THORACIC SPINE WITH/WITHOUT IV CONTRAST 3T R5.6

INSTRUCTIONS AND PATIENT PREPARATION

Instructions	Patient change into hospital issued gown and pants
Position	Supine, head first
Coil	Posterior Body Coil and Anterior dStream Torso Coil
Landmark	Upper Chest

CONTRAST AGENT PARAMETERS

Contrast Agent	Dose	Injection Rate
Gadopiclenol (VUEWAY)	0.05 mmol/kg	Hand Bolus
Saline Flush	10-20 mL	Hand Flush
Comments	• Report agent administered and dose • Alternatively, can use the sequences to cover total spine and combine with selected sequences from the Cervical Spine and Lumbar Spine protocols	

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

NW
IMAGING FORUMS, INC.

INFO PAGE

Scan Description	Survey	Counter LOCALIZER	SAGITTAL T1	SAGITTAL T2	SAGITTAL T2 Fat Sat	AXIAL T2	AXIAL T1	SAGITTAL T1 +C Fat Sat	AXIAL T1 +C
Total scan duration	00:31.8	01:08.1	03:21.7	02:20.1	02:18.4	02:06.7	02:48.7	01:03.7	02:48.7
Rel. SNR	2.3	10.6	3.1	0.8	0.9	1.4	2.1	2.7	2.1
Act. TR (ms)	—	4868	686	2801	3296	4222	570	558	570
Act. TE (ms)	—	60	8	90	90	100	8	10	8
Act. TR/TE (ms)	10 / 6.9	—	—	—	—	—	—	—	—
ACQ matrix M x P	228 x 170	84 x 135	168 x 258	188 x 334	188 x 303	236 x 177	252 x 191	180 x 251	252 x 191
ACQ voxel MPS (mm)	1.75 / 2.35 / 10.00	2.98 / 3.34 / 4.00	0.95 / 1.24 / 3.00	0.80 / 0.90 / 3.00	0.80 / 0.99 / 3.00	0.85 / 1.04 / 5.00	0.79 / 0.96 / 5.00	0.89 / 1.27 / 3.00	0.79 / 0.96 / 5.00
REC voxel MPS (mm)	1.39 / 1.39 / 10.00	0.88 / 0.88 / 4.00	0.71 / 0.71 / 3.00	0.75 / 0.75 / 3.00	0.59 / 0.59 / 3.00	0.50 / 0.50 / 5.00	0.60 / 0.60 / 5.00	0.50 / 0.50 / 3.00	0.60 / 0.60 / 5.00
Scan percentage (%)	75	89	77	89	81	81	83	70	83
Packages	3	2	2	2	2	3	8	2	8
Min. slice gap (mm)	0	4	3	3	3	5	5	3	5
Act. slice gap (mm)	—	—	—	0.3	0.3	—	—	—	—
Optimal slices	—	—	—	—	—	36	14	—	14
Max. slices	—	—	—	—	—	—	56	—	56
TFE factor	340	—	—	—	—	—	—	—	—
TFE dur. shot / acq (ms)	3535.9 / 3494.8	—	—	—	—	—	—	—	—
Act. WFS (pix) / BW (Hz)	0.602 / 721.3	—	—	—	—	—	—	—	—
Min. WFS (pix) / Max. BW (Hz)	0.582 / 745.9	—	—	—	—	—	—	—	—
Min. TR/TE (ms)	10 / 4.9	—	—	—	—	—	—	—	—
WFS (pix) / BW (Hz)	—	0.642 / 676.4	1.296 / 335.2	1.294 / 335.8	1.294 / 335.8	1.485 / 292.6	1.458 / 297.9	2.189 / 198.4	1.458 / 297.9
Full flow comp.	—	no	no	yes	yes	no	no	no	no
TSE es / shot (ms)	—	4.3 / 116	8.0 / 24	8.0 / 176	8.0 / 192	8.0 / 192	8.0 / 56	10.0 / 70	8.0 / 56
TEeff / TEequiv (ms)	—	—	8 / 8	90 / 76	90 / 76	100 / 72	8 / 8	10 / 10	8 / 8
Min. TR (ms)	—	4868	686	2801	3296	4222	570	558	570
SPAIR offset act./default (Hz)	—	—	—	—	220 [220]	—	—	—	—
Local torso SAR	< 10 %	< 100 %	< 100 %	< 100 %	< 100 %	< 100 %	< 100 %	< 100 %	< 100 %
Whole body SAR / level	< 0.2 W/kg / normal	< 2.0 W/kg / normal	< 2.1 W/kg / 1st level	< 2.1 W/kg / 1st level	< 2.3 W/kg / 1st level	< 2.7 W/kg / 1st level	< 2.7 W/kg / 1st level	< 2.7 W/kg / 1st level	< 2.7 W/kg / 1st level
SED	0.0 kJ/kg	< 0.1 kJ/kg	< 0.4 kJ/kg	< 0.3 kJ/kg	< 0.3 kJ/kg	< 0.3 kJ/kg	< 0.5 kJ/kg	< 0.2 kJ/kg	< 0.5 kJ/kg
Coil Power	—	40%	43%	43%	48%	80%	80%	80%	80%
Max B1+rms	0.52 uT	1.55 uT	1.54 uT	1.56 uT	1.62 uT	2.09 uT	2.09 uT	2.09 uT	2.09 uT
PNS / level	9 % / normal	49 % / normal	43 % / normal	60 % / normal	60 % / normal	46 % / normal	48 % / normal	47 % / normal	48 % / normal
dB/dt	15.4 T/s	46.5 T/s	43.8 T/s	44.4 T/s	43.1 T/s	36.8 T/s	38.5 T/s	39.4 T/s	38.5 T/s
Sound Pressure Level (dB)	2.1	21.3	16.9	21.3	19.0	17.3	17.4	20.1	17.4

