SEIZURES WITH/WITHOUT IV CONTRAST 1.5T R5.6

INSTRUCTIONS AND PATIENT PREPARATION

Instructions	• Change patient into hospital issued gown and pants • 20- to 22-gauge IV access preferred
Position	Supine, head first
Coil	15 channel head coil
Landmark	Glabella
Comments	The Coronal T2 FLAIR and T2 sequences should be acquired perpendicular to the plane of the hippocampus

CONTRAST AGENT PARAMETERS

Contrast Agent	Dose	Injection Rate
Gadopiclenol (VUEWAY)	0.05 mmol/kg	Hand inject
Saline Flush	10 mL	Hand inject
Comments	The Coronal T2 FLAIR and T2 sequences should be acquired perpendicular to the plane of the hippocampus	

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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 Brain	SAGITTAL 3D T1	SAGITTAL 3D T2 FLAIR	CORONAL T2 Hipp	CORONAL T2 FLAIR Hipp	SWIp Fast	Source DTI	SAGITTAL 3D T1 +C	AXIAL T1 +C Fat Sat
Total scan duration	00:31.4	03:42.8	05:21.6	01:23.0	03:51.0	02:10.9	02:08.4	03:42.8	02:57.2
Rel. SNR	1	1	1	1	1	1	1	1	1
Act. TR (ms)	—	—	—	3953	—	—	7135	—	720
Act. TR/TI (ms)	—	—	4800 / 1660	—	11000 / 2800	—	—	—	—
Act. TR/TE (ms)	15 / 5.2	25 / 4.6	—	—	—	—	—	25 / 4.6	—
Act. TR/TE1/delta TE (ms)	—	—	—	—	—	52 / 12 / 11.0	—	—	—
Act. TE (ms)	—	—	315	90	140	—	74	—	20
ACQ matrix M x P	256 x 126	252 x 250	228 x 227	320 x 252	200 x 152	260 x 179	112 x 111	252 x 250	244 x 196
ACQ voxel MPS (mm)	0.98 / 1.98 / 10.0	0.99 / 1.00 / 1.00	1.10 / 1.10 / 1.12	0.56 / 0.71 / 3.00	0.90 / 1.18 / 3.00	0.85 / 1.00 / 4.00	2.00 / 2.02 / 3.00	0.99 / 1.00 / 1.00	0.90 / 0.94 / 3.00
REC voxel MPS (mm)	0.98 / 0.98 / 10.0	0.49 / 0.49 / 1.00	0.65 / 0.65 / 0.56	0.45 / 0.45 / 3.00	0.80 / 0.80 / 3.00	0.39 / 0.39 / 2.00	1.00 / 1.00 / 3.00	0.49 / 0.49 / 1.00	0.43 / 0.43 / 3.00
Scan percentage (%)	49	99	100	79	76	84	99	99	96
Packages	—	—	—	1	3	—	1	—	6
Min. slice gap (mm)	—	—	—	0	3	—	0	—	3
Act. slice gap (mm)	—	0	-0.6	0.3	—	-2	—	0	—
Optimal slices	—	—	—	—	30	—	—	—	16
Max. slices	—	—	—	—	45	—	—	—	—
Act. WFS (pix) / BW (Hz)	—	1.511 / 143.8	—	—	—	1.617 / 134.3	—	1.511 / 143.8	—
Min. WFS (pix) / Max. BW (Hz)	—	0.236 / 918.5	—	—	—	0.506 / 429.3	—	0.236 / 918.5	—
Min. TR/TE1/delta TE (ms)	—	—	—	—	—	51 / 8.7 / 9.5	—	—	—
EPI factor	—	—	—	—	—	—	111	—	—
WFS (pix) / BW (Hz)	—	—	0.250 / 870.2	0.795 / 273.2	0.858 / 253.0	—	20.096 / 10.8	—	0.390 / 556.8
BW in EPI freq. dir. (Hz)	—	—	—	—	—	—	1580.1	—	—
TSE es / shot (ms)	—	—	3.2 / 602	10.0 / 170	6.5 / 274	—	—	—	4.3 / 35
TEeff / TEequiv (ms)	—	—	315 / 139	—	140 / 105	—	—	—	—
Min. TR (ms)	—	—	—	—	—	—	—	—	720
Min. TR/TI (ms)	—	—	2409 / 50	—	7405 / 50	—	—	—	—
TFE shots	3	—	—	—	—	—	—	—	—
TFE dur. shot / acq (ms)	698.5 / 630.0	—	—	—	—	—	—	—	—
TFE shot interval (ms)	698.5	—	—	—	—	—	—	—	—
Min. TI delay	373.6	—	—	—	—	—	—	—	—
Act. WFS (pix) / BW (Hz)	1.161 / 187.1	—	—	—	—	—	—	—	—
Min. WFS (pix) / Max. BW (Hz)	0.525 / 413.8	—	—	—	—	—	—	—	—
Min. TR/TE (ms)	10 / 5.2	9.9 / 3.8	—	—	—	—	—	9.9 / 3.8	—
Local torso SAR	< 6 %	< 8 %	< 6 %	< 91 %	< 22 %	< 2 %	< 11 %	< 8 %	< 75 %
Whole body SAR / level	< 0.2 W/kg / normal	< 0.2 W/kg / normal	< 0.2 W/kg / normal	< 2.3 W/kg / 1st level	< 0.6 W/kg / normal	0.0 W/kg / normal	< 0.3 W/kg / normal	< 0.2 W/kg / normal	< 1.9 W/kg / normal
SED	0.0 kJ/kg	0.0 kJ/kg	0.0 kJ/kg	< 0.2 kJ/kg	< 0.1 kJ/kg	0.0 kJ/kg	0.0 kJ/kg	0.0 kJ/kg	< 0.3 kJ/kg
Max B1+rms	1.05 uT	1.19 uT	1.10 uT	4.04 uT	2.09 uT	0.59 uT	1.39 uT	1.19 uT	3.67 uT
PNS / level	17 % / normal	59 % / normal	71 % / normal	42 % / normal	44 % / normal	27 % / normal	60 % / normal	59 % / normal	60 % / normal
dB/dt	12.8 T/s	56.3 T/s	55.8 T/s	41.4 T/s	40.0 T/s	12.8 T/s	56.4 T/s	56.3 T/s	80.8 T/s
Sound Pressure Level (dB)	-3.8	11.1	18.1	10.2	11.8	1.7	10.1	11.1	13.6

