INTERNAL AUDITORY CANAL (IAC) WITH/WITHOUT IV CONTRAST 3T

INSTRUCTIONS AND PATIENT PREPARATION

Instructions	• Change patient into hospital issued gown and pants • 20- to 22-gauge IV access preferred • Hand inject
Position	Supine, head first
Coil	32 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	10-20 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

NW IMAGING FORUMS, INC.

INFO PAGE

Scan Description	Survey	AXIAL T2 Thin	AXIAL T2 FLAIR Thin	CORONAL T1	AXIAL T1	AXIAL 3D Brain Nerve View	Source DTI	Cisternogram	AXIAL T1 +C	CORONAL T1 +C Fat Sat
Total scan duration	—	02:12.0	02:45.0	01:36.7	01:22.9	04:04.2	02:00.8	02:50.0	01:22.9	02:00.6
Rel. SNR	—	0.5	0.6	0.7	0.6	0.5	1.4	0.2	0.6	0.6
Act. TR (ms)	—	3000	—	691	592	—	4923	2000	592	574
Act. TE (ms)	—	80	120	10	10	170	68	225	10	10
Act. TR/TI (ms)	—	—	11000 / 2800	—	—	2200 / 250	—	—	—	—
ACQ matrix M x P	—	360 x 300	224 x 182	360 x 285	360 x 285	400 x 336	112 x 112	376 x 300	360 x 285	360 x 285
ACQ voxel MPS (mm)	—	0.50 / 0.60 / 3.00	0.80 / 0.99 / 3.00	0.50 / 0.63 / 3.00	0.50 / 0.63 / 3.00	0.60 / 0.60 / 2.00	2.00 / 2.00 / 3.00	0.40 / 0.50 / 1.00	0.50 / 0.63 / 3.00	0.50 / 0.63 / 3.00
REC voxel MPS (mm)	—	0.42 / 0.42 / 3.00	0.47 / 0.47 / 3.00	0.35 / 0.35 / 3.00	0.35 / 0.35 / 3.00	0.60 / 0.60 / 1.00	1.00 / 1.00 / 3.00	0.29 / 0.29 / 0.50	0.35 / 0.35 / 3.00	0.35 / 0.35 / 3.00
Scan percentage (%)	—	83	81	79	79	100	100	80	79	79
Packages	—	4	3	2	2	—	1	—	2	3
Min. slice gap (mm)	—	3	3	3	3	—	0	—	3	3
Act. slice gap (mm)	—	0.3	—	0.3	0.3	-1.0	—	-0.5	0.3	0.3
Optimal slices	—	14	16	—	—	—	—	—	—	10
Max. slices	—	28	—	—	—	—	—	—	—	15
EPI factor	—	—	—	—	—	—	45	—	—	—
WFS (pix) / BW (Hz)	—	1.977 / 219.8	1.997 / 217.6	2.477 / 175.4	2.477 / 175.4	1.487 / 292.1	13.193 / 32.9	1.581 / 274.7	2.477 / 175.4	2.477 / 175.4
BW in EPI freq. dir. (Hz)	—	—	—	—	—	—	1844.5	—	—	—
TSE es / shot (ms)	—	10.0 / 160	10.9 / 229	10.0 / 30	10.0 / 30	12.8 / 358	—	7.9 / 449	10.0 / 30	10.0 / 30
TEeff / TEequiv (ms)	—	80 / 72	120 / 106	10.0 / 10	10-Oct	170 / 85	—	225 / 198	10.0 / 10	10.0 / 10
Min. TR (ms)	—	2419	—	691	592	—	—	664	592	574
Min. TR/TI (ms)	—	—	8175 / 50	—	—	1174 / 50	—	—	—	—
Local torso SAR	—	< 81 %	< 48 %	< 100 %	< 100 %	< 53 %	< 83 %	< 33 %	< 100 %	< 100 %
Whole body SAR / level	—	< 1.9 W/kg / normal	< 1.1 W/kg / normal	< 2.3 W/kg / 1st level	< 2.3 W/kg / 1st level	< 1.3 W/kg / normal	< 1.9 W/kg / normal	< 1.1 W/kg / normal	< 2.3 W/kg / 1st level	< 2.3 W/kg / 1st level
SED	—	< 0.2 kJ/kg	< 0.2 kJ/kg	< 0.2 kJ/kg	< 0.2 kJ/kg	< 0.3 kJ/kg	< 0.2 kJ/kg	< 0.2 kJ/kg	< 0.2 kJ/kg	< 0.3 kJ/kg
Coil Power	—	38%	23%	48%	48%	25%	39%	32%	48%	48%
Max B1+rms	—	1.47 uT	1.15 uT	1.62 uT	1.62 uT	1.18 uT	1.47 uT	1.32 uT	1.62 uT	1.62 uT
PNS / level	—	25 % / normal	24 % / normal	36 % / normal	37 % / normal	57 % / normal	86 % / 1st level	62 % / normal	37 % / normal	36 % / normal
dB/dt	—	15.4 T/s	15.4 T/s	36.6 T/s	34.3 T/s	45.1 T/s	112.7 T/s	92.2 T/s	34.3 T/s	36.6 T/s
Sound Pressure Level (dB)	—	3	4.8	11.3	11.4	22.6	21.9	19.6	11.4	12.3

