SEIZURES WITH/WITHOUT IV CONTRAST 3T 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	32 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	10-20 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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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	AXIAL Gray Matter	SWIp Fast Bold	Source DTI	SAGITTAL 3D T1 +C	AXIAL T1 +C Fat Sat
Total scan duration	00:31.6	02:21.7	05:20.0	01:48.0	03:40.0	05:44.6	03:05.2	02:00.8	02:21.7	03:21.7
Rel. SNR	1.74	1.28	0.61	0.71	0.59	1.55	0.83	1.35	1.28	0.81
Act. TR (ms)	—	—	—	3000	—	—	—	4923	—	580
Act. TR/TE (ms)	15 / 5.2	7.7 / 3.5	—	—	—	—	—	—	7.7 / 3.5	—
Act. TR/TE1/delta TE (ms)	—	—	—	—	—	—	31 / 7.2 / 6.2	—	—	—
Act. TR/TI (ms)	—	—	8000 / 2400	—	11000 / 2800	15662 / 3400	—	—	—	—
Act. TE (ms)	—	—	363	80	120	25	—	68	—	10
ACQ matrix M x P	256 x 126	220 x 220	240 x 240	312 x 236	256 x 162	240 x 142	384 x 314	112 x 112	220 x 220	276 x 180
ACQ voxel MPS (mm)	0.98 / 1.98 / 10.0	1.09 / 1.09 / 1.00	1.00 / 1.00 / 1.20	0.58 / 0.76 / 3.00	0.70 / 1.11 / 3.00	0.96 / 1.29 / 3.00	0.60 / 0.60 / 2.00	2.00 / 2.00 / 3.00	1.09 / 1.09 / 1.00	0.80 / 0.99 / 3.00
REC voxel MPS (mm)	0.98 / 0.98 / 10.0	0.94 / 0.94 / 1.00	0.50 / 0.50 / 0.60	0.42 / 0.42 / 3.00	0.35 / 0.35 / 3.00	0.90 / 0.90 / 3.00	0.45 / 0.45 / 1.00	1.00 / 1.00 / 3.00	0.94 / 0.94 / 1.00	0.43 / 0.43 / 3.00
Scan percentage (%)	49	100	100	76	63	74	100	100	100	80
Packages	—	—	—	4	4	2	—	1	—	12
Min. slice gap (mm)	—	—	—	3	3	3	—	0	—	3
Act. slice gap (mm)	—	0	-0.6	—	—	—	-1	—	0	—
Optimal slices	—	—	—	14	24	—	—	—	—	8
Max. slices	—	—	—	28	48	—	—	—	—	—
TFE shots	3	70	—	—	—	—	—	—	70	—
TFE dur. shot / acq (ms)	701.6 / 630.0	1740.9 / 1695.7	—	—	—	—	—	—	1740.9 / 1695.7	—
TFE shot interval (ms)	701.6	—	—	—	—	—	—	—	—	—
Min. TI delay	375.1	884.6	—	—	—	—	—	—	884.6	—
Act. WFS (pix) / BW (Hz)	2.322 / 187.1	2.080 / 208.9	—	—	—	—	1.702 / 255.3	—	2.080 / 208.9	—
Min. WFS (pix) / Max. BW (Hz)	1.050 / 413.8	0.482 / 901.9	—	—	—	—	0.761 / 571.1	—	0.482 / 901.9	—
Min. TR/TE (ms)	10 / 5.2	—	—	—	—	—	—	—	—	—
Min. TR/TE1/delta TE (ms)	—	—	—	—	—	—	29 / 5.8 / 6.2	—	—	—
EPI factor	—	—	—	—	—	—	—	45	—	—
WFS (pix) / BW (Hz)	—	—	0.801 / 542.5	2.136 / 203.4	1.993 / 218.0	1.714 / 253.4	—	13.193 / 32.9	—	2.005 / 216.7
BW in EPI freq. dir. (Hz)	—	—	—	—	—	—	—	1844.5	—	—
Full flow comp.	—	—	no	—	—	—	—	—	—	yes
TSE es / shot (ms)	—	—	5.9 / 685	10.0 / 160	10.9 / 229	6.9 / 117	—	—	—	10.0 / 30
TEeff / TEequiv (ms)	—	—	363 / 166	80 / 72	120 / 106	—	—	—	—	—
Min. TR (ms)	—	—	—	2419	—	—	—	—	—	580
Min. TR/TI (ms)	—	—	3098 / 50	—	10218 / 50	—	—	—	—	—
SPAIR TR (ms)	—	—	8000	—	—	—	—	—	—	—
SPAIR inv. delay (ms)	—	—	220	—	—	—	—	—	—	—
SPAIR offset act./default (Hz)	—	—	100 [220]	—	—	—	—	—	—	—
Local torso SAR	< 31 %	< 20 %	< 8 %	< 81 %	< 65 %	< 75 %	< 8 %	< 83 %	< 20 %	< 100 %
Whole body SAR / level	< 0.7 W/kg / normal	< 0.5 W/kg / normal	< 0.2 W/kg / normal	< 1.9 W/kg / normal	< 1.5 W/kg / normal	< 2.4 W/kg / 1st level	< 0.3 W/kg / normal	< 1.9 W/kg / normal	< 0.5 W/kg / normal	< 2.3 W/kg / 1st level
SED	0.0 kJ/kg	< 0.1 kJ/kg	< 0.1 kJ/kg	< 0.2 kJ/kg	< 0.3 kJ/kg	< 0.8 kJ/kg	0.0 kJ/kg	< 0.2 kJ/kg	< 0.1 kJ/kg	< 0.5 kJ/kg
Coil Power	—	10%	4%	38%	31%	72%	8%	39%	10%	48%
Max B1+rms	0.90 uT	0.73 uT	0.49 uT	1.47 uT	1.35 uT	2.12 uT	0.65 uT	1.47 uT	0.73 uT	1.62 uT

