# PITUITARY WITH/WITHOUT IV CONTRAST 3T R5.6

**INSTRUCTIONS AND PATIENT PREPARATION**

| | |
|---|---|
| **Instructions** | • Change patient into hospital issued gown and pants<br>• 20- to 22-gauge IV access preferred<br>• Power injector preferred |
| **Position** | Supine, head first |
| **Coil** | 32 channel head coil |
| **Landmark** | Glabella |

**CONTRAST AGENT PARAMETERS**

| Contrast Agent | Dose | Injection Rate |
|---|---|---|
| **Gadopiclenol (VUEWAY)** | 0.05 mmol/kg | Hand injection or slow power injection (1-2 mL/sec is adequate) |
| **Saline Flush** | 20 mL | Hand injection or slow power injection (1-2 mL/sec is adequate) |
| **Comments** | Coronal Dynamic contrast-enhanced sequence is included as some small microadenomas may be better visualized on an early arterial phase; perform first phase of dynamic, pause built in, then restart scanner and start power injector at same time | |

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**MR Gadopiclenol (VUEWAY®) Protocol for Philips Healthcare Systems**
**Central Nervous System**

IMAGING FORUMS, INC.

**INFO PAGE**

| Scan Description | Survey Sella | AXIAL T2 | SAGITTAL T1 | CORONAL T1 | CORONAL T2 | CORONAL Dynamic | SAGITTAL T1 +C | CORONAL T1 +C |
|---|---|---|---|---|---|---|---|---|
| **Total scan duration** | 00:31.6 | 01:36.0 | 04:54.0 | 03:58.0 | 03:09.0 | 05:23.2 | 04:54.0 | 03:58.0 |
| **Rel. SNR** | 1.7 | 1.1 | 0.1 | 0.1 | 0.4 | 1.0 | 0.1 | 0.1 |
| **Act. TR (ms)** | — | 3000 | — | — | 3000 | 634 | — | — |
| **Act. TR/TE (ms)** | 15 / 5.2 | — | — | — | — | — | — | — |
| **Act. TR/TI (ms)** | — | — | 2000 / 800 | 2000 / 800 | — | — | 2000 / 800 | 2000 / 800 |
| **Act. TE (ms)** | — | 80 | 20 | 20 | 80 | 12 | 20 | 20 |
| **Dyn. scan time** | — | — | — | — | — | 00:26.6 | — | — |
| **ACQ matrix M x P** | 256 x 126 | 384 x 239 | 300 x 290 | 300 x 285 | 328 x 292 | 256 x 219 | 300 x 290 | 300 x 285 |
| **ACQ voxel MPS (mm)** | 0.98 / 1.98 / 10.0 | 0.57 / 0.74 / 5.00 | 0.60 / 0.62 / 1.50 | 0.60 / 0.63 / 1.50 | 0.55 / 0.62 / 1.50 | 0.70 / 0.82 / 3.00 | 0.60 / 0.62 / 1.50 | 0.60 / 0.63 / 1.50 |
| **REC voxel MPS (mm)** | 0.98 / 0.98 / 10.0 | 0.43 / 0.43 / 5.00 | 0.35 / 0.35 / 1.50 | 0.35 / 0.35 / 1.50 | 0.28 / 0.28 / 1.50 | 0.35 / 0.35 / 3.00 | 0.35 / 0.35 / 1.50 | 0.35 / 0.35 / 1.50 |
| **Scan percentage (%)** | 49 | 77 | 97 | 95 | 89 | 86 | 97 | 95 |
