# PEDIATRIC EPILEPSY W/WO - SURGICAL PLANNING (SMALLER PATIENTS) 3T

## INSTRUCTIONS AND PATIENT PREPARATION

| | |
|---|---|
| **Instructions** | Position the head in the head coil and immobilize with cushions<br>Give cushions under the legs for extra comfort<br>Connect the anterior portion of the head coil and secure it in place.<br>Sedation vs bundle and feed is the ordering provider's decision |
| **Common Indications** | Seizure<br>Epilepsy |
| **Position** | Head First<br>Supine |
| **Coil** | Head Coil 20ch |
| **Landmark** | Center over the glabella |
| **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. |
| **AX DTI** | We would perform the DTI only if it's requested |

## 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 | AAhead_scout | SAG MPRAGE 3D | SAG T2 3D SPACE STEALTH | SAG 3D T2 FLAIR | AX T2WI (3mm) DRB | AX T2 FLAIR DRB | AX DWI | AX DTI | AX SWI | COR T2WI (2mm) DRB | POST SAG MPRAGE 3D | POST AX T2 FLAIR DRB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sequence Name** | fl | tfl | spcR | spcir | tseR | tir | epse | epse | swi_r | tse | tfl | tir |
| **Dimension** | 3D | 3D | 3D | 3D | 2D | 2D | 2D | 2D | 3D | 2D | 3D | 2D |
| **Acceleration mode** | GRAPPA | GRAPPA | CAIPIRINHA | GRAPPA | GRAPPA | GRAPPA | SMS | SMS | GRAPPA | GRAPPA | GRAPPA | GRAPPA |
| **Total Factor** | — | — | 4 | 2 | — | — | — | — | — | — | — | — |
| **Acceleration Factor PE** | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 3 |
| **Acceleration Factor 3D** | 1 | 1 | 2 | 1 | — | — | — | — | 1 | — | 1 | — |
| **Reference Lines PE** | 24 | 64 | 24 | 24 | 40 | 52 | 30 | 34 | 24 | 26 | 64 | 52 |
| **Reference Scans** | Integrated | GRE/Separate | Integrated | Integrated | Integrated | Integrated | EPI/Separate | EPI/Separate | Integrated | Integrated | GRE/Separate | Integrated |
| **Deep Resolve** | — | — | — | — | On | On | Off | Off | Off | On | — | On |

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

NW IMAGING FORUMS, INC.

**SCAN PARAMETERS**

| Scan Description | AAhead_scout | SAG MPRAGE 3D | SAG T2 3D SPACE STEALTH | SAG 3D T2 FLAIR | AX T2WI (3mm) DRB | AX T2 FLAIR DRB | AX DWI | AX DTI | AX SWI | COR T2WI (2mm) DRB | POST SAG MPRAGE 3D | POST AX T2 FLAIR DRB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TR** | 3.15 ms | 2500.0 ms | 3200.0 ms | 5000.0 ms | 4000.0 ms | 9000.0 ms | 3200.0 ms | 4100.0 ms | 27.0 ms | 5500.0 ms | 2500.0 ms | 9000.0 ms |
| **TE** | 1.37 ms | 3.87 ms | 401.00 ms | 385.00 ms | 106.00 ms | 126.00 ms | 87.00 ms | 89.00 ms | 20.00 ms | 111.00 ms | 3.87 ms | 126.00 ms |
| **TI** | — | 1240 ms | — | 1800 ms | — | 2500 ms | — | — | — | — | 1240 ms | 2500 ms |
| **Flip Angle** | 8 deg | 8 deg | T2 Var | T2 Var | 160 deg | 150 deg | — | — | 15 deg | 150 deg | 8 deg | 150 deg |
| **Bandwidth** | 540 Hz/Px | 170 Hz/Px | 657 Hz/Px | 668 Hz/Px | 241 Hz/Px | 289 Hz/Px | 1540 Hz/Px | 1330 Hz/Px | 120 Hz/Px | 266 Hz/Px | 170 Hz/Px | 289 Hz/Px |
| **Turbo Factor** | — | 224 | 282 | 278 | 15 | 21 | — | — | — | 17 | 224 | 21 |
| **Echo Spacing** | — | 9.06 ms | 3.78 ms | 3.74 ms | 9.60 ms | 9.02 ms | 0.94 ms | 0.94 ms | — | 11.1 ms | 9.06 ms | 9.02 ms |
| **Echo Trains per Slice** | — | — | — | — | 12 | 7 | — | — | — | 10 | — | 7 |
| **EPI Factor** | — | — | — | — | — | — | 112 | 114 | — | — | — | — |
| **Gradient Mode** | Normal | Normal | Fast | Fast | Fast | Fast | Fast* | Fast | Normal | Fast | Normal | Fast |
| **RF Pulse Type** | Fast | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Fast | Normal | Normal | Normal |
| **RF Spoiling** | On | On | — | — | — | — | — | — | On | — | On | — |
| **Asymmetric Echo** | Weak | Off | — | — | — | — | — | — | Off | — | Off | — |
| **Flow Compensation** | — | None | None | None | None | None | — | — | On | None | None | None |
| **Reduce Motion Sens.** | — | — | — | — | On | On | — | — | — | On | — | On |
| **Phase Correction** | — | — | — | — | Automatic | Automatic | External | Internal | — | Automatic | — | Automatic |

