INTERNAL AUDITORY CANAL (IAC) WITH/WITHOUT IV CONTRAST 1.5T

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

CONTRAST AGENT PARAMETERS

Contrast Agent	Dose	Injection Rate
Gadopiclenol (VUEWAY)	0.05 mmol/kg	1-2 mL/sec
Saline Flush	10 mL	1-2 mL/sec
Comments	• Axial T2 Thin and Axial T2 Flair Thin coverage through posterior fossa • Cisternogram and Axial 3D Nerve view centered over IACs	

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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	AXIAL T2 Thin	AXIAL T2 FLAIR Thin	CORONAL T1	AXIAL T1	Source DTI	Cisternogram	AXIAL T1 +C	CORONAL T1 mDIXON +C Fat Sat
Total scan duration	00:45.0	02:26.6	03:30.0	01:20.0	01:10.4	02:08.4	04:42.0	01:20.0	02:20.7
Rel. SNR	1	1	1.0	1	1	1	1	1	1
Act. TR (ms)	15000	5237	—	400	400	7136	1200	400	440
Act. TR/TI (ms)	—	—	10000 / 2800	—	—	—	—	—	—
Act. TE (ms)	152	100	140	15	10	74	159	10	15
ACQ matrix M x P	212 x 170	300 x 248	224 x 225	252 x 224	252 x 215	112 x 111	320 x 300	252 x 224	232 x 204
ACQ voxel MPS (mm)	1.18 / 1.47 / 5.00	0.60 / 0.73 / 3.00	0.80 / 0.80 / 3.00	0.60 / 0.67 / 3.00	0.60 / 0.70 / 3.00	2.00 / 2.02 / 3.00	0.50 / 0.53 / 1.00	0.60 / 0.67 / 3.00	0.65 / 0.74 / 3.00
REC voxel MPS (mm)	0.98 / 0.98 / 5.00	0.42 / 0.42 / 3.00	0.38 / 0.38 / 3.00	0.29 / 0.29 / 3.00	0.29 / 0.29 / 3.00	1.00 / 1.00 / 3.00	0.31 / 0.31 / 0.50	0.38 / 0.38 / 3.00	0.29 / 0.29 / 3.00
Scan percentage (%)	80	83	100	89	85	99	94	89	88
Packages	3	1	3	2	2	1	—	2	2
Min. slice gap (mm)	0	0	3	3	3	0	—	3	3
Act. slice gap (mm)	—	0.3	0.3	0.3	0.3	—	-0.5	0.3	0.3
Optimal slices	—	—	18	—	—	—	—	—	—
Max. slices	—	—	27	—	—	—	—	—	—
EPI factor	—	—	—	—	—	111	—	—	—
WFS (pix) / BW (Hz)	0.449 / 483.3	1.402 / 154.9	0.835 / 260.2	0.972 / 223.4	0.981 / 221.4	20.105 / 10.8	0.492 / 441.4	0.972 / 223.4	0.516 / 420.9
BW in EPI freq. dir. (Hz)	—	—	—	—	—	1579	—	—	—
TSE factor	119	—	—	—	—	—	—	—	—
TSE es / shot (ms)	4.4 / 521	12.5 / 188	6.8 / 273	8.0 / 40	8.0 / 40	—	8.8 / 318	8.0 / 40	9.0 / 45
TEeff / TEequiv (ms)	—	100 / 82	140 / 105	—	—	—	159 / 141	—	—
Min. TR (ms)	8456	5237	—	393	393	—	331	393	440
Min. TR/TI (ms)	—	—	5827 / 50	—	—	—	—	—	—
Local torso SAR	< 56 %	< 37 %	< 14 %	< 87 %	< 87 %	< 11 %	< 19 %	< 87 %	< 79 %
Whole body SAR / level	< 1.4 W/kg / normal	< 0.9 W/kg / normal	< 0.4 W/kg / normal	< 2.2 W/kg / 1st level	< 2.2 W/kg / 1st level	< 0.3 W/kg / normal	< 0.5 W/kg / normal	< 2.2 W/kg / 1st level	< 2.0 W/kg / normal
SED	< 0.1 kJ/kg	< 0.1 kJ/kg	< 0.1 kJ/kg	< 0.2 kJ/kg	< 0.2 kJ/kg	0.0 kJ/kg	< 0.1 kJ/kg	< 0.2 kJ/kg	< 0.3 kJ/kg
Max B1+rms	3.18 uT	2.56 uT	1.60 uT	3.96 uT	3.96 uT	1.39 uT	1.83 uT	3.96 uT	3.78 uT
PNS / level	54 % / normal	34 % / normal	47 % / normal	41 % / normal	43 % / normal	60 % / normal	57 % / normal	43 % / normal	43 % / normal
dB/dt	50.8 T/s	34.0 T/s	41.3 T/s	41.8 T/s	40.2 T/s	56.4 T/s	51.1 T/s	40.5 T/s	43.5 T/s
Sound Pressure Level (dB)	16.6	7.3	7.7	11.2	10.5	10.1	11.6	10.6	10.8

