth	1196 Hz/Px	250 Hz/Px	425 Hz/Px	349 Hz/Px	130 Hz/Px	401 Hz/Px
EPI Factor	110	—	—	—	—	—
Fat Saturation Mode	—	Strong	—	Strong	—	—
Fat Suppression	Fat Saturation	Fat Saturation	Standard	Fat Saturation	Standard	Standard
Gradient Mode	Fast	Fast	Fast	Fast	Fast	Fast
RF Pulse Type	Normal	Normal	Normal	Low SAR	Normal	Low SAR
Asymmetric Echo	—	—	Allowed	—	—	Allowed

Disclaimer: The MR Protocols information is provided by independent physicians and technologists and is not intended to provide definitive or complete medical instructional or treatment information. Products referenced herein should be used consistently with their package inserts, and any devices referenced herein should be used consistently with the operation instructions provided by their respective manufactures. Northwest Imaging Forums, Inc. and Bracco Diagnostics Inc. do not offer medical advice and shall not be responsible for any person's reliance on this protocol.

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	TRAN DSC WHOLE BRAIN	COR T2 TSE W FAT SAT DR	COR CISS (SELLA)	TRAN T2 FLAIR FS 2.5	COR STIR DR	TRAN CISS IAC (ISO)
Base Resolution	110	256	256	256	256	192
Phase Resolution	100 %	80 %	96 %	80 %	97 %	100 %
Slice Resolution	—	—	100 %	—	—	94 %
Averages	1	4	1	1	1	1
Concatenations	1	2	—	2	2	—
b-value	—	—	—	—	—	—
FoV Read	220 mm	120 mm	120 mm	210 mm	210 mm	130 mm
FoV Phase	100.0 %	100.0 %	100.0 %	93.8 %	93.8 %	115.6 %
Phase Encoding Dir.	A >> P	R >> L	R >> L	R >> L	R >> L	R >> L
Phase Oversampling	0%	0%	30 %	0%	0%	10 %
Slice Oversampling	—	—	66.7 %	—	—	60.0 %
Phase Partial Fourier	7/8	Off	Off	Off	Off	Off
Slice Partial Fourier	—	—	7/8	—	—	Off
Flow Compensation	—	Slice	None	None	None	None

SCANNING RANGE

Scan Description	TRAN DSC WHOLE BRAIN	COR T2 TSE W FAT SAT DR	COR CISS (SELLA)	TRAN T2 FLAIR FS 2.5	COR STIR DR	TRAN CISS IAC (ISO)
Elliptical Filter	Off	Off	On	Off	Off	On
Normalize	Prescan	Prescan	Prescan	Prescan	Prescan	Prescan
Distortion Correction	Off	2D	2D	2D	2D	2D
Slice Thickness	4.0 mm	3.0 mm	1.00 mm	2.5 mm	4.0 mm	0.70 mm
Distance Factor	0%	0%	0%	0%	0%	0%
Slices	41	37	72	61	57	60
Acquisition Time	3:32 min	4:58 min	5:52 min	3:22 min	3:02 min	4:53 min

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