# MULTIPLE SCLEROSIS BRAIN 1.5T

## INSTRUCTIONS AND PATIENT PREPARATION

| | |
|---|---|
| **Instructions** | • Exam consists of a high-resolution Sagittal FLAIR sequence to visualize the corpus callosum<br>• This exam is performed in addition to a brain MRI<br>• Contrast is used for most adult examinations to evaluate for active demyelination |
| **Position** | Supine, head first |
| **Coil** | Head, HNU (Head 24 selected if possible) |
| **Landmark** | Glabella or chin |

## CONTRAST AGENT PARAMETERS

| Contrast Agent | Dose | Injection Rate |
|---|---|---|
| **Gadopiclenol (VUEWAY)** | 0.05 mmol/kg up to a calculated volume of 10 mL | Hand Bolus<br>Perfusion-weighted imaging (PWI), injector at 4-5 mL/sec |
| **Saline Flush** | 10-20 mL | Hand Flush |
| **Comments** | Report agent administered and dose | |

## IMAGING PARAMETERS

| Scan Description | 3PL LOCALIZER | SAGITTAL T1 | AXIAL T2 FSFSE | AXIAL T1 3D BRAVO | AXIAL DWI | AXIAL T2* GRE | Pre or Post SAGITTAL T2 FLAIR CUBE | Post AXIAL T1 3D BRAVO | Post CORONAL T1 CUBE |
|---|---|---|---|---|---|---|---|---|---|
| **Primary Sequence** | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Mode** | 2D | 2D | 2D | 3D BRAVO | 2D | 2D | 3D | 3D BRAVO | 3D |
| **Pulse Sequence** | SSFSE | FSE-XL | FRFSE-XL | BRAVO | SE-EPI | GRE | CUBE | BRAVO | CUBE |
| **Imaging Options** | SEQ, EDR, FAST, SS, ARC, TRF | TRF, FAST, ZIP512 | FC, TRF, FR, ZIP512 | FAST, IRP, ZIP2, ASSET | EPI, DIFF, ASSET | FC | ARC, T2- IRP, ZIP2, EDR | FAST, IRP, ZIP2, ASSET | EDR, ZIP2, ZIP512, FR, ARC |

## SCAN PARAMETERS

| Scan Description | 3PL LOCALIZER | SAGITTAL T1 | AXIAL T2 FSFSE | AXIAL T1 3D BRAVO | AXIAL DWI | AXIAL T2* GRE | Pre or Post SAGITTAL T2 FLAIR CUBE | Post AXIAL T1 3D BRAVO | Post CORONAL T1 CUBE |
|---|---|---|---|---|---|---|---|---|---|
| **TE** | 80 | Min-Full | 68 | — | Min | 20 | — | — | 24 |
| **TR** | Min | 550 | 3500-4250 | — | 9000 | 500 | 6000 | — | 550 |
| **TI** | — | — | — | 450 | — | 600-800 | 1954<br>(Fixed with TR) | 450 | — |
| **Flip Angle** | — | — | Auto | 13 | Auto | 10 | Auto | 13 | Auto |
| **ETL** | — | 4 | 25 | — | — | — | 160 | — | 24 |
| **Bandwidth** | 83.33 | 20 | 31 | 25 | 125 | 20 | 32 | 25 | 62 |
| **Sat** | — | — | Fat | — | Fat | — | Fat | — | Fat |

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.

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**MR Gadopiclenol (VUEWAY®) Protocol for GE HealthCare Systems**
**Central Nervous System**

IMAGING FORUMS, INC.

**ACQUISITION PARAMETERS**

| Scan Description | 3PL LOCALIZER | SAGITTAL T1 | AXIAL T2 FSFSE | AXIAL T1 3D BRAVO | AXIAL DWI | AXIAL T2* GRE | Pre or Post SAGITTAL T2 FLAIR CUBE | Post AXIAL T1 3D BRAVO | Post CORONAL T1 CUBE |
|---|---|---|---|---|---|---|---|---|---|
| **MATRIX freq** | 256 | 256 | 320 | 256 | 128 | 256 | 256 | 256 | 256 |
| **MATRIX phase** | 192 | 224 | 256 | 256 | 128 | 224 | 256 | 256 | 256 |
| **NEX** | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Phase FOV** | 1 | 1 | 0.75 | — | 1 | 0.75 | — | — | — |
| **Freq Direction** | Unswap | S/I | A/P | A/P | R/L | A/P | S/I | A/P | S/I |
| **Image Enhance** | — | PURE | PURE | PURE | PURE | PURE | PURE | PURE | PURE |
| **FC Direction** | — | — | Slice | — | — | Slice | — | — | — |
| **User CV** | — | — | — | ACC=2 | DIFF Dir-All<br>#T2 images 1 Nex 1 for T2 B1000/1 NEX OPT TE On<br>Dual SE On ACC=2<br>Ramp Samp=1<br>Recon 1<br>Grad OPT 1 | — | ACC=2<br>SL=2 | ACC=2 | ACC=2 |

**SCANNING RANGE**

| Scan Description | 3PL LOCALIZER | SAGITTAL T1 | AXIAL T2 FSFSE | AXIAL T1 3D BRAVO | AXIAL DWI | AXIAL T2* GRE | Pre or Post SAGITTAL T2 FLAIR CUBE | Post AXIAL T1 3D BRAVO | Post CORONAL T1 CUBE |
|---|---|---|---|---|---|---|---|---|---|
| **FOV** | 30 | 24 | 22 | 25 | 24 | 24 | 25 | 25 | 24 |
| **Slice Thickness** | 7 | 5 | 5 | 2.4 | 5 | 4 | 1.6 | 1.2 | 1.8 |
| **Spacing** | 5 | Interleaved | Interleaved | 0 | 1 | 1 | 0 | 0 | — |
| **Number of Slices** | 7-Ax/Sag/Cor | — | 24-26 | 70 locs | 24-26 | 24-26 | 126 | 140 | 112 |
| **Scan Time** | 0:18 sec | 2-3 min | ~2-3 min | 2:30 min | ~2-3 min | 2:30 min | 3-5 min | 4 min | 2:30 min |

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