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

NW IMAGING FORUMS, INC.

GEOMETRY

Scan Description	IACs LOC	AXIAL T2 Thin	AXIAL T2 FLAIR Thin	CORONAL T1	AXIAL T1	Source DTI	Cisternogram	AXIAL T1 +C	CORONAL T1 mDIXON +C Fat Sat
SmartSelect	yes	yes	yes	yes	yes	yes	yes	yes	yes
Uniformity	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
FOV AP (mm)	250	180	180	53	150	224	160	150	53
FOV (mm)	5, 53, 49, (17) 53	—	—	—	—	—	—	—	—
FOV FH (mm)	250	86	86	150	53	150	55	53	150
FOV RL (mm)	—	180	180	150	150	224	160	150	150
ACQ voxel size AP (mm)	1.2	0.6	0.8	—	0.6	2	0.5	0.6	—
ACQ voxel size FH (mm)	1.5	—	—	0.6	—	—	1	—	0.6
ACQ voxel size RL (mm)	—	0.7	0.8	0.6	0.6	2	0.5	0.6	0.7
Slice thickness (mm)	5	3	3	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	0.4	0.4	—	0.29	1	0.3	0.4	—
Recon voxel size FH (mm)	1	—	—	0.3	—	—	0.5	—	0.3
Recon voxel size RL (mm)	—	0.4	0.4	0.3	0.3	1	0.3	0.4	0.3
Fold-over suppression	no	oversampling	oversampling	oversampling	oversampling	no	no	oversampling	oversampling
A (mm)	50	—	—	—	—	—	—	—	—
L (mm)	—	5	5	20	10	—	—	20	20
P (mm)	50	—	—	—	—	—	—	—	—
R (mm)	—	5	5	20	10	—	—	20	20
Slice oversampling	—	—	—	—	—	—	default	—	—
Reconstruction matrix	256	432	480	512	512	224	512	400	512
SENSE	no	no	no	no	no	no	no	no	yes
P reduction (RL)	—	—	—	—	—	—	—	—	2
CS-SENSE	no	yes	yes	yes	yes	no	yes	yes	no
reduction	—	2	2	1.8	1.8	—	3.5	1.8	—
denoising	—	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	110	parallel	parallel
Slices	1, 9, 5, (17) 9	26	26	16	16	50	—	16	16
slice gap	user defined	default	default	default	default	user defined	—	default	default
gap (mm)	6, 1, 6, (17) 1	—	—	—	—	0	—	—	—
Slice orientation	sagittal, coronal, transverse, (17) coronal	transverse	transverse	coronal	transverse	transverse	transverse	transverse	coronal
Fold-over direction	AP, RL, AP, (17) RL	RL	RL	RL	RL	AP	RL	RL	RL
Fat shift direction	(2) F, L, (17) F	P	P	F	P	P	P	P	F
radial axis	AP, RL, AP, (17) RL	—	—	—	—	—	—	—	—