| **Packages** | — | 4 | 7 | 7 | 3 | 1 | 7 | 7 |
| **Min. slice gap (mm)** | — | 5 | 1.5 | 1.5 | 1.5 | 0 | 1.5 | 1.5 |
| **Act. slice gap (mm)** | — | — | — | — | — | 0.3 | — | — |
| **Optimal slices** | — | 14 | 6 | 6 | 14 | — | 6 | 6 |
| **Max. slices** | — | 28 | 21 | 21 | 21 | — | 21 | 21 |
| **TFE shots** | 3 | — | — | — | — | — | — | — |
| **TFE dur. shot / acq (ms)** | 701.6 / 630.0 | — | — | — | — | — | — | — |
| **TFE shot interval (ms)** | 701.6 | — | — | — | — | — | — | — |
| **Min. TI delay** | 375.1 | — | — | — | — | — | — | — |
| **Act. WFS (pix) / BW (Hz)** | 2.322 / 187.1 | — | — | — | — | — | — | — |
| **Min. WFS (pix) / Max. BW (Hz)** | 1.050 / 413.8 | — | — | — | — | — | — | — |
| **Min. TR/TE (ms)** | 10 / 5.2 | — | — | — | — | — | — | — |
| **WFS (pix) / BW (Hz)** | — | 2.149 / 202.2 | 2.273 / 191.1 | 2.408 / 180.4 | 1.995 / 217.8 | 1.779 / 244.1 | 2.273 / 191.1 | 2.408 / 180.4 |
| **TSE es / shot (ms)** | — | 10.0 / 160 | 10.0 / 90 | 10.0 / 90 | 10.0 / 160 | 12.0 / 84 | 10.0 / 90 | 10.0 / 90 |
| **TEeff / TEequiv (ms)** | — | 80 / 72 | 20 / 19 | 20 / 19 | 80 / 72 | 45638 | 20 / 19 | 20 / 19 |
| **Min. TR (ms)** | — | 2419 | — | — | 2822 | — | — | — |
| **Min. TR/TI (ms)** | — | — | 1877 / 50 | 1877 / 50 | — | — | 1877 / 50 | 1877 / 50 |
| **Local torso SAR** | < 31 % | < 81 % | < 54 % | < 54 % | < 94 % | < 100 % | < 54 % | < 54 % |
| **Whole body SAR / level** | < 0.7 W/kg / normal | < 1.9 W/kg / normal | < 1.3 W/kg / normal | < 1.3 W/kg / normal | < 2.2 W/kg / 1st level | < 2.3 W/kg / 1st level | < 1.3 W/kg / normal | < 1.3 W/kg / normal |
| **SED** | 0.0 kJ/kg | < 0.2 kJ/kg | < 0.4 kJ/kg | < 0.3 kJ/kg | < 0.4 kJ/kg | < 0.7 kJ/kg | < 0.4 kJ/kg | < 0.3 kJ/kg |
| **Coil Power** | — | 38% | 26% | 26% | 45% | 48% | 26% | 26% |
| **Max B1+rms** | 0.90 uT | 1.47 uT | 1.19 uT | 1.19 uT | 1.57 uT | 1.62 uT | 1.19 uT | 1.19 uT |
| **PNS / level** | 17 % / normal | 23 % / normal | 38 % / normal | 42 % / normal | 54 % / normal | 47 % / normal | 38 % / normal | 42 % / normal |
| **dB/dt** | 15.4 T/s | 15.4 T/s | 20.4 T/s | 22.5 T/s | 43.3 T/s | 44.2 T/s | 20.4 T/s | 22.5 T/s |
| **Sound Pressure Level (dB)** | 2.7 | 2.9 | 10.6 | 11.7 | 18.1 | 13.4 | 10.6 | 11.7 |

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**MR Gadopiclenol (VUEWAY®) Protocol for Philips Healthcare Systems**
**Central Nervous System**

NW IMAGING FORUMS, INC.

