MAXILLOFACIAL 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 • Power injector preferred
Position	Supine, head first
Coil	15 channel head coil
Landmark	Glabella

CONTRAST AGENT PARAMETERS

Contrast Agent	Dose	Injection Rate	Dose Timing Method and Scan Delay
Gadopiclenol (VUEWAY)	0.05 mmol/kg	5 mL/sec	Preload by injecting half the dose of VUEWAY, wait 30 seconds, program 15 second inject delay, inject and scan perfusion sequence at the same time
Saline Flush	20 mL x2	5 mL/sec	—
Comments	If available, use mDIXON XD Fat Sat technique for the postcontrast scans		

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

IMAGING FORUMS, INC.

INFO PAGE

Scan Description	Survey Cranial Nerve	AXIAL T1	AXIAL T2 Fat Sat	CORONAL T1	CORONAL STIR	Source DTI	Cisternogram	AXIAL T1 +C Fat Sat	CORONAL T1+C Fat Sat
Total scan duration	00:31.4	05:06.8	05:52.0	06:14.4	05:09.6	02:18.7	—	10:31.3	08:26.1
Rel. SNR	1	1	1	1	1	1	—	1	1
Act. TR (ms)	—	588	4293	588	—	7706	—	588	588
Act. TR/TI (ms)	—	—	—	—	4914 / 180	—	—	—	—
Act. TR/TE (ms)	15 / 5.2	—	—	—	—	—	—	—	—
Act. TE (ms)	—	10	100	15	15	74	—	10	15
ACQ matrix M x P	256 x 126	252 x 229	300 x 251	252 x 222	252 x 196	112 x 111	—	252 x 222	232 x 211
ACQ voxel MPS (mm)	0.98 / 1.98 / 10.0	0.60 / 0.65 / 3.00	0.60 / 0.72 / 3.00	0.60 / 0.67 / 3.00	0.60 / 0.77 / 3.00	2.00 / 2.02 / 3.00	—	0.60 / 0.67 / 3.00	0.65 / 0.71 / 3.00
REC voxel MPS (mm)	0.98 / 0.98 / 10.0	0.38 / 0.38 / 3.00	0.42 / 0.42 / 3.00	0.29 / 0.29 / 3.00	0.35 / 0.35 / 3.00	1.00 / 1.00 / 3.00	—	0.38 / 0.38 / 3.00	0.29 / 0.29 / 3.00
Scan percentage (%)	49	91	84	88	78	99	—	88	91
Packages	—	6	2	7	3	1	—	6	7
Min. slice gap (mm)	—	3	0	3	3	0	—	3	3
Act. slice gap (mm)	—	0.3	0.3	0.3	0.3	—	—	0.3	0.3
Optimal slices	—	6	13	6	14	—	—	6	6
Max. slices	—	18	—	21	21	—	—	18	21
EPI factor	—	—	—	—	—	111	—	—	—
WFS (pix) / BW (Hz)	—	0.959 / 226.5	0.745 / 291.4	0.972 / 223.4	1.007 / 215.7	20.100 / 10.8	—	0.412 / 527.7	0.504 / 431.0
BW in EPI freq. dir. (Hz)	—	—	—	—	—	1579.5	—	—	—
TSE es / shot (ms)	—	8.0 / 40	12.5 / 188	8.0 / 40	8.0 / 96	—	—	8.6 / 43	9.0 / 45
TEeff / TEequiv (ms)	—	—	100 / 82	—	—	—	—	—	—
Min. TR (ms)	—	588	4293	588	—	—	—	588	588
Min. TR/TI (ms)	—	—	—	—	4914 / 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	—	—	—	—	—	—	—	—
Local torso SAR	< 6 %	< 22 %	< 22 %	< 22 %	< 17 %	< 11 %	—	< 22 %	< 22 %
Whole body SAR / level	< 0.2 W/kg / normal	< 0.6 W/kg / normal	< 0.6 W/kg / normal	< 0.6 W/kg / normal	< 0.4 W/kg / normal	< 0.3 W/kg / normal	—	< 0.6 W/kg / normal	< 0.6 W/kg / normal
SED	0.0 kJ/kg	< 0.2 kJ/kg	< 0.2 kJ/kg	< 0.2 kJ/kg	< 0.1 kJ/kg	0.0 kJ/kg	—	< 0.4 kJ/kg	< 0.3 kJ/kg
Max B1+rms	1.05 uT	2.00 uT	2.00 uT	2.00 uT	1.76 uT	1.39 uT	—	2.00 uT	2.00 uT
PNS / level	17 % / normal	41 % / normal	47 % / normal	41 % / normal	38 % / normal	60 % / normal	—	47 % / normal	42 % / normal
dB/dt	12.8 T/s	40.9 T/s	40.3 T/s	41.3 T/s	37.7 T/s	56.4 T/s	—	42.8 T/s	43.5 T/s
Sound Pressure Level (dB)	-3.8	4.3	9.3	4.7	5.4	10.1	—	8.7	5.6

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

IMAGING FORUMS, INC.