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

NW IMAGING FORUMS, INC.

GEOMETRY

Scan Description	Survey	AXIAL T2 Thin	AXIAL T2 FLAIR Thin	CORONAL T1	AXIAL T1	AXIAL 3D Brain Nerve View	Source DTI	Cisternogram	AXIAL T1 +C	CORONAL 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	CLEAR
FOV AP (mm)	250	180	180	46	180	240	224	150	180	46
FOV (mm)	17, (19) 53	—	—	—	—	—	—	—	—	—
FOV FH (mm)	250	79	79	180	39	75	150	40	39	180
FOV RL (mm)	—	180	180	180	180	202	224	150	180	180
ACQ voxel size AP (mm)	1	0.5	1	—	0.5	1	2	0.4	0.5	—
ACQ voxel size FH (mm)	1	—	—	0.5	—	2	—	1	—	0.5
ACQ voxel size RL (mm)	—	0.6	0.8	1	1	0.6	2	0.5	0.6	0.6
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	0.5	—	0.4	0.6	1	0.3	0.4	—
Recon voxel size FH (mm)	1	—	—	0.4	—	1	—	0.5	—	0.4
Recon voxel size RL (mm)	—	0.4	0.5	0.4	0.4	0.6	1	0.3	0.4	0.4
Fold-over suppression	oversampling	no	no	oversampling	oversampling	oversampling	no	oversampling	oversampling	oversampling
A (mm)	50	—	—	—	—	—	—	—	—	—
L (mm)	—	—	—	5	5	0	—	10	5	5
P (mm)	50	—	—	—	—	—	—	—	—	—
R (mm)	—	—	—	5	5	0	—	10	5	5
Slice oversampling	—	—	—	—	—	user defined	—	default	—	—
oversample factor	—	—	—	—	—	1.5	—	—	—	—
Reconstruction matrix	256	432	384	512	512	400	224	512	512	512
SENSE	no	no	no	no	no	no	yes	no	no	no
P reduction (AP)	—	—	—	—	—	—	2.5	—	—	—
MB SENSE	—	—	—	—	—	—	no	—	—	—
CS-SENSE	no	yes	yes	yes	yes	yes	no	yes	yes	yes
reduction	—	2	2.3	1.5	1.5	5	—	5	1.5	1.5
denoising	—	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
Stacks	3	1	1	1	1	1	1	1	1	1
type	(20) parallel	parallel	parallel	parallel	parallel	—	parallel	—	parallel	parallel
Slices	3, (19) 9	24	24	14	12	75	50	80	12	14
slice gap	user defined	default	user defined	default	default	—	user defined	—	default	default
gap (mm)	(20) 1	—	0.30	—	—	—	0	—	—	—
Slice orientation	sagittal, coronal, transverse, (17) coronal	transverse	transverse	coronal	transverse	transverse	transverse	transverse	transverse	coronal
Fold-over direction	AP, FH, AP, (17) RL	RL	RL	RL	RL	RL	AP	RL	RL	RL

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Fat shift direction	F, (2) L, (17) F	P	P	F	P	P	P	P	P	F
radial axis	AP, RL, AP, (17) RL	—	—	—	—	—	—	—	—	—
radial angle (deg)	(20) 0	—	—	—	—	—	—	—	—	—
Stacks as packages	yes	—	—	—	—	—	—	—	—	—
Multi-chunk	—	—	—	—	—	no	—	no	—	—
Minimum number of packages	1	1	3	1	1	—	1	—	1	1
Slice scan order	interleaved	default	default	default	default	—	default	—	default	default
Stack scan order	ascend	—	—	—	—	—	—	—	—	—
Move table per stack	no	—	—	—	—	—	—	—	—	—
O-MAR	no	no	no	no	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	1	0	0
type	—	—	—	—	—	—	—	parallel	—	—
orientation	—	—	—	—	—	—	transverse	—	—	—
thickness (mm)	—	—	—	—	—	—	—	60	—	—
position	—	—	—	—	—	—	—	feet	—	—
gap	—	—	—	—	—	—	—	default	—	—
power	—	—	—	—	—	—	—	1	—	—
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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IMAGING FORUMS, INC.