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radial angle (deg)	(20) 0	—	—	—	—	—	—	—	—
Stacks as Packages	yes	—	—	—	—	—	—	—	—
Multi-chunk	—	—	—	—	—	—	no	—	—
Minimum number of Packages	1	1	3	1	1	1	—	1	1
Slice scan order	default	default	default	default	default	default	—	default	default
Stack scan order	ascend	—	—	—	—	—	—	—	—
O-MAR	no	no	no	no	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	1	0	0
type	—	—	—	—	—	—	parallel	—	—
thickness (mm)	—	—	—	—	—	—	40	—	—
position	—	—	—	—	—	—	feet	—	—
gap	—	—	—	—	—	—	default	—	—
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	SURVEY	AXIALT2 Thin	AXIALT2 FLAIR Thin	CORONALT1	AXIALT1	SourceDTI	Cisternogram	AXIALT1 +C	CORONALT1 mDIXON +CFat Sat	
Scan type	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Scan type
Scan mode	MS	MS	MS	MS	MS	MS	3D	MS	MS	Scan mode
Modified SE	no	no	—	no	no	no	no	no	no	Modified SE
Acquisition mode	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	Acquisition mode
Fast Imaging mode	TSE	TSE	TSE	TSE	TSE	EPI	TSE	TSE	TSE	Fast Imaging mode
3D VIEW	—	—	—	—	—	—	no	—	—	3D VIEW
TSE factor	—	15	40	5	5	—	35	5	5	TSE factor
TE spacing	—	—	—	user defined	user defined	—	—	user defined	user defined	TE spacing
Echoes	1	1	1	1	1	1	1	1	1	Echoes
partial echo	no	no	no	no	no	no	no	no	no	partial echo
TE	shortest	user defined	user defined	user defined	user defined	user defined	shortest	user defined	user defined	TE
Refocusing control	—	—	constant	—	—	—	—	—	—	Refocusing control
Flip angle (deg)	90	90	—	90	90	90	90	90	90	Flip angle (deg)
Refocusing control	—	—	constant	—	—	—	—	—	—	Refocusing control
TR	user defined	range	user defined	range	range	shortest	user defined	range	range	TR
Halfscan	yes	no	no	no	no	yes	—	no	no	Halfscan
Water-fat shift	maximum	maximum	maximum	maximum	maximum	minimum	maximum	maximum	maximum	Water-fat shift
IR delay (ms)	—	—	2800	—	—	—	—	—	—	IR delay (ms)
Shim	default	default	default	default	default	auto	default	default	default	Shim
mDIXON	no	no	no	no	no	no	no	no	yes	mDIXON
Fat suppression	no	no	SPIR	no	no	SPIR	no	no	no	Fat suppression
Water suppression	no	no	no	no	no	no	no	no	no	Water suppression
BB pulse	—	—	—	—	—	—	no	—	—	BB pulse
MTC	no	no	no	no	no	no	no	no	no	MTC
Diffusion mode	no	no	no	no	no	DTI	no	no	no	Diffusion mode
Diffusion mode	no	no	no	no	no	DTI	no	no	no	Diffusion mode
T1 mapping	no	no	no	no	no	no	no	no	no	T1 mapping
SAR mode	high	high	moderate	high	high	high	high	high	high	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	no	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	low	low	low	low	low	low	low	PNS mode
Gradient mode	default	default	default	default	default	default	default	default	default	Gradient mode
SofTone mode	no	no	no	no	no	no	no	no	no	SofTone mode

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MOTION

Scan Description	IACs LOC	AXIAL T2 Thin	AXIAL T2 FLAIR Thin	CORONAL T1	AXIAL T1	Source DTI	Cisternogram	AXIAL T1 +C	CORONAL T1 mDIXON +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	no	no	no	no
Temporal slice spacing	default	default	—	default	default	default	—	default	default
Motion smoothing	no	no	no	no	no	—	no	no	no
NSA	1	3	2	3	3	1	1	3	3
SMART	—	no	no	no	no	—	—	no	no
MRE enable	no	no	no	no	no	no	no	no	no
CENTRA	—	—	—	—	—	—	no	—	—

DYNAMIC ANGIO

Scan Description	IACs LOC	AXIAL T2 Thin	AXIAL FLAIR Thin	CORONAL T1	AXIAL T1	Source DTI	Cisternogram	AXIAL T1 +C	CORONAL T1 mDIXON +C Fat Sat
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	IACs LOC	AXIAL T2 Thin	AXIAL FLAIR Thin	CORONAL T1	AXIAL T1	Source DTI	Cisternogram	AXIAL T1 +C	CORONAL T1 mDIXON +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
Quick Survey	default	default	default	default	default	default	default	default	default
MIP/MPR	no	no	no	no	no	no	no	no	no
mDIXON images	—	—	—	—	—	—	—	—	IP, water, (4) 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	(4) no	(4) no	(4) no	—
Reference tissue	White matter	White matter	White 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	real time	real time	immediate	immediate	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
Elliptical k-space shutter	—	—	—	—	—	—	default	—	—
Free rotatable	no	no	no	no	no	0	no	no	no
IF_info_seperator	1634755923	1634755923	0	0	0	—	1634755923	0	0

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