LUMBAR SPINE WITH/WITHOUT IV CONTRAST 1.5T 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	1-2" above iliac crest

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	

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Supported by an educational grant from Bracco Diagnostics Inc.

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

IMAGING FORUMS, INC.

INFO PAGE

Scan Description	SURVEY	LOCALIZER	LOCALIZER (2)	CORONAL T1	SAGITTAL T1	SAGITTAL T2	SAGITTAL T2 Fat Sat	AXIAL T2 Stack	AXIAL T1 Stack	AXIAL T2 Disc Slices	SAGITTAL T1 +C Fat Sat	AXIAL T1 +C Stack
Total scan duration	00:14.0	00:36.0	00:36.0	01:55.9	02:13.0	02:36.5	03:30.0	01:56.4	01:39.7	00:51.0	02:44.9	01:45.1
Rel. SNR	1	1	1	1	1	1	1	1	1	1	1	1
Act. TR (ms)	—	2000	2000	491	682	2565	2500	5818	539	3000	443	539
Act. TE (ms)	—	120	120	8	10	100	90	120	8	120	10	8
Act. TR/TE (ms)	23 / 3.9	—	—	—	—	—	—	—	—	—	—	—
ACQ matrix M x P	268 x 200	188 x 191	188 x 189	356 x 250	212 x 223	240 x 321	240 x 256	288 x 247	224 x 193	252 x 190	212 x 222	224 x 197
ACQ voxel MPS (mm)	1.49 / 2.00 / 10.0	1.60 / 2.11 / 4.00	1.60 / 2.10 / 4.00	0.90 / 1.28 / 4.00	0.90 / 1.20 / 4.00	0.79 / 0.84 / 4.00	0.79 / 1.05 / 4.00	0.69 / 0.81 / 4.00	0.89 / 1.04 / 4.00	0.79 / 1.05 / 4.00	0.90 / 1.21 / 4.00	0.89 / 1.02 / 4.00
REC voxel MPS (mm)	1.39 / 1.39 / 10.0	0.56 / 0.56 / 4.00	0.59 / 0.59 / 4.00	0.50 / 0.50 / 4.00	0.56 / 0.56 / 4.00	0.38 / 0.38 / 4.00	0.77 / 0.77 / 4.00	0.42 / 0.42 / 4.00	0.50 / 0.50 / 4.00	0.50 / 0.50 / 4.00	0.56 / 0.56 / 4.00	0.50 / 0.50 / 4.00
Scan percentage (%)	75	76	76	70	75	94	75	86	86	75	74	88
Packages	3	2	2	2	1	1	2	2	5	1	2	5
Min. slice gap (mm)	0	4	4	4	0	0	4	4	4	0	0	4
Optimal slices	—	—	—	—	—	—	—	—	18	—	6	18
Max. slices	—	—	—	—	—	—	14	—	45	—	—	45
Act. WFS (pix) / BW (Hz)	0.761 / 285.3	—	—	—	—	—	—	—	—	—	—	—
Min. WFS (pix) / Max. BW (Hz)	0.342 / 634.6	—	—	—	—	—	—	—	—	—	—	—
WFS (pix) / BW (Hz)	—	0.781 / 278.2	0.781 / 278.2	0.798 / 272.2	0.398 / 545.9	0.746 / 291.0	0.563 / 385.8	1.031 / 210.7	0.755 / 287.6	0.560 / 387.5	0.398 / 545.9	0.755 / 287.6
Full flow comp.	—	—	—	no	no	—	yes	yes	yes	yes	no	yes
TSE es / shot (ms)	—	5.6 / 240	5.6 / 240	8.0 / 32	10.0 / 50	9.1 / 191	7.2 / 180	9.6 / 230	8.0 / 40	9.6 / 230	10.0 / 50	8.0 / 40
TEeff / TEequiv (ms)	—	120 / 93	120 / 93	—	10 / 10	100 / 87	—	—	—	—	10 / 10	—
Min. TR (ms)	—	979	979	491	682	2565	2249	5818	539	1665	443	539
Local torso SAR	< 13 %	< 35 %	< 35 %	< 50 %	< 58 %	< 70 %	< 59 %	< 50 %	< 50 %	< 54 %	< 46 %	< 50 %
Whole body SAR / level	< 0.3 W/kg / normal	< 0.9 W/kg / normal	< 0.9 W/kg / normal	< 1.3 W/kg / normal	< 1.5 W/kg / normal	< 1.8 W/kg / normal	< 1.5 W/kg / normal	< 1.3 W/kg / normal	< 1.3 W/kg / normal	< 1.4 W/kg / normal	< 1.2 W/kg / normal	< 1.3 W/kg / normal
SED	0.0 kJ/kg	0.0 kJ/kg	0.0 kJ/kg	< 0.1 kJ/kg	< 0.2 kJ/kg	< 0.3 kJ/kg	< 0.3 kJ/kg	< 0.1 kJ/kg	< 0.1 kJ/kg	< 0.1 kJ/kg	< 0.2 kJ/kg	< 0.1 kJ/kg
Max B1+rms	1.53 uT	2.49 uT	2.49 uT	2.99 uT	3.23 uT	3.54 uT	3.27 uT	2.99 uT	2.99 uT	3.11 uT	2.88 uT	2.99 uT
PNS / level	18 % / normal	49 % / normal	49 % / normal	35 % / normal	43 % / normal	36 % / normal	57 % / normal	57 % / normal	55 % / normal	60 % / normal	47 % / normal	55 % / normal
dB/dt	12.8 T/s	50.6 T/s	50.7 T/s	38.5 T/s	43.3 T/s	34.8 T/s	42.3 T/s	51.0 T/s	51.3 T/s	40.8 T/s	38.5 T/s	51.4 T/s
Sound Pressure Level (dB)	2.7	16.7	16.7	12.7	14.9	8.1	12.9	15	16.7	13.1	12.7	16.7