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

NW IMAGING FORUMS, INC.

GEOMETRY

Scan Description	Survey	Counter LOCALIZER	SAGITTAL T1	SAGITTAL T2	SAGITTAL T2 Fat Sat	AXIAL T2	AXIAL T1	SAGITTAL T1 +C Fat Sat	AXIAL T1 +C
SmartSelect	yes	yes	yes	yes	yes	yes	yes	yes	yes
Coil 1 (exclude)	—	None	None	None	None	None	None	None	None
Uniformity	—	CLEAR	Body-tuned	Body-tuned	Body-tuned	Body-tuned	Body-tuned	Body-tuned	Body-tuned
FOV AP (mm)	—	250	160	150	150	200	200	160	200
FOV FH (mm)	400	451	320	300	300	323	323	320	323
FOV RL (mm)	400	39	47	39	39	184	183	47	183
FOV (mm)	(2) 32, (18) 40	—	—	—	—	—	—	—	—
ACQ voxel size AP (mm)	—	3	0.9	0.8	0.8	0.9	0.8	0.9	0.8
ACQ voxel size FH (mm)	1.8	3	1.2	0.8	0.9	—	—	1.3	—
ACQ voxel size RL (mm)	2.4	—	—	—	—	1	0.9	—	0.9
Slice thickness (mm)	10	4	3	3	3	5	5	3	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)	—	0.9	0.7	0.8	0.6	0.5	0.6	0.5	0.6
Recon voxel size FH (mm)	1.4	0.9	0.7	0.8	0.6	—	—	0.5	—
Recon voxel size RL (mm)	1.4	—	—	—	—	0.5	0.6	—	0.6
Image shutter	—	no	—	—	—	—	—	—	—
Fold-over suppression	oversampling	oversampling	oversampling	oversampling	oversampling	oversampling	oversampling	oversampling	oversampling
F (mm)	—	40	320	200	200	—	—	320	—
H (mm)	—	40	320	200	200	—	—	320	—
L (mm)	200	—	—	—	—	130	130	—	130
R (mm)	200	—	—	—	—	130	130	—	130
Reconstruction matrix	288	512	448	400	512	400	336	640	336
SENSE	no	no	no	no	no	no	no	no	no
CS-SENSE	no	no	yes	yes	yes	yes	yes	yes	yes
reduction	—	—	1.8	1.5	1.5	2	2	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	no
Stacks	3	1	1	1	1	1	1	1	1
type	(20) parallel	parallel	parallel	parallel	parallel	parallel	parallel	parallel	parallel
Slices	(20) 3	8	12	12	12	54	54	12	54
slice gap	user defined	user defined	user defined	default	default	user defined	user defined	user defined	user defined
gap (mm)	(2) 1, (18) 5	1	1	—	—	1	1	1	1
Slice orientation	coronal, sagittal, (18) transverse	sagittal	sagittal	sagittal	sagittal	transverse	transverse	sagittal	transverse
Fold-over direction	RL, FH, (18) AP	FH	FH	FH	FH	RL	RL	FH	RL
Fat shift direction	F, P, (18) L	P	P	P	P	P	P	P	P
radial axis	RL, (2) AP, (17) RL	—	—	—	—	—	—	—	—
radial angle (deg)	(20) 0	—	—	—	—	—	—	—	—