**GEOMETRY**

| Scan Description | Survey Sella | AXIAL T2 | SAGITTAL T1 | CORONAL T1 | CORONAL T2 | CORONAL Dynamic | SAGITTAL T1 +C | CORONAL T1 +C |
|---|---|---|---|---|---|---|---|---|
| **SmartSelect** | yes | yes | yes | yes | yes | yes | yes | yes |
| **Coil 1 (exclude)** | — | None | None | None | None | None | None | None |
| **Uniformity** | — | CLEAR | CLEAR | CLEAR | CLEAR | CLEAR | CLEAR | CLEAR |
| **FOV AP (mm)** | 250 | 220 | 180 | 30 | 30 | 10 | 180 | 30 |
| **FOV FH (mm)** | 250 | 143 | 180 | 180 | 180 | 180 | 180 | 180 |
| **FOV (mm)** | (3) 50, (17) 10 | — | — | — | — | — | — | — |
| **FOV RL (mm)** | — | 177 | 30 | 180 | 180 | 180 | 30 | 180 |
| **ACQ voxel size AP (mm)** | 2 | 0.6 | 0.6 | — | — | — | 0.6 | — |
| **ACQ voxel size FH (mm)** | 1 | — | 0.6 | 0.6 | 0.6 | 0.7 | 0.6 | 0.6 |
| **ACQ voxel size RL (mm)** | — | 0.7 | — | 0.6 | 0.6 | 0.8 | — | 0.6 |
| **Slice thickness (mm)** | 10 | 5 | 1.5 | 1.5 | 1.5 | 3 | 1.5 | 1.5 |
| **Bar orientation** | RL | — | — | — | — | — | — | — |
| **VOI orientation** | transverse | — | — | — | — | — | — | — |
| **VOI size AP (mm)** | 30 | — | — | — | — | — | — | — |
| **VOI size FH (mm)** | 30 | — | — | — | — | — | — | — |
| **VOI size RL (mm)** | 30 | — | — | — | — | — | — | — |
| **Recon voxel size AP (mm)** | 1 | 0.4 | 0.4 | — | — | — | 0.4 | — |
| **Recon voxel size FH (mm)** | 1 | — | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 |
| **Recon voxel size RL (mm)** | — | 0.4 | — | 0.4 | 0.3 | 0.4 | — | 0.4 |
| **Fold-over suppression** | no | no | oversampling | no | no | no | oversampling | no |
| **A (mm)** | 50 | — | 20 | — | — | — | 20 | — |
| **P (mm)** | 50 | — | 20 | — | — | — | 20 | — |
| **Reconstruction matrix** | 256 | 512 | 512 | 512 | 640 | 512 | 512 | 512 |
| **SENSE** | no | no | no | no | no | no | no | no |
| **CS-SENSE** | no | yes | yes | yes | yes | yes | yes | yes |
| **reduction** | — | 2.3 | 2 | 2 | 2 | 1.5 | 2 | 2 |
| **denoising** | — | system default | system default | system default | system default | system default | system default | system default |
| **k-t Acceleration** | no | no | no | no | no | no | no | no |
| **Stacks** | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **type** | (20) parallel | parallel | parallel | parallel | parallel | parallel | parallel | parallel |
| **Slices** | (3) 3, (17) 1 | 24 | 20 | 20 | 20 | 3 | 20 | 20 |
| **slice gap** | user defined | user defined | user defined | user defined | user defined | default | user defined | user defined |
| **gap (mm)** | (20) 10 | 1 | 0 | 0 | 0 | — | 0 | 0 |
| **Slice orientation** | sagittal, coronal, (18) transverse | transverse | sagittal | coronal | coronal | coronal | sagittal | coronal |
| **Fold-over direction** | AP, (19) RL | RL | AP | RL | RL | RL | AP | RL |
| **Fat shift direction** | (2) F, (18) P | P | F | F | F | F | F | F |
| **radial axis** | AP, RL, AP, (17) RL | — | — | — | — | — | — | — |
| **radial angle (deg)** | (20) 0 | — | — | — | — | — | — | — |
| **Minimum number of packages** | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Slice scan order** | default | default | default | default | default | default | default | default |
| **O-MAR** | — | no | no | no | no | no | no | no |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Large table movement** | no | no | no | no | no | no | no | no |
| **PlanAlign** | no | no | no | no | no | no | no | no |
| **REST slabs** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Patient position** | head first | head first | head first | head first | head first | head first | head first | head first |
| **Patient body position** | head first | head first | head first | head first | head first | head first | head first | head first |
| **Patient orientation** | supine | supine | supine | supine | supine | supine | supine | supine |
| **Patient body orientation** | supine | supine | supine | supine | supine | supine | supine | supine |

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**MR Gadopiclenol (VUEWAY®) Protocol for Philips Healthcare Systems**
**Central Nervous System**

IMAGING FORUMS, INC.