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PNS / level	17 % / normal	55 % / normal	60 % / normal	20 % / normal	24 % / normal	49 % / normal	79 % / normal	86 % / 1st level	55 % / normal	57 % / normal
dB/dt	15.4 T/s	53.1 T/s	86.7 T/s	15.4 T/s	15.4 T/s	46.4 T/s	55.3 T/s	112.7 T/s	53.1 T/s	87.1 T/s
Sound Pressure Level (dB)	3	20	22	4	6	18	24	22	20	18

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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	AXIAL Gray Matter	SWIp Fast Bold	Source DTI	SAGITTAL 3D T1 +C	AXIAL T1 +C Fat Sat
SmartSelect	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Coil 1 (exclude)	—	None	None	None	None	None	None	None	None	None
Uniformity	—	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
FOV AP (mm)	250	240	240	95	175	230	230	224	240	220
FOV (mm)	(3) 50, (17) 10	—	—	—	—	—	—	—	—	—
FOV FH (mm)	250	240	240	180	180	150	150	150	240	144
FOV RL (mm)	—	185	156	180	180	183	189	224	185	179
ACQ voxel size AP (mm)	2	1	1	—	—	1	0.6	2	1	0.8
ACQ voxel size FH (mm)	1	1	1	0.6	0.7	—	2	—	1	—
ACQ voxel size RL (mm)	—	1	1.2	0.7	0.9	1.3	0.6	2	1	1
Slice thickness (mm)	10	—	—	3	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	0.9	0.5	—	—	0.9	0.4	1	0.9	0.4
Recon voxel size FH (mm)	1	0.9	0.5	0.4	0.4	—	1	—	0.9	—
Recon voxel size RL (mm)	—	1	0.6	0.4	0.4	0.9	0.4	1	1	0.4
Fold-over suppression	no	no	no	no	oversampling	no	no	no	no	no
A (mm)	50	—	—	—	—	—	—	—	—	—
L (mm)	—	—	—	—	10	—	—	—	—	—
P (mm)	50	—	—	—	—	—	—	—	—	—
R (mm)	—	—	—	—	10	—	—	—	—	—
Slice oversampling	—	default	user defined	—	—	—	default	—	default	—
oversample factor	—	—	1	—	—	—	—	—	—	—
ENCASE enable	—	no	—	—	—	—	no	—	no	—
Reconstruction matrix	256	256	480	432	512	256	512	224	256	512
SENSE	no	no	no	no	no	no	no	yes	no	no
P reduction (AP)	—	—	—	—	—	—	—	2.5	—	—
MB SENSE	—	—	—	—	—	—	—	no	—	—
CS-SENSE	no	yes	yes	yes	yes	no	yes	no	yes	yes
reduction	—	3	6	2	2.3	—	4.5	—	3	2.3
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	no
Stacks	3	1	1	1	1	1	1	1	1	1
type	(20) parallel	—	—	parallel	parallel	parallel	—	parallel	—	parallel
slices	(3) 3, (17) 1	185	260	24	44	50	150	50	185	48
slice gap	user defined	—	—	user defined	user defined	user defined	—	user defined	—	user defined
gap (mm)	(20) 10	—	—	1	1	0	—	0	—	0
slice orientation	sagittal, coronal, (18) transverse	sagittal	sagittal	coronal	coronal	transverse	transverse	transverse	sagittal	transverse