**CONTRAST & MAGNETIZATION**

| Scan Description | AAhead_scout | SAG MPRAGE 3D | SAG T2 3D SPACE STEALTH | SAG 3D T2 FLAIR | AX T2WI (3mm) DRB | AX T2 FLAIR DRB | AX DWI | AX DTI | AX SWI | COR T2WI (2mm) DRB | POST SAG MPRAGE 3D | POST AX T2 FLAIR DRB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fat-Water Contrast** | Standard | Standard | Standard | Fat Saturation | Standard | Fat Saturation | Fat Saturation | Fat Saturation | Standard | Standard | Standard | Fat Saturation |
| **Fat Saturation** | — | — | — | Strong | — | Strong | Strong | Strong | — | — | — | Strong |
| **Magn. Preparation** | — | Non-sel. IR | None | Non-sel. T2-IR | None | Slice-sel. IR | None | None | None | None | Non-sel. IR | Slice-sel. IR |
| **MTC** | — | — | Off | Off | Off | Off | Off | Off | Off | Off | — | Off |
| **Dark Blood** | — | Off | 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 | Magn./Phase | Magnitude | Magnitude | Magnitude |
| **Wrap-up Magn.** | — | — | Restore | None | Restore | None | — | — | — | None | — | None |

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

IMAGING FORUMS, INC.

**ACQUISITION PARAMETERS**

| Scan Description | AAhead_scout | SAG MPRAGE 3D | SAG T2 3D SPACE STEALTH | SAG 3D T2 FLAIR | AX T2WI (3mm) DRB | AX T2 FLAIR DRB | AX DWI | AX DTI | AX SWI | COR T2WI (2mm) DRB | POST SAG MPRAGE 3D | POST AX T2 FLAIR DRB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Base Resolution** | 160 | 224 | 224 | 288 | 384 | 320 | 112 | 114 | 256 | 384 | 224 | 320 |
| **Phase Resolution** | 100 % | 100 % | 100 % | 100 % | 80 % | 70 % | 100 % | 100 % | 96 % | 80 % | 100 % | 70 % |
| **Slice Resolution** | 69 % | 100 % | 100 % | 100 % | — | — | — | — | 100 % | — | 100 % | — |
| **Averages** | 1 | 1 | 2.0 | 1.0 | 1 | 1 | — | — | 1 | 1 | 1 | 1 |
| **Concatenations** | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 3 | 1 | 2 |
| **FoV Read** | 260 mm | 200 mm | 200 mm | 250 mm | 180 mm | 180 mm | 180 mm | 180 mm | 180 mm | 160 mm | 200 mm | 180 mm |
| **FoV Phase** | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % |
| **Phase Encoding Dir.** | A >> P | A >> P | A >> P | A >> P | R >> L | R >> L | A >> P | A >> P | R >> L | R >> L | A >> P | R >> L |
| **Phase Oversampling** | 0 % | 0 % | 0 % | 0 % | 50 % | 50 % | 0 % | 0 % | 0 % | 50 % | 0 % | 50 % |
| **Slice Oversampling** | 0.0 % | 7.7 % | 8.3 % | 0.0 % | — | — | — | — | 10.0 % | — | 7.7 % | — |
| **Phase Partial Fourier** | 6/8 | Off | Off | Allowed | Off | Off | 7/8 | 6/8 | 7/8 | Off | Off | Off |
| **Slice Partial Fourier** | 6/8 | Off | Off | 7/8 | — | — | — | — | 7/8 | — | Off | — |
| **Interpolation** | — | On | On | On | On | On | On | Off | Off | On | On | On |
| **Trajectory** | Cartesian | — | — | — | — | — | — | — | — | — | — | — |
| **Multi-Slice Mode** | Sequential | Single Shot | — | — | Interleaved | Interleaved | Interleaved | Interleaved | Interleaved | Interleaved | Single Shot | Interleaved |