**CONTRAST**

| Scan Description | SurveySella | AXIALT2 | SAGITTALT1 | CORONALT1 | CORONALT2 | CORONALDynamic | SAGITTALT1 +C | CORONALT1 +C | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Scan type** | Imaging | Imaging | Imaging | Imaging | Imaging | Imaging | Imaging | Imaging | Scan type | — |
| **Scan mode** | M2D | MS | MS | MS | MS | MS | MS | MS | Scan mode | — |
| **Contrast enhancement** | T1 | — | — | — | — | — | — | — | Contrast enhancement | — |
| **Modified SE** | — | no | — | — | no | no | — | — | Modified SE | — |
| **Acquisition mode** | cartesian | cartesian | cartesian | cartesian | cartesian | cartesian | cartesian | cartesian | Acquisition mode | — |
| **Fast Imaging mode** | TFE | TSE | TSE | TSE | TSE | TSE | TSE | TSE | Fast Imaging mode | — |
| **TSE factor** | — | 15 | 9 | 9 | 15 | 7 | 9 | 9 | TSE factor | — |
| **TFE factor** | 42 | — | — | — | — | — | — | — | TFE factor | — |
| **TE spacing** | — | — | user defined | user defined | — | — | user defined | user defined | TE spacing | — |
| **Echoes** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Echoes | — |
| **TE** | shortest | user defined | user defined | user defined | user defined | user defined | user defined | user defined | TE | — |
| **Flip angle (deg)** | 20 | 90 | — | — | 90 | 90 | — | — | Flip angle (deg) | — |
| **Refocusing control** | — | constant | constant | constant | constant | constant | constant | constant | Refocusing control | — |
| **TR** | user defined | user defined | user defined | user defined | user defined | shortest | user defined | user defined | TR | — |
| **Halfscan** | no | no | no | no | no | no | no | no | Halfscan | — |
| **Water-fat shift** | maximum | maximum | maximum | maximum | user defined | maximum | maximum | maximum | Water-fat shift | — |
| **IR delay (ms)** | — | — | 800 | 800 | — | — | 800 | 800 | IR delay (ms) | — |
| **acquire during delay** | — | — | yes | yes | — | — | yes | yes | acquire during delay | — |
| **dual** | — | — | no | no | — | — | no | no | dual | — |
| **power** | — | — | 1 | 1 | — | — | 1 | 1 | power | — |
| **RF Shims** | — | fixed | fixed | fixed | fixed | fixed | fixed | fixed | RF Shims | — |
| **Shim** | — | default | default | default | default | default | default | default | Shim | — |
| **mDIXON** | no | no | no | no | no | no | no | no | mDIXON | — |
| **Fat suppression** | no | no | no | no | no | no | no | no | Fat suppression | — |
| **Water suppression** | no | no | no | no | no | no | no | no | Water suppression | — |
| **BB pulse** | — | no | no | no | no | no | no | no | BB pulse | — |
| **TFE prepulse** | invert | — | — | — | — | — | — | — | TFE prepulse | — |
| **slice selection** | no | — | — | — | — | — | — | — | slice selection | — |
| **delay** | shortest | — | — | — | — | — | — | — | delay | — |
| **PSIR** | no | — | — | — | — | — | — | — | PSIR | — |
| **MTC** | no | no | no | no | no | no | no | no | MTC | — |
| **Diffusion mode** | no | no | no | no | no | no | no | no | Diffusion mode | — |
| **T1 mapping** | no | no | no | no | no | no | no | no | T1 mapping | — |
| **SAR mode** | high | high | high | high | high | high | high | high | SAR mode | — |
| **B1 mode** | default | default | user defined | user defined | default | default | user defined | user defined | B1 mode | — |
| **SAR allow first level** | yes | yes | yes | yes | yes | yes | yes | yes | SAR allow first level | — |
| **PNS mode** | low | low | low | low | low | low | low | low | PNS mode | — |
| **Gradient mode** | regular | default | default | default | default | default | default | default | Gradient mode | — |
| **SofTone mode** | no | user defined | user defined | user defined | no | no | user defined | user defined | SofTone mode | — |

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**Central Nervous System**

IMAGING FORUMS, INC.