CONTRAST

Scan Description	Survey	AXIALT2 Thin	AXIALT2 FLAIR Thin	CORONALT1	AXIALT1	AXIAL3D Brain Nerve View	SourceDTI	Cisternogram	AXIALT1 +C	CORONAL T1 +C Fat Sat
Scan type	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging
Scan mode	MS	MS	MS	MS	MS	3D	MS	3D	MS	MS
Modified SE	no	no	—	no	no	—	no	no	no	no
Acquisition mode	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian
Fast Imaging mode	TSE	TSE	TSE	TSE	TSE	TSE	EPI	TSE	TSE	TSE
3D VIEW	—	—	—	—	—	Nerve STIR	—	no	—	—
TSE factor	—	15	21	3	3	26	—	56	3	3
3D non-selective	—	—	—	—	—	—	—	yes	—	—
Echoes	1	1	1	1	1	1	1	1	1	1
TE	shortest	user defined	user defined	user defined	user defined	user defined	shortest	shortest	user defined	user defined
Flip angle (deg)	90	90	—	90	90	—	90	90	90	90
Refocusing control	constant	constant	constant	constant	constant	—	—	constant	constant	constant
TR	user defined	user defined	user defined	range	range	user defined	shortest	user defined	range	range
Halfscan	yes	no	no	no	no	yes	yes	no	no	no
Water-fat shift	maximum	maximum	user defined	maximum	maximum	user defined	minimum	maximum	maximum	maximum
IR delay (ms)	—	—	2800	—	—	250	—	—	—	—
RF Shims	fixed	fixed	fixed	fixed	fixed	fixed	fixed	fixed	fixed	fixed
Shim	default	default	default	default	default	default	PB-volume	default	default	default
ShimAlign	—	—	—	—	—	—	no	—	—	—
mDIXON	no	no	no	no	no	no	no	no	no	no
Fat suppression	no	no	SPIR	no	no	no	SPIR	no	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	MSDE	no	no	no	no
MSDE mode	—	—	—	—	—	user defined	—	—	—	—
TEprep	—	—	—	—	—	user defined	—	—	—	—
Venc (RL, AP, FH)	—	—	—	—	—	(3) 2	—	—	—	—
MTC	no	no	no	no	no	no	no	no	no	no
Diffusion mode	no	no	no	no	no	no	DTI	no	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	low	low	low	low	low	high	high	low	low
Gradient mode	default	default	default	default	default	default	maximum	maximum	default	default
SofTone mode	no	user defined	user defined	no	no	no	no	no	no	no

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MOTION

Scan Description	Survey	AXIAL T2 Thin	AXIAL T2 FLAIR Thin	CORONAL T1	AXIAL T1	AXIAL 3D Brain Nerve View	Source DTI	Cisternogram	AXIAL T1 +C	CORONAL 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	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	yes	—	no	no	no
NSA	1	1	1	1	1	1	1	1	1	1
MRE enable	no	no	no	no	no	no	no	no	no	no
CENTRA	—	—	—	—	—	no	—	no	—	—

DYNAMIC ANGIO

Scan Description	Survey	AXIAL T2 Thin	AXIAL T2 FLAIR Thin	CORONAL T1	AXIAL T1	AXIAL 3D Brain Nerve View	Source DTI	Cisternogram	AXIAL T1 +C	CORONAL T1 +C Fat Sat
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

POST PROCESSING

Scan Description	Survey	AXIAL T2 Thin	AXIAL T2 FLAIR Thin	CORONAL T1	AXIAL T1	AXIAL 3D Brain Nerve View	Source DTI	Cisternogram	AXIAL T1 +C	CORONAL T1 +C Fat Sat
Preparation phases	auto	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
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
Autoview image	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
Reference tissue	Grey matter	Grey matter	White matter	Grey matter	Grey matter	Grey matter	Grey matter	Grey matter	Grey matter	Grey matter
Recon compression	No	No	No	No	No	No	No	High	No	No
Preset window contrast	soft	soft	soft	soft	soft	soft	soft	soft	soft	soft
Reconstruction mode	real time	real time	real time	real time	real time	real time	immediate	real time	real time	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	—	—
EPI geometry correction	—	—	—	—	—	—	no	—	—	—
ADC correction	—	—	—	—	—	—	no	—	—	—
IF_info_seperator	1634755923	0	0	1634755923	1634755923	1634755923	0	1634755923	1634755923	1634755923

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