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

IMAGING FORUMS, INC.

GEOMETRY

Scan Description	Survey Brain	SAGITTAL 3D T1	SAGITTAL 3D T2 FLAIR	CORONAL T2 Hipp	CORONAL T2 FLAIR Hipp	SWIp Fast	Source DTI	SAGITTAL 3D T1 +C	AXIAL T1 +C Fat Sat
SmartSelect	yes	yes	yes	yes	yes	yes	yes	yes	yes
Uniformity	—	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
FOV AP (mm)	250	250	250	72	175	220	224	250	220
FOV (mm)	(3) 50, (17) 10	—	—	—	—	—	—	—	—
FOV FH (mm)	250	250	250	180	180	150	150	250	144
FOV RL (mm)	—	185	180	180	180	179	224	185	184
ACQ voxel size AP (mm)	2	1	1.1	—	—	0.9	2	1	0.9
ACQ voxel size FH (mm)	1	1	1.1	0.6	0.9	4	—	1	—
ACQ voxel size RL (mm)	—	1	1.1	0.7	1.1	1	2	1	0.9
Slice thickness (mm)	10	—	—	3	3	—	3	—	3
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	0.5	0.7	—	—	0.4	1	0.5	0.4
Recon voxel size FH (mm)	1	0.5	0.7	0.4	0.8	2	—	0.5	—
Recon voxel size RL (mm)	—	1	0.6	0.4	0.8	0.4	1	1	0.4
Fold-over suppression	no	no	no	no	oversampling	no	no	no	no
A (mm)	50	—	—	—	—	—	—	—	—
L (mm)	—	—	—	—	20	—	—	—	—
P (mm)	50	—	—	—	—	—	—	—	—
R (mm)	—	—	—	—	20	—	—	—	—
Slice oversampling	—	default	user defined	—	—	default	—	default	—
oversample factor	—	—	1	—	—	—	—	—	—
ENCASE enable	—	no	—	—	—	no	—	no	—
Reconstruction matrix	256	512	384	400	224	560	224	512	512
SENSE	no	no	no	no	no	no	no	no	no
CS-SENSE	no	yes	yes	yes	yes	yes	no	yes	yes
reduction	—	6	5	1.5	1.5	3	—	6	1.3
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
Slices	(3) 3, (17) 1	185	321	22	44	75	50	185	48
slice gap	user defined	—	—	default	user defined	—	user defined	—	user defined
gap (mm)	(20) 10	—	—	—	1	—	0	—	0
Slice orientation	sagittal, coronal, (18) transverse	sagittal	sagittal	coronal	coronal	—	transverse	sagittal	transverse
Fold-over direction	AP, (19) RL	AP	AP	RL	RL	transverse	AP	AP	RL
Fat shift direction	(2) F, (18) P	F	F	F	F	RL	P	F	P
radial axis	AP, RL, AP, (17) RL	—	—	—	—	P	—	—	—