**SCANNING RANGE**

| Scan Description | AAhead_scout | SAG MPRAGE 3D | SAG T2 3D SPACE STEALTH | SAG 3D T2 FLAIR | AX T2WI (3mm) DRB | AX T2 FLAIR DRB | AX DWI | AX DTI | AX SWI | COR T2WI (2mm) DRB | POST SAG MPRAGE 3D | POST AX T2 FLAIR DRB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Slice Thickness** | 1.6 mm | 0.90 mm | 0.90 mm | 0.90 mm | 3.0 mm | 4.0 mm | 4.0 mm | 1.8 mm | 1.50 mm | 2.0 mm | 0.90 mm | 4.0 mm |
| **Slices** | 128 Slices per Slab | 208 Slices per Slab | 192 Slices per Slab | 192 Slices per Slab | 50 Slices | 34 Slices | 34 Slices | 62 Slices | 80 Slices per Slab | 80 Slices | 208 Slices per Slab | 34 Slices |
| **Distance Factor** | 20 % | 50 % | — | — | 10 % | 10 % | 10 % | 0 % | 20 % | 10 % | 50 % | 10 % |
| **Special Saturation** | — | — | None | None | None | None | None | None | None | None | — | None |
| **Raw Filter** | Off | Off | On | On | Off | Off | Off | Off | Off | Off | Off | Off |
| **Elliptical Filter** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| **Image Filter** | Off | On | Off | Off | Off | Off | — | — | Off | Off | On | Off |
| **Distortion Correction** | 3D | 2D | 2D | 2D | 2D | 2D | Off | Off | 2D | 2D | 2D | 2D |
| **Normalize** | Prescan | Prescan | Prescan | Prescan | Prescan | Prescan | Prescan | Prescan | Prescan | Prescan | Prescan | Prescan |
| **Noise Masking** | Off | — | — | — | — | — | Off | Off | — | — | — | — |
| **Time of Acquisition** | 14 sec | 4:52 min | 4:40 min | 7:57 min | 1:46 min | 2:26 min | 3:20 min | 7:20 min | 4:11 min | 3:03 min | 4:52 min | 2:26 min |

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IMAGING FORUMS, INC.

**DIFFUSION**

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Diffusion Mode** | — | — | — | — | — | — | MDDW | MDDW | — | — | — | — |
| **Diffusion Scheme** | — | — | — | — | — | — | Monopolar | Monopolar | — | — | — | — |
| **Diff. Directions** | — | — | — | — | — | — | 6 | 30 | — | — | — | — |
| **b-value 1** | — | — | — | — | — | — | 0 s/mm² | 0 s/mm² | — | — | — | — |
| **b-value 2** | — | — | — | — | — | — | 1000 s/mm² | 1000 s/mm² | — | — | — | — |
| **Averages b-value 1** | — | — | — | — | — | — | 1 | 12 | — | — | — | — |
| **Averages b-value 2** | — | — | — | — | — | — | 3 | 3 | — | — | — | — |
| **Diff. Weightings** | — | — | — | — | — | — | 3 | 2 | — | — | — | — |
| **Diff. Weighted Images** | — | — | — | — | — | — | Off | On | — | — | — | — |
| **Trace Weighted Images** | — | — | — | — | — | — | On | On | — | — | — | — |
| **ADC Maps** | — | — | — | — | — | — | On | On | — | — | — | — |
| **Exponential ADC Maps** | — | — | — | — | — | — | Off | Off | — | — | — | — |
| **FA Maps** | — | — | — | — | — | — | On | On | — | — | — | — |
| **Calculated Image** | — | — | — | — | — | — | Off | Off | — | — | — | — |

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