PEDIATRIC BONE LESION AGGRESSIVE (SMALLER PATIENTS) 3T

INSTRUCTIONS AND PATIENT PREPARATION

Instructions	Dependent on which anatomy is being scanned Sedation vs bundle and feed is the ordering provider's decision
Common Indications	Osteosarcoma Lymphoma Langerhans Cell Histiocytosis Malignant Nerve Sheath Tumor
Position	Dependent on which anatomy is being scanned
Coil	Dependent on which anatomy is being scanned
Landmark	Dependent on which anatomy is being scanned
Patient Population	These protocols are intended for smaller patients and serve as starting points. If a smaller FOV is needed, the parameters are modified accordingly.

CONTRAST AGENT PARAMETERS

Contrast Agent	Dose	Injection Rate	Dose Timing Method and Scan Delay
Gadopiclenol (VUEWAY)	0.1 mL/kg	Hand injected	Post-contrast series acquired after gadolinium administration

IMAGING PARAMETERS

Scan Description	localizer	AX STIR	AX T1 FS	AX PD	AX DWI B50_800	COR T2 STIR	COR T1	POST AX T1 FS	POST COR T1 FS
Sequence Name	fl	tir	tse	tseR	epse	tir	tse	tse	tse
Dimension	2D	2D	2D	2D	2D	2D	2D	2D	2D
Acceleration mode	None	GRAPPA	GRAPPA	None	SMS	GRAPPA	None	GRAPPA	GRAPPA
Acceleration Factor PE	—	2	2	—	2	2	—	2	2
Reference Lines PE	—	35	32	—	50	32	—	32	32
Reference Scans	—	Integrated	Self-calibration	—	GRE/Separate	Self-calibration	—	Self-calibration	Self-calibration
Deep Resolve	Off	Off	Off	Off	Off	Off	Off	Off	Off

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SCAN PARAMETERS

Scan Description	localizer	AX STIR	AX T1 FS	AX PD	AX DWI B50_800	COR T2 STIR	COR T1	POST AX T1 FS	POST COR T1 FS
TR	7.8 ms	3550.0 ms	696.0 ms	3000.0 ms	4400.0 ms	3550.0 ms	695.0 ms	696.0 ms	640.0 ms
TE	3.69 ms	53.00 ms	12.00 ms	30.00 ms	59.00 ms	58.00 ms	9.10 ms	12.00 ms	9.10 ms
TI	—	210 ms	—	—	—	220 ms	—	—	—
Flip Angle	20 deg	120 deg	120 deg	150 deg	—	158 deg	122 deg	120 deg	122 deg
Bandwidth	320 Hz/Px	217 Hz/Px	198 Hz/Px	240 Hz/Px	2170 Hz/Px	200 Hz/Px	223 Hz/Px	198 Hz/Px	223 Hz/Px
Turbo Factor	—	7	3	7	—	9	3	3	3
Echo Spacing	—	8.75 ms	11.8 ms	10.1 ms	0.55 ms	9.60 ms	9.08 ms	11.8 ms	9.08 ms
Echo Trains per Slice	—	18	33	33	—	14	67	33	34
EPI Factor	—	—	—	—	104	—	—	—	—
Gradient Mode	Normal	Fast	Fast	Fast	Fast	Fast	Fast	Fast	Fast
RF Pulse Type	Normal	Fast	Low SAR	Low SAR	Low SAR	Normal	Normal	Low SAR	Normal
RF Spoiling	On	—	—	—	—	—	—	—	—
Asymmetric Echo	Off	—	—	—	—	—	—	—	—
Flow Compensation	None	None	None	None	—	None	None	None	None
Reduce Motion Sens.	—	Off	On	On	—	On	Off	On	Off
Phase Correction	—	Automatic	Automatic	Automatic	External	Automatic	Automatic	Automatic	Automatic

CONTRAST & MAGNETIZATION

Scan Description	localizer	AX STIR	AX T1 FS	AX PD	AX DWI B50_800	COR T2 STIR	COR T1	POST AX T1 FS	POST COR T1 FS
Fat-Water Contrast	Standard	Standard	Fat Saturation	Standard	SPAIR	Standard	Standard	Fat Saturation	Fat Saturation
Fat Saturation	—	—	Strong	—	Strong	—	—	Strong	Strong
Magn. Preparation	None	Slice-sel. IR	None	None	None	Slice-sel. IR	None	None	None
MTC	Off	Off	Off	Off	Off	Off	Off	Off	Off
Dark Blood	Off	Off	Off	Off	—	Off	Off	Off	Off
Contrasts	1	1	1	1	—	1	1	1	1
Reconstruction	Magnitude	Magnitude	Magnitude	Magnitude	Magnitude	Magnitude	Magnitude	Magnitude	Magnitude
Wrap-up Magn.	—	None	None	Restore	—	None	None	None	None