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fold-over direction	AP, (19) RL	AP	AP	RL	RL	RL	RL	AP	AP	RL
fat shift direction	(2) F, (18) P	F	F	F	F	P	P	P	F	P
radial axis	AP, RL, AP, (17) RL	—	—	—	—	—	—	—	—	—
radial angle (deg)	(20) 0	—	—	—	—	—	—	—	—	—
Multi-chunk	—	no	no	—	—	—	no	—	no	—
Minimum number of packages	—	—	—	1	3	1	—	1	—	1
Slice scan order	default	—	—	default	default	default	—	default	—	default
Stack scan order	ascend	—	—	—	—	—	—	—	—	—
Move table per stack	no	—	—	—	—	—	—	—	—	—
O-MAR	—	—	no	no	no	no	—	—	—	no
Large table movement	no	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	no
REST slabs	0	0	0	0	0	0	0	0	0	0
orientation	—	—	—	—	—	—	—	transverse	—	—
Patient position	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
Patient orientation	supine	supine	supine	supine	supine	supine	supine	supine	supine	supine
Patient body orientation	supine	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	AXIALGray Matter	SWIpFast Bold	SourceDTI	SAGITTAL3D T1 +C	AXIALT1 +C Fat Sat
Scan type	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging
Scan mode	M2D	3D	3D	MS	MS	MS	3D	MS	3D	MS
3D non-selective	—	no	—	—	—	—	no	—	no	—
Contrast enhancement	T1	T1	—	—	—	—	T1	—	T1	—
Modified SE	—	—	—	no	—	—	—	no	—	no
Acquisition mode	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian
Fast Imaging mode	TFE	TFE	TSE	TSE	TSE	TSE	none	EPI	TFE	TSE
3D VIEW	—	—	no	—	—	—	—	—	—	—
TSE factor	—	—	110	15	21	17	—	—	—	3
TFE factor	42	220	—	—	—	—	—	—	220	—
Echoes	1	1	1	1	1	1	4	1	1	1
TE	shortest	shortest	shortest	user defined	user defined	user defined	user defined	shortest	shortest	user defined
Flip angle (deg)	20	8	—	90	—	—	17	90	8	90
Refocusing control	—	—	constant	constant	constant	no	—	—	—	no
TR	user defined	shortest	user defined	user defined	user defined	shortest	user defined	shortest	shortest	range
Halfscan	no	no	—	no	no	yes	no	yes	no	no
Water-fat shift	maximum	maximum	maximum	maximum	user defined	maximum	user defined	minimum	maximum	maximum
IR delay (ms)	—	—	2400	—	2800	3400	—	—	—	—
RF Shims	—	fixed	fixed	fixed	fixed	fixed	fixed	fixed	fixed	fixed
Shim	—	auto	default	default	default	auto	auto	PB-volume	auto	default
ShimAlign	—	—	—	—	—	—	—	no	—	—
mDIXON	no	no	no	no	no	no	no	no	no	no
Fat suppression	no	no	SPAIR	no	SPIR	SPIR	no	SPIR	no	SPIR
Grad Rev Fat suppr	—	—	—	—	—	—	—	no	—	—
Water suppression	no	no	no	no	no	no	no	no	no	no
BB pulse	—	—	no	no	no	no	—	no	—	no
TFE prepulse	invert	invert	—	—	—	—	—	—	invert	—
MTC	no	no	no	no	no	no	no	no	no	no
Diffusion mode	no	no	no	no	no	no	no	DTI	no	no
T1 mapping	no	no	no	no	no	no	no	no	no	no
SAR mode	high	high	high	high	high	high	high	high	high	high
B1 mode	default	default	default	default	default	default	default	default	default	default
SAR allow first level	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
PNS mode	low	moderate	high	low	low	low	moderate	high	moderate	high
Gradient mode	regular	default	maximum	default	default	default	maximum	maximum	default	maximum
SofTone mode	no	no	no	user defined	user defined	no	no	no	no	no

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IMAGING FORUMS, INC.