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radial angle (deg)	(20) 0	—	—	—	—	—	—	—	—
Multi-chunk	—	no	no	—	—	no	—	no	—
Minimum number of Packages	—	—	—	1	3	—	1	—	1
Slice scan order	default	—	—	default	default	—	default	—	default
Stack scan order	ascend	—	—	—	—	—	—	—	—
O-MAR	—	—	no	no	no	—	—	—	no
Move table per stack	no	—	—	—	—	—	—	—	—
Large table movement	no	no	no	no	no	no	no	no	no
Stack alignment	no	—	—	—	—	—	—	—	—
Stack sort order	no	—	—	—	—	—	—	—	—
PlanAlign	no	no	no	no	no	no	no	no	no
REST slabs	0	0	0	0	0	0	0	0	0
Interactive positioning	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
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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Central Nervous System

IMAGING FORUMS, INC.

CONTRAST

Scan Description	SurveyBrain	SAGITTAL3D T1	SAGITTAL3D T2 FLAIR	CORONALT2 Hipp	CORONALT2 FLAIR Hipp	SWIpFast	SourceDTI	SAGITTAL3D T1 +C	AXIALT1 +C Fat Sat	
Scan type	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Scan type
Scan mode	M2D	3D	3D	MS	MS	3D	MS	3D	MS	Scan mode
3D non-selective	—	no	—	—	—	no	—	no	—	3D non-selective
Contrast enhancement	T1	T1	—	—	—	T1	—	T1	—	Contrast enhancement
Modified SE	—	—	—	no	—	—	no	—	no	Modified SE
Acquisition mode	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	Acquisition mode
Fast Imaging mode	TFE	none	TSE	TSE	TSE	none	EPI	none	TSE	Fast Imaging mode
3D VIEW	—	—	Brain FLAIR	—	—	—	—	—	—	3D VIEW
TSE factor	—	—	178	17	42	—	—	—	8	TSE factor
TFE factor	42	—	—	—	—	—	—	—	—	TFE factor
Echoes	1	1	1	1	1	4	1	1	1	Echoes
TE/TE first	shortest	in-phase	shortest	user defined	user defined	user defined	user defined	in-phase	shortest	TE/TE first
Flip angle (deg)	20	30	—	90	—	20	90	30	69	Flip angle (deg)
Refocusing control	—	—	constant	no	constant	—	—	—	no	Refocusing control
TR	user defined	user defined	user defined	shortest	user defined	user defined	shortest	user defined	range	TR
Halfscan	no	no	no	no	no	no	yes	no	no	Halfscan
Water-fat shift	maximum	maximum	maximum	maximum	maximum	user defined	minimum	maximum	maximum	Water-fat shift
IR delay (ms)	—	—	1660	—	2800	—	—	—	—	IR delay (ms)
Shim	—	default	default	default	default	default	auto	default	default	Shim
mDIXON	no	no	no	no	no	no	no	no	no	mDIXON
Fat suppression	no	no	SPIR	no	no	no	SPIR	no	SPIR	Fat suppression
Water suppression	no	no	no	no	no	no	no	no	no	Water suppression
TFE prepulse	invert	—	—	—	—	—	—	—	—	TFE prepulse
PSIR	no	—	—	—	—	—	—	—	—	PSIR
MTC	no	no	no	no	no	no	no	no	no	MTC
T2prep	no	—	yes	—	—	—	—	—	—	T2prep
Diffusion mode	no	no	no	no	no	no	DTI	no	no	Diffusion mode
T1 mapping	no	no	no	no	no	no	no	no	no	T1 mapping
SAR mode	high	high	high	high	moderate	high	high	high	moderate	SAR mode
B1 mode	default	default	default	default	default	default	default	default	default	B1 mode
SAR allow first level	yes	yes	yes	yes	yes	yes	yes	yes	yes	SAR allow first level
Patient pregnancy	no	no	no	no	no	no	no	no	no	Patient pregnancy
Patient WB SAR [W/kg]	—	—	—	—	—	—	—	—	—	Patient WB SAR [W/kg]
Patient Head SAR [W/kg]	—	—	—	—	—	—	—	—	—	Patient Head SAR [W/kg]
Patient max. dB/dt [T/s]	—	—	—	—	—	—	—	—	—	Patient max. dB/dt [T/s]
Max slewrate [T/m/s]	—	—	—	—	—	—	—	—	—	Max slewrate [T/m/s]
Max. B1+rms [uT]	—	—	—	—	—	—	—	—	—	Max. B1+rms [uT]
PNS mode	low	low	high	moderate	low	low	low	low	low	PNS mode
Gradient mode	regular	maximum	default	default	default	default	default	maximum	maximum	Gradient mode
SofTone mode	no	no	no	no	no	no	no	no	no	SofTone mode