GEOMETRY

Scan Description	Survey Cranial Nerve	AXIAL T1	AXIAL T2 Fat Sat	CORONAL T1	CORONAL STIR	Source DTI	Cisternogram	AXIAL T1 +C Fat Sat	CORONAL 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	150	180	66	66	224	160	150	66
FOV (mm)	(3) 50, (17) 10	—	—	—	—	—	—	—	—
FOV FH (mm)	250	53	86	150	150	162	40	53	150
FOV RL (mm)	—	150	180	150	150	224	160	150	150
ACQ voxel size AP (mm)	2	1	1	—	—	2	0	1	—
ACQ voxel size FH (mm)	1	—	—	0.6	0.6	—	1	—	0.6
ACQ voxel size RL (mm)	—	0.6	0.7	0.6	0.6	2	0.5	0.6	0.7
Slice thickness (mm)	10	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	—	—	1	0.3	0.4	—
Recon voxel size FH (mm)	1	—	—	0.3	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)	—	20	5	20	20	—	—	20	20
P (mm)	50	—	—	—	—	—	—	—	—
R (mm)	—	20	5	20	20	—	—	20	20
Slice oversampling	—	—	—	—	—	—	default	—	—
Reconstruction matrix	256	400	432	512	432	224	560	400	512
SENSE	no	no	no	no	no	no	no	no	no
CS-SENSE	no	yes	yes	yes	yes	no	yes	yes	yes
reduction	—	1.4	1.8	1.3	2.2	—	5	1.3	1.8
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	parallel	—	parallel	parallel
Slices	(3) 3, (17) 1	16	26	20	20	54	80	16	20
slice gap	user defined	default	default	default	default	user defined	—	default	default
gap (mm)	(20) 10	—	—	—	—	0	—	—	—
Slice orientation	sagittal, coronal, (18) transverse	transverse	transverse	coronal	coronal	transverse	transverse	transverse	coronal
Fold-over direction	AP, (19) RL	RL	RL	RL	RL	AP	RL	RL	RL
Fat shift direction	(2) F, (18) P	P	P	F	F	P	P	P	F
radial axis	AP, RL, AP, (17) RL	—	—	—	—	—	—	—	—
radial angle (deg)	(20) 0	—	—	—	—	—	—	—	—
Slice scan order	default	—	—	—	—	—	—	—	—

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Stack scan order	ascend	—	—	—	—	—	—	—	—
Multi-chunk	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—
Minimum number of Packages	—	1	1	1	1	1	—	1	1
Slice scan order	—	default	default	default	default	default	—	default	default
O-MAR	—	no	no	no	no	—	no	no	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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MR Gadopiclenol (VUEWAY®) Protocol for Philips Healthcare Systems
Central Nervous System

IMAGING FORUMS, INC.

CONTRAST

Scan Description	SurveyCranial Nerve	AXIALT1	AXIALT2 Fat Sat	CORONALT1	CORONALSTIR	SourceDTI	Cisternogram	AXIAL T1 +C Fat Sat	CORONALT1+C Fat Sat
Scan type	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging
Scan mode	M2D	MS	MS	MS	MS	MS	3D	MS	MS
technique	FFE	SE	SE	SE	IR	SE	SE	SE	SE
Contrast enhancement	T1	—	—	—	—	—	—	—	—
Modified SE	—	no	no	no	—	no	no	no	no
Acquisition mode	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian
Fast Imaging mode	TFE	TSE	TSE	TSE	TSE	EPI	TSE	TSE	TSE
3D VIEW	—	—	—	—	—	—	no	—	—
shot mode	multishot	multishot	multishot	multishot	multishot	single-shot	multishot	multishot	multishot
TFE factor	42	—	—	—	—	—	—	—	—
TSE factor	—	5	15	5	12	—	52	5	5
TE spacing	—	user defined	—	user defined	user defined	—	—	shortest	user defined
(ms)	—	8	—	8	8	—	—	—	9
startup Echoes	default	—	—	—	—	—	—	—	—
shot interval	shortest	—	—	—	—	—	—	—	—
profile order	linear	asymmetric	linear	asymmetric	asymmetric	—	linear	asymmetric	asymmetric
turbo direction	—	—	—	—	—	—	radial	—	—
DRIVE	—	no	no	no	no	—	yes	no	no
ultrashort	—	no	no	no	no	—	no	no	no
fid reduction	—	default	default	default	default	—	default	default	default
3D non-selective	—	—	—	—	—	—	yes	—	—
Echoes	1	1	1	1	1	1	1	1	1
partial echo	no	no	no	no	no	no	no	no	no
shifted echo	no	—	—	—	—	—	—	—	—
TE	shortest	user defined	user defined	user defined	user defined	user defined	shortest	user defined	user defined
(ms)	—	10	100	15	15	74	—	10	15
Flip angle (deg)	20	90	90	90	—	90	90	90	90
Refocusing control	—	no	constant	no	no	—	no	no	no
angle (deg)	—	—	100	—	—	—	—	—	—
TR	user defined	range	range	range	range	shortest	user defined	range	range
(ms)	15	—	—	—	—	—	1500	—	—
minimum (ms)	—	400	3000	400	3000	—	—	400	400
maximum (ms)	—	750	7000	750	6500	—	—	750	750
Halfscan	no	no	no	no	no	yes	—	no	no
factor	—	—	—	—	—	0.6	—	—	—
Water-fat shift	maximum	maximum	maximum	maximum	maximum	minimum	maximum	maximum	maximum
IR delay (ms)	—	—	—	—	180	—	—	—	—
acquire during delay	—	—	—	—	yes	—	—	—	—
dual	—	—	—	—	no	—	—	—	—
Shim	—	default	default	default	default	auto	default	default	default
mDIXON	no	no	yes	no	no	no	no	yes	yes
Fat suppression	no	no	no	no	no	SPIR	no	no	no