MOTION

Scan Description	Survey Brain	SAGITTAL 3D T1	SAGITTAL 3D T2 FLAIR	CORONAL T2 Hipp	CORONAL T2 FLAIR Hipp	AXIAL Gray Matter	SWIp Fast Bold	Source DTI	SAGITTAL 3D T1 +C	AXIAL T1 +C Fat Sat
Cardiac synchronization	no	no	no	no	no	no	no	no	no	no
Respiratory compensation	no	no	no	no	no	no	no	no	no	no
Navigator respiratory comp	no	no	no	no	no	no	no	no	no	no
Flow compensation	no	no	sensitized	no	no	no	yes	no	no	yes
direction	—	—	—	—	—	—	—	—	—	in-plane
Temporal slice spacing	—	—	—	default	—	—	—	default	—	default
fMRI echo stabilisation	no	no	—	—	—	—	no	—	no	—
Motion smoothing	—	—	no	yes	no	no	—	—	—	no
NSA	1	1	1	1	1	2	1	1	1	1
SMART	—	—	—	—	—	no	—	—	—	—
MRE enable	no	no	no	no	no	no	no	no	no	no

DYNAMIC ANGIO

Scan Description	Survey Brain	SAGITTAL 3D T1	SAGITTAL 3D T2 FLAIR	CORONAL T2 Hipp	CORONAL T2 FLAIR Hipp	AXIAL Gray Matter	SWIp Fast Bold	Source DTI	SAGITTAL 3D T1 +C	AXIAL T1 +C Fat Sat
Angio / Contrast enh.	no	no	—	—	—	—	no	—	no	—
Quantitative flow	no	no	—	—	—	—	no	—	no	—
CENTRA	—	no	no	—	—	—	—	—	no	—
Manual start	no	no	no	no	no	no	no	no	no	no
Dynamic study	no	no	no	no	no	no	no	no	no	no
dyn stabilization	—	—	—	—	—	—	—	regular	—	—
Arterial Spin labeling	no	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	AXIAL Gray Matter	SWIp Fast Bold	Source DTI	SAGITTAL 3D T1 +C	AXIAL T1 +C Fat Sat
Preparation phases	—	auto	auto	auto	auto	auto	auto	auto	auto	auto
Interactive F0	no	no	no	no	no	no	no	no	no	no
Quick Survey	default	default	default	default	default	default	default	default	default	default
B0 field map	no	no	no	no	no	no	no	no	no	no
MIP/MPR	no	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	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	M
Calculated images	(4) no	(4) no	—	(4) no	—	—	—	(4) no	(4) no	(4) no
Reference tissue	White matter	White matter	Grey matter	Grey matter	White matter	Grey matter	White matter	Grey matter	White matter	Grey matter
Recon compression	No	No	No	No	No	No	High	No	No	No
Preset window contrast	soft	soft	soft	soft	soft	soft	soft	soft	soft	soft
Reconstruction mode	immediate	immediate	real time	real time	real time	real time	immediate	immediate	immediate	real time
Save raw data	no	no	no	no	no	no	no	no	no	no
Hardcopy protocol	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
Uniformity correction	no	no	no	no	no	no	no	no	no	no
Geometry correction	default	default	default	default	default	default	default	default	default	default
Elliptical k-space shutter	—	default	default	—	—	—	default	—	default	—
EPI geometry correction	—	—	—	—	—	—	—	no	—	—
ADC correction	—	—	—	—	—	—	—	no	—	—
Free rotatable	no	no	no	no	no	no	no	no	no	no
IF_info_seperator	0	1634755923	1634755923	0	0	1634755923	1634755923	0	1634755923	1634755923

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