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ACQUISITION PARAMETERS

Scan Description	localizer	AX STIR	AX T1 FS	AX PD	AX DWI B50_800	COR T2 STIR	COR T1	POST AX T1 FS	POST COR T1 FS
Base Resolution	256	320	320	320	128	320	320	320	320
Phase Resolution	80 %	80 %	70 %	80 %	100 %	75 %	70 %	70 %	70 %
Averages	1	1	2	1	—	2	2	2	2
Concatenations	21	3	5	2	1	2	2	5	3
FoV Read	400 mm	200 mm	200 mm	200 mm	340 mm	380 mm	380 mm	200 mm	380 mm
FoV Phase	100.0 %	84.4 %	81.3 %	81.3 %	81.3 %	81.3 %	81.3 %	81.3 %	81.3 %
Phase Encoding Dir.	R >> L	A >> P	A >> P	A >> P	A >> P	R >> L	R >> L	A >> P	R >> L
Phase Oversampling	25 %	0 %	8 %	8 %	0 %	25 %	10 %	8 %	10 %
Phase Partial Fourier	Off	Off	Off	Off	Off	Off	Off	Off	Off
Interpolation	On	On	Off	On	On	Off	Off	Off	Off
Multi-Slice Mode	Sequential	Interleaved	Interleaved	Interleaved	Interleaved	Interleaved	Interleaved	Interleaved	Interleaved

SCANNING RANGE

Scan Description	localizer	AX STIR	AX T1 FS	AX PD	AX DWI B50_800	COR T2 STIR	COR T1	POST AX T1 FS	POST COR T1 FS
Slice Thickness	6.0 mm	4.0 mm	4.0 mm	4.0 mm	5.0 mm	4.0 mm	4.0 mm	4.0 mm	4.0 mm
Slices	11 Slices	60 Slices	60 Slices	60 Slices	48 Slices	39 Slices	39 Slices	60 Slices	39 Slices
Distance Factor	200 %	20 %	20 %	20 %	20 %	10 %	10 %	20 %	10 %
Special Saturation	None	None	None	None	None	None	None	None	None
Raw Filter	Off	Off	Off	Off	On	Off	Off	Off	Off
Elliptical Filter	On	On	On	On	Off	On	On	On	On
Image Filter	Off	Off	Off	Off	—	Off	Off	Off	Off
Distortion Correction	2D	2D	2D	2D	2D	2D	2D	2D	2D
Normalize	Prescan	Prescan	B1 Filter	B1 Filter	Prescan	Prescan	Prescan	B1 Filter	Prescan
Noise Masking	—	—	—	—	Off	—	—	—	—
Time of Acquisition	43 sec	3:24 min	3:55 min	3:26 min	2:33 min	3:27 min	3:09 min	3:55 min	2:14 min

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DIFFUSION

Scan Description	localizer	AX STIR	AX T1 FS	AX PD	AX DWI B50_800	COR T2 STIR	COR T1	POST AX T1 FS	POST COR T1 FS
Diffusion Mode	—	—	—	—	3D Diagonal	—	—	—	—
Diffusion Scheme	—	—	—	—	Monopolar	—	—	—	—
Diff. Directions	—	—	—	—	1	—	—	—	—
b-value 1	—	—	—	—	50 s/mm²	—	—	—	—
b-value 2	—	—	—	—	800 s/mm²	—	—	—	—
Averages b-value 1	—	—	—	—	5	—	—	—	—
Averages b-value 2	—	—	—	—	20	—	—	—	—
Diff. Weightings	—	—	—	—	2	—	—	—	—
Diff. Weighted Images	—	—	—	—	On	—	—	—	—
Trace Weighted Images	—	—	—	—	Off	—	—	—	—
ADC Maps	—	—	—	—	On	—	—	—	—
Exponential ADC Maps	—	—	—	—	Off	—	—	—	—
FA Maps	—	—	—	—	Off	—	—	—	—
Calculated Image	—	—	—	—	Off	—	—	—	—

POST-PROCESSING / INLINE

Scan Description	localizer	AX STIR	AX T1 FS	AX PD	AX DWI B50_800	COR T2 STIR	COR T1	POST AX T1 FS	POST COR T1 FS
Subtract	Off	Off	Off	Off	—	Off	Off	Off	Off
Subtract Measurements	1	1	1	1	—	1	1	1	1
StdDev	Off	Off	Off	Off	—	Off	Off	Off	Off
MIP Sagittal	Off	Off	Off	Off	—	Off	Off	Off	Off
MIP Coronal	Off	Off	Off	Off	—	Off	Off	Off	Off
MIP Transversal	Off	Off	Off	Off	—	Off	Off	Off	Off
MIP Time	Off	Off	Off	Off	—	Off	Off	Off	Off
Radial MIP	Off	Off	Off	Off	—	Off	Off	Off	Off
MPR Sagittal	Off	Off	Off	Off	—	Off	Off	Off	Off
MPR Coronal	Off	Off	Off	Off	—	Off	Off	Off	Off
MPR Transversal	Off	Off	Off	Off	—	Off	Off	Off	Off
Inline Composing	On	On	On	On	—	On	On	On	On

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