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Stacks as packages	yes	—	—	—	—	—	—	—	—
Minimum number of packages	1	1	1	1	1	1	1	1	1
Slice scan order	default	default	default	default	default	default	default	default	default
O-MAR	—	no	no	no	no	no	no	no	no
Large table movement	no	no	no	no	no	no	no	no	no
Stack alignment	no	—	—	—	—	—	—	—	—
Stack sort order	no	—	—	—	—	—	—	—	—
PlanAlign	yes	no	no	no	no	yes	yes	no	yes
REST slabs	0	0	0	0	0	0	0	0	0
orientation	—	—	—	—	sagittal	—	—	—	—
Patient position	head first	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	head first
Patient orientation	supine	supine	supine	supine	supine	supine	supine	supine	supine
Patient body orientation	supine	supine	supine	supine	supine	supine	supine	supine	supine

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CONTRAST

Scan Description	Survey	CounterLOCALIZER	SAGITTALT1	SAGITTALT2	SAGITTALT2 Fat Sat	AXIALT2	AXIALT1	SAGITTALT1 +C Fat Sat	AXIALT1 +C
Scan type	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging
Scan mode	MS	MS	MS	MS	MS	MS	MS	MS	MS
technique	FFE	SE	SE	SE	SE	SE	SE	SE	SE
Contrast enhancement	T1	—	—	—	—	—	—	—	—
Modified SE	—	no	no	no	no	no	no	no	no
Acquisition mode	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian
Fast Imaging mode	TFE	TSE	TSE	TSE	TSE	TSE	TSE	TSE	TSE
shot mode	single-shot	multishot	multishot	multishot	multishot	multishot	multishot	multishot	multishot
TSE factor	—	27	3	22	24	24	7	7	7
TE spacing	—	—	—	user defined	user defined	—	user defined	user defined	user defined
(ms)	—	—	—	8	8	—	8	10	8
TFE startup echoes	default	—	—	—	—	—	—	—	—
startup echoes	—	—	—	—	—	—	—	—	—
profile order	linear	linear	low_high	asymmetric	asymmetric	linear	asymmetric	asymmetric	asymmetric
DRIVE	—	no	no	no	no	no	no	no	no
ultrashort	—	yes	yes	yes	yes	yes	yes	yes	yes
fid reduction	—	strong	strong	default	default	strong	strong	strong	strong
Echoes	1	1	1	1	1	1	1	1	1
partial echo	no	no	no	no	no	no	no	no	no
shifted echo	no	—	—	—	—	—	—	—	—
TE	in-phase	user defined	user defined	user defined	user defined	user defined	user defined	user defined	user defined
(ms)	7	60	8	90	90	100	8	10	8
Flip angle (deg)	20	90	85	90	90	90	90	90	90
Refocusing control	—	no	constant	constant	constant	T2-optimized	constant	constant	constant
angle (deg)	—	—	120	110	110	—	90	120	90
min. angle (deg)	—	—	—	—	—	80	—	—	—
mid. angle (deg)	—	—	—	—	—	100	—	—	—
max. angle (deg)	—	—	—	—	—	120	—	—	—
TR	shortest	range	range	range	range	range	range	range	range
minimum (ms)	—	2000	450	2500	2500	3000	400	400	400
maximum (ms)	—	6000	750	5000	5000	5000	650	700	650
Halfscan	no	no	no	no	no	no	no	no	no
Water-fat shift	minimum	user defined	user defined	user defined	user defined	maximum	maximum	maximum	maximum
(pixels)	—	1.3	1.3	1.3	1.3	—	—	—	—
IR delay (ms)	—	—	—	—	—	—	—	—	—
acquire during delay	—	—	—	—	—	—	—	—	—
dual	—	—	—	—	—	—	—	—	—
power	—	—	—	—	—	—	—	—	—
RF Shims	—	adaptive	adaptive	adaptive	adaptive	adaptive	adaptive	adaptive	adaptive
Shim	—	default	default	default	volume	default	default	default	default
ShimAlign	—	—	—	—	no	—	—	—	—
mDIXON	no	no	no	no	no	no	no	no	no