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

IMAGING FORUMS, INC.

GEOMETRY

Scan Description	SURVEY	LOCALIZER	LOCALIZER (2)	CORONAL T1	SAGITTAL T1	SAGITTAL T2	SAGITTAL T2 Fat Sat	AXIAL T2 Stack	AXIAL T1 Stack	AXIAL T2 Disc Slices	SAGITTAL T1 +C Fat Sat	AXIAL T1 +C Stack
SmartSelect	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Uniformity	—	Body-tuned	Body-tuned	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
FOV AP (mm)	—	300	300	99	190	190	190	200	200	200	190	200
FOV FH (mm)	400	403	397	320	268	270	270	219	219	34	268	219
FOV RL (mm)	400	39	39	320	59	64	64	200	200	200	59	200
FOV (mm)	(2) 32, (18) 40	—	—	—	—	—	—	—	—	—	—	—
ACQ voxel size AP (mm)	—	1.6	1.6	—	0.9	0.8	0.8	0.7	0.9	0.8	0.9	0.9
ACQ voxel size FH (mm)	1.5	2.1	2	1.3	1.2	0.8	1	—	—	—	1.2	—
ACQ voxel size RL (mm)	2	—	—	0.9	—	—	—	0.8	1	1	—	1
Slice thickness (mm)	10	4	4	4	4	4	4	4	4	4	4	4
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)	—	0.6	0.6	—	0.6	0.4	0.8	0.4	0.5	0.5	0.6	0.5
Recon voxel size FH (mm)	1.4	0.6	0.6	0.5	0.6	0.4	0.8	—	—	—	0.6	—
Recon voxel size RL (mm)	1.4	—	—	0.5	—	—	—	0.4	0.5	0.5	—	0.5
Fold-over suppression	no	oversampling	oversampling	oversampling	oversampling	oversampling	oversampling	oversampling	oversampling	oversampling	oversampling	oversampling
F (mm)	—	149	151	160	268	165.7	166	—	—	—	268	—
H (mm)	—	149	151	160	268	165.7	166	—	—	—	268	—
L (mm)	50	—	—	—	—	—	—	100	100	100	—	100
R (mm)	50	—	—	—	—	—	—	100	100	100	—	100
Reconstruction matrix	288	720	672	640	480	704	352	480	400	400	480	400
SENSE	no	no	no	no	no	no	no	no	no	no	no	no
CS-SENSE	no	no	no	yes	yes	yes	yes	yes	yes	yes	yes	yes
reduction	—	—	—	2.3	1.4	1.2	1.2	2.3	2.3	1	1.5	2.2
denoising	—	—	—	system default	system default	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	no	no	no
Stacks	3	1	1	1	1	1	1	1	1	1	1	1
type	(20) parallel	parallel	parallel	parallel	parallel	parallel	parallel	parallel	parallel	parallel	parallel	parallel
slices	(20) 3	8	8	20	12	13	13	44	44	7	12	44
slice gap	user defined	user defined	user defined	user defined	user defined	user defined	user defined	user defined	user defined	user defined	user defined	user defined
gap (mm)	(2) 1, (18) 5	1	1	1	1	1	1	1	1	1	1	1
slice orientation	coronal, sagittal, (18) transverse	sagittal	sagittal	coronal	sagittal	sagittal	sagittal	transverse	transverse	transverse	sagittal	transverse
fold-over direction	RL, FH, (18) AP	FH	FH	FH	FH	FH	FH	RL	RL	RL	FH	RL
fat shift direction	F, P, (18) L	P	P	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	1	1	1
Slice scan order	default	default	default	default	default	default	default	default	default	default	default	default
Stack scan order	ascend	—	—	—	—	—	—	—	—	—	—	—
O-MAR	—	no	no	no	no	no	no	no	no	no	no	no
Move table per stack	no	—	—	—	—	—	—	—	—	—	—	—
Large table movement	no	yes	yes	no	no	no	no	no	no	no	no	no
Stack alignment	no	—	—	—	—	—	—	—	—	—	—	—
Stack sort order	no	—	—	—	—	—	—	—	—	—	—	—
PlanAlign	yes	no	no	no	no	no	no	no	no	no	no	no
REST slabs	0	0	0	0	0	0	0	0	0	0	0	0
orientation	—	—	—	—	—	—	sagittal	—	—	—	sagittal	—
Interactive positioning	no	no	no	no	no	no	no	no	no	no	no	no
Patient position	head first	head first	head first	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	head first	head first	head first
Patient orientation	supine	supine	supine	supine	supine	supine	supine	supine	supine	supine	supine	supine
Patient body orientation	supine	supine	supine	supine	supine	supine	supine	supine	supine	supine	supine	supine