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Central Nervous System

IMAGING FORUMS, INC.

MOTION

Scan Description	Survey Brain	SAGITTAL 3D T1	SAGITTAL 3D T2 FLAIR	CORONAL T2 Hipp	CORONAL T2 FLAIR Hipp	SWIp Fast	Source DTI	SAGITTAL 3D T1 +C	AXIAL T1 +C Fat Sat
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	no	no	no	no	yes	no	no	no
fMRI echo stabilisation	no	no	—	—	—	no	—	no	—
Temporal slice spacing	—	—	—	default	—	—	default	—	default
Motion smoothing	—	—	no	no	no	—	—	—	no
NSA	1	1	2	2	2	1	1	1	2
partial NSA	—	—	no	—	—	—	—	—	—
SMART	—	—	no	no	no	—	—	—	no
MRE enable	no	no	no	no	no	no	no	no	no
CENTRA	—	—	no	—	—	—	—	—	—

DYNAMIC ANGIO

Scan Description	Survey Brain	SAGITTAL 3D T1	SAGITTAL 3D T2 FLAIR	CORONAL T2 Hipp	CORONAL T2 FLAIR Hipp	SWIp Fast	Source DTI	SAGITTAL 3D T1 +C	AXIAL T1 +C Fat Sat
Angio / Contrast enh.	no	no	—	—	—	no	—	no	—
Quantitative flow	no	no	—	—	—	no	—	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

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POST PROCESSING

Scan Description	Survey Brain	SAGITTAL 3D T1	SAGITTAL 3D T2 FLAIR	CORONAL T2 Hipp	CORONAL T2 FLAIR Hipp	SWIp Fast	Source DTI	SAGITTAL 3D T1 +C	AXIAL T1 +C Fat Sat
Preparation phases	—	auto	auto	auto	auto	auto	auto	auto	auto
Interactive F0	no	no	no	no	no	no	no	no	no
Quick Survey	default	default	default	default	default	default	default	default	default
MIP/MPR	no	no	no	no	no	no	no	no	no
SWIp	no	no	—	—	—	yes	—	no	—
Images	M, (3) no	M, (3) no	M, (3) no	M, (3) no	M, (3) no	SW-M, SW-P, (2) 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	(4) no	(4) no
Reference tissue	White matter	White matter	Grey matter	White matter	White matter	White matter	White matter	White matter	White matter
Recon compression	No	No	No	No	No	No	No	No	No
Preset window contrast	soft	soft	soft	soft	soft	soft	soft	soft	soft
Reconstruction mode	immediate	immediate	real time	immediate	real time	immediate	immediate	immediate	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
Elliptical k-space shutter	—	default	default	—	—	default	—	default	—
Free rotatable	no	no	no	no	no	no	no	no	no
IF_info_seperator	0	0	1634755923	0	0	1634755923	0	0	0

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