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Fat suppression	no	no	no	no	SPAIR	no	no	SPIR	no
strength	—	—	—	—	—	—	—	strong	—
power	—	—	—	—	1	—	—	—	—
inversion delay	—	—	—	—	auto	—	—	—	—
suppr. level	—	—	—	—	strong	—	—	—	—
frequency offset	—	—	—	—	user defined	—	—	default	—
offset (Hz)	—	—	—	—	220	—	—	—	—
Water suppression	no	no	no	no	no	no	no	no	no
BB pulse	—	no	no	no	no	no	no	no	no
TFE prepulse	no	—	—	—	—	—	—	—	—
MTC	no	no	no	no	no	no	no	no	no
Diffusion mode	no	no	no	no	no	no	no	no	no
T1 mapping	no	no	no	no	no	no	no	no	no
SAR mode	low	high	high	high	high	high	high	high	high
B1 mode	default	default	default	default	default	default	default	user defined	default
amplitude (uT)	—	—	—	—	—	—	—	10	—
SAR allow first level	yes	yes	yes	yes	yes	yes	yes	yes	yes
Patient pregnancy	no	no	no	no	no	no	no	no	no
Patient WB SAR [W/kg]	—	—	—	—	—	—	—	—	—
Patient Head SAR [W/kg]	—	—	—	—	—	—	—	—	—
Patient max. dB/dt [T/s]	—	—	—	—	—	—	—	—	—
Max slewrate [T/m/s]	—	—	—	—	—	—	—	—	—
Max. B1+rms [uT]	—	—	—	—	—	—	—	—	—
PNS mode	low	low	low	low	low	low	low	low	low
Gradient mode	regular	default	default	default	default	default	default	default	default
SofTone mode	yes	no	no	no	no	no	no	no	no

MOTION

Scan Description	Survey	Counter LOCALIZER	SAGITTAL T1	SAGITTAL T2	SAGITTAL T2 Fat Sat	AXIAL T2	AXIAL T1	SAGITTAL T1 +C Fat Sat	AXIAL T1 +C
Cardiac synchronization	no	no	no	no	no	no	no	no	no
Respiratory compensation	no	no	no	no	no	no	no	no	no
Navigator respiratory comp	no	no	no	no	no	no	no	no	no
Flow compensation	no	sensitized	sensitized	yes	yes	sensitized	sensitized	sensitized	sensitized
direction	—	—	—	in-plane	in-plane	—	—	—	—
Temporal slice spacing	default	default	default	default	default	default	default	default	default
fMRI echo stabilisation	no	—	—	—	—	—	—	—	—
Motion smoothing	—	yes	yes	yes	yes	yes	yes	yes	yes
NSA	1	1	1	1	1	1	1	1	1
MRE enable	no	no	no	no	no	no	no	no	no

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DYNAMIC ANGIO

Scan Description	Survey	Counter LOCALIZER	SAGITTAL T1	SAGITTAL T2	SAGITTAL T2 Fat Sat	AXIAL T2	AXIAL T1	SAGITTAL T1 +C Fat Sat	AXIAL T1 +C
Angio / Contrast enh.	no	—	—	—	—	—	—	—	—
Quantitative flow	no	—	—	—	—	—	—	—	—
Manual start	no	no	no	no	no	no	no	no	no
Dynamic study	no	no	no	no	no	no	no	no	no
Arterial Spin labeling	no	no	no	no	no	no	no	no	no

POST PROCESSING

Scan Description	Survey	Counter LOCALIZER	SAGITTAL T1	SAGITTAL T2	SAGITTAL T2 Fat Sat	AXIAL T2	AXIAL T1	SAGITTAL T1 +C Fat Sat	AXIAL T1 +C
Preparation phases	—	auto	auto	auto	auto	auto	auto	auto	auto
Interactive F0	no	no	no	no	no	no	no	select	no
Quick Survey	default	default	default	default	default	default	default	default	default
B0 field map	no	no	no	no	no	no	no	no	no
MIP/MPR	no	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	M, (3) no
Autoview image	M	M	M	M	M	M	M	M	M
Calculated images	(4) no	(4) no	(4) no	(4) no	(4) no	(4) no	(4) no	(4) no	(4) no
Reference tissue	Skeletal muscle	Skeletal muscle	Skeletal muscle	Skeletal muscle	Skeletal muscle	Skeletal muscle	Skeletal muscle	Skeletal muscle	Skeletal muscle
Recon compression	No	No	No	No	No	No	No	No	No
Preset window contrast	hard	intermediate	intermediate	intermediate	intermediate	intermediate	hard	hard	hard
Reconstruction mode	real time	real time	real time	real time	real time	real time	real time	real time	real time
Save raw data	no	no	no	no	no	no	no	no	no
Hardcopy protocol	no	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	system default
Uniformity correction	no	no	no	no	no	no	no	no	no
Geometry correction	default	default	default	default	default	default	default	default	default
Free rotatable	no	no	no	no	no	no	no	no	no
IF_info_seperator	1634755923	1634755923	1634755923	1634755923	1634755923	1634755923	1634755923	1634755923	1634755923

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