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NW
IMAGING FORUMS, INC.

CONTRAST

Scan Description	SURVEY	LOCALIZER	LOCALIZER (2)	CORONALT1	SAGITTALT1	SAGITTALT2	SAGITTALT2 Fat Sat	AXIALT2 Stack	AXIALT1 Stack	AXIALT2 Disc Slices	SAGITTALT1 +C Fat Sat	AXIALT1 +C Stack
Scan type	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging
Scan mode	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS
technique	FFE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
Contrast enhancement	no	—	—	—	—	—	—	—	—	—	—	—
Modified SE	—	no	no	no	no	no	no	no	no	no	no	no
Acquisition mode	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian
Fast Imaging mode	none	TSE	TSE	TSE	TSE	TSE	TSE	TSE	TSE	TSE	TSE	TSE
shot mode	—	multishot	multishot	multishot	multishot	multishot	multishot	multishot	multishot	multishot	multishot	multishot
TSE factor	—	42	42	4	5	20	24	24	5	24	5	5
TE spacing	—	—	—	—	—	user defined	—	—	—	—	—	—
(ms)	—	—	—	—	—	9.1	—	—	—	—	—	—
startup Echoes	—	—	—	—	—	—	—	—	—	—	—	—
profile order	—	linear	linear	low_high	low_high	asymmetric	linear	linear	low_high	linear	low_high	low_high
DRIVE	—	yes	yes	no	no	yes	yes	no	no	no	no	no
ultrashort	—	yes	yes	no	no	no	no	no	no	no	no	no
fid reduction	—	default	default	strong	strong	default	default	default	default	default	default	default
Echoes	1	1	1	1	1	1	1	1	1	1	1	1
partial echo	no	no	no	no	no	no	no	no	no	no	no	no
shifted echo	no	—	—	—	—	—	—	—	—	—	—	—
TE	—	user defined	user defined	user defined	user defined	user defined	user defined	user defined	user defined	user defined	user defined	user defined
(ms)	shortest	120	120	8	10	100	90	120	8	120	10	8
Flip angle (deg)	45	90	90	90	90	90	90	90	90	90	90	90
Refocusing control	—	constant	constant	no	constant	constant	no	no	no	no	constant	no
angle (deg)	—	100	100	—	110	120	range	—	—	—	110	—
TR	shortest	range	range	range	range	range	—	range	range	range	range	range
minimum (ms)	—	2000	2000	400	400	2500	2500	3000	400	3000	400	400
maximum (ms)	—	2500	2500	600	700	4000	4000	6000	600	4000	700	600
Halfscan	no	no	no	no	no	no	no	no	no	no	no	no
Water-fat shift	maximum	maximum	maximum	maximum	user defined	maximum	maximum	maximum	maximum	maximum	user defined	maximum
(pixels)	—	—	—	—	0.4	—	—	—	—	—	0.4	—
Shim	—	default	default	default	default	default	volume	default	default	default	volume	default
ShimAlign	—	—	—	—	—	—	no	—	—	—	no	—
mDIXON	no	no	no	no	no	no	no	no	no	no	no	no
Fat suppression	no	no	no	no	no	no	SPAIR	no	no	no	SPIR	no
strength	—	—	—	—	—	—	—	—	—	—	strong	—
power	—	—	—	—	—	—	1	—	—	—	—	—
inversion delay	—	—	—	—	—	—	auto	—	—	—	—	—
suppr. level	—	—	—	—	—	—	strong	—	—	—	—	—
frequency offset	—	—	—	—	—	—	default	—	—	—	default	—
Water suppression	no	no	no	no	no	no	no	no	no	no	no	no
MTC	no	no	no	no	no	no	no	no	no	no	no	no