**MOTION**

| Scan Description | Survey Sella | AXIAL T2 | SAGITTAL T1 | CORONAL T1 | CORONAL T2 | CORONAL Dynamic | SAGITTAL T1 +C | CORONAL T1 +C |
|---|---|---|---|---|---|---|---|---|
| **Cardiac synchronization** | no | no | no | no | no | no | no | no |
| **Respiratory compensation** | no | no | no | no | no | no | no | no |
| **Navigator respiratory comp** | no | no | no | no | no | no | no | no |
| **Flow compensation** | no | no | no | no | no | no | no | no |
| **Temporal slice spacing** | — | default | — | — | default | default | — | — |
| **fMRI echo stabilisation** | no | — | — | — | — | — | — | — |
| **Motion smoothing** | — | no | no | no | no | no | no | no |
| **NSA** | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 |
| **SMART** | — | — | — | — | no | no | — | — |
| **MRE enable** | no | no | no | no | no | no | no | no |

**DYNAMIC ANGIO**

| Scan Description | Survey Sella | AXIAL T2 | SAGITTAL T1 | CORONAL T1 | CORONAL T2 | CORONAL Dynamic | SAGITTAL T1 +C | CORONAL T1 +C |
|---|---|---|---|---|---|---|---|---|
| **Angio / Contrast enh.** | no | — | — | — | — | — | — | — |
| **Quantitative flow** | no | — | — | — | — | — | — | — |
| **Manual start** | no | no | no | no | no | yes | no | no |
| **Dynamic study** | no | no | no | no | no | individual | no | no |
| **dyn scans** | — | — | — | — | — | 12 | — | — |
| **dyn scan times** | — | — | — | — | — | user defined | — | — |
| **Keyhole** | — | — | — | — | — | no | — | — |
| **Arterial Spin labeling** | no | no | no | no | no | no | no | no |

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**POST PROCESSING**

| Scan Description | Survey Sella | AXIAL T2 | SAGITTAL T1 | CORONAL T1 | CORONAL T2 | CORONAL Dynamic | SAGITTAL T1 +C | CORONAL T1 +C |
|---|---|---|---|---|---|---|---|---|
| **Preparation phases** | — | auto | auto | auto | auto | auto | auto | auto |
| **Interactive F0** | no | no | no | no | no | no | no | no |
| **Quick Survey** | default | default | default | default | default | default | default | default |
| **B0 field map** | no | no | no | no | no | no | no | no |
| **MIP/MPR** | no | no | no | no | no | no | no | no |
| **SWIp** | no | — | — | — | — | — | — | — |
| **Images** | M, (3) no | M, (3) no | M, (3) no | M, (3) no | M, (3) no | M, (3) no | M, (3) no | M, (3) no |
| **Autoview image** | M | M | M | M | M | M | M | M |
| **Calculated images** | (4) no | (4) no | — | — | (4) no | (4) no | — | — |
| **Reference tissue** | White matter | Grey matter | Grey matter | Grey matter | Grey matter | Grey matter | Grey matter | Grey matter |
| **Recon compression** | No | No | No | No | No | No | No | No |
| **Preset window contrast** | soft | soft | soft | soft | soft | soft | soft | soft |
| **Reconstruction mode** | immediate | real time | real time | real time | real time | real time | real time | real time |
| **reuse memory** | — | — | — | — | — | no | — | — |
| **Save raw data** | no | no | no | no | no | no | no | no |
| **Hardcopy protocol** | no | no | no | no | no | no | no | no |
| **Image filter** | system default | system default | system default | system default | system default | system default | system default | system default |
| **Uniformity correction** | no | no | no | no | no | no | no | no |
| **Geometry correction** | default | default | default | default | default | default | default | default |
| **Free rotatable** | no | no | no | no | no | no | no | no |
| **IF_info_seperator** | 0 | 0 | 0 | 0 | 1634755923 | 0 | 0 | 0 |

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