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Diffusion mode	no	no	no	no	no	no	no	no	no	no	no	no
T1 mapping	no	no	no	no	no	no	no	no	no	no	no	no
SAR mode	high	moderate	moderate	low	moderate	moderate	high	low	low	high	moderate	low
B1 mode	default	default	default	default	default	default	default	default	default	default	default	default
SAR allow first level	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Patient pregnancy	no	no	no	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	low	low	low
Gradient mode	regular	default	default	default	default	default	default	default	default	default	default	default
SofTone mode	no	no	no	no	no	no	no	no	no	no	no	no

MOTION

Scan Description	SURVEY	LOCALIZER	LOCALIZER (2)	CORONAL T1	SAGITTAL T1	SAGITTAL T2	SAGITTAL T2 Fat Sat	AXIAL T2 Stack	AXIAL T1 Stack	AXIAL T2 Disc Slices	SAGITTAL T1 +C Fat Sat	AXIAL T1 +C Stack
Cardiac synchronization	no	no	no	no	no	no	no	no	no	no	no	no
Respiratory compensation	no	no	no	no	no	no	no	no	no	no	no	no
Navigator respiratory comp	no	no	no	no	no	no	no	no	no	no	no	no
Flow compensation	no	no	no	sensitized	sensitized	no	yes	yes	yes	yes	sensitized	yes
direction	—	—	—	—	—	—	in-plane	in-plane	in-plane	in-plane	—	in-plane
Temporal slice spacing	default	default	default	default	default	default	default	default	default	default	default	default
fMRI echo stabilisation	no	—	—	—	—	—	—	—	—	—	—	—
Motion smoothing	—	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes
NSA	1	1	1	2	2	2	2	1	1	1	2	1
SMART	—	—	—	yes	yes	no	yes	—	—	—	yes	—
MRE enable	no	no	no	no	no	no	no	no	no	no	no	no

DYNAMIC ANGIO

Scan Description	SURVEY	LOCALIZER	LOCALIZER (2)	CORONAL T1	SAGITTAL T1	SAGITTAL T2	SAGITTAL T2 Fat Sat	AXIAL T2 Stack	AXIAL T1 Stack	AXIAL T2 Disc Slices	SAGITTAL T1 +C Fat Sat	AXIAL T1 +C Stack
Angio / Contrast enh.	no	—	—	—	—	—	—	—	—	—	—	—
Quantitative flow	no	—	—	—	—	—	—	—	—	—	—	—
Manual start	no	no	no	no	no	no	no	no	no	no	no	no
Dynamic study	no	no	no	no	no	no	no	no	no	no	no	no
Arterial Spin labeling	no	no	no	no	no	no	no	no	no	no	no	no

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POST PROCESSING

Scan Description	SURVEY	LOCALIZER	LOCALIZER (2)	CORONAL T1	SAGITTAL T1	SAGITTAL T2	SAGITTAL T2 Fat Sat	AXIAL T2 Stack	AXIAL T1 Stack	AXIAL T2 Disc Slices	SAGITTAL T1 +C Fat Sat	AXIAL T1 +C Stack
Preparation phases	—	auto	auto	auto	auto	auto	auto	auto	auto	auto	auto	auto
Interactive F0	no	no	no	no	no	no	no	no	no	no	no	no
Quick Survey	default	default	default	default	default	default	default	default	default	default	default	default
MIP/MPR	no	no	no	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	M, (3) no	M, (3) no	M, (3) no
Autoview image	M	M	M	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	(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	Skeletal muscle	Skeletal muscle	Skeletal muscle
Recon compression	No	No	No	No	No	No	No	No	No	No	No	No
Preset window contrast	hard	hard	hard	intermediate	intermediate	intermediate	intermediate	intermediate	intermediate	intermediate	intermediate	intermediate
Reconstruction mode	real time	real time	real time	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	no	no	no
Hardcopy protocol	no	no	no	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	system default	system default	system default
Uniformity correction	no	no	no	no	no	no	no	no	no	no	no	no
Geometry correction	default	default	default	default	default	default	default	default	default	default	default	default
IF_info_seperator	1634755923	0	0	1634755923	—	1634755923	1634755923	1634755923	1634755923	1634755923	1634755923	1634755923

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