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strength	—	—	—	—	—	strong	—	—	—
frequency offset	—	—	—	—	—	default	—	—	—
Water suppression	no	no	no	no	no	no	no	no	no
BB pulse	—	—	—	—	—	—	no	—	—
TFE prepulse	invert	—	—	—	—	—	—	—	—
slice selection	no	—	—	—	—	—	—	—	—
shared	no	—	—	—	—	—	—	—	—
delay	shortest	—	—	—	—	—	—	—	—
PSIR	no	—	—	—	—	—	—	—	—
MTC	no	no	no	no	no	no	no	no	no
T2prep	no	—	—	—	—	—	—	—	—
Diffusion mode	no	no	no	no	no	DTI	no	no	no
gradient overplus	—	—	—	—	—	yes	—	—	—
directional resolution	—	—	—	—	—	medium (15)	—	—	—
nr of b-factors	—	—	—	—	—	2	—	—	—
b-factor order	—	—	—	—	—	ascending	—	—	—
max b-factor	—	—	—	—	—	800	—	—	—
average high b	—	—	—	—	—	no	—	—	—
T1 mapping	no	no	no	no	no	no	no	no	no
SAR mode	high	high	high	high	high	high	high	high	high
B1 mode	default	default	default	default	default	default	default	default	default
SAR allow first level	yes	yes	yes	yes	yes	yes	yes	yes	yes
Patient pregnancy	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]	200	200	200	200	200	—	200	200	200
Max. B1+rms [uT]	2	2	2	2	2	—	2	2	2
PNS mode	low	low	low	low	low	low	low	low	low
Gradient mode	regular	default	default	default	default	default	default	default	default
SofTone mode	no	no	no	no	no	no	no	no	no

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Central Nervous System

IMAGING FORUMS, INC.

MOTION

Scan Description	Survey Cranial Nerve	AXIAL T1	AXIAL T2 Fat Sat	CORONAL T1	CORONAL STIR	Source DTI	Cisternogram	AXIAL T1 +C Fat Sat	CORONAL 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	no	yes	no	no
direction	—	—	—	—	—	—	through-plane	—	—
fMRI echo stabilisation	no	—	—	—	—	—	—	—	—
Temporal slice spacing	—	default	default	default	—	default	—	default	default
Motion smoothing	—	no	no	no	no	—	no	no	no
NSA	1	2	2	2	2	1	1	2	2
SMART	—	no	no	no	no	—	—	no	no
MRE enable	no	no	no	no	no	no	no	no	no
CENTRA	—	—	—	—	—	—	no	—	—

DYNAMIC ANGIO

Scan Description	Survey Cranial Nerve	AXIAL T1	AXIAL T2 Fat Sat	CORONAL T1	CORONAL STIR	Source DTI	Cisternogram	AXIAL T1 +C Fat Sat	CORONAL T1+C Fat Sat
Angio / Contrast enh.	no	—	—	—	—	—	—	—	—
Quantitative flow	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 Cranial Nerve	AXIAL T1	AXIAL T2 Fat Sat	CORONAL T1	CORONAL STIR	Source DTI	Cisternogram	AXIAL T1 +C Fat Sat	CORONAL 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	—	—	—	—	—	—	—	—
mDIXON images	—	—	water, (5) no	—	—	—	—	IP, water, (4) no	IP, water, (4) no
Images	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	—	—
Calculated images	(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	real time	immediate	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	medium	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	no	no	no	no
IF_info_seperator	0	0	1634755923	0	0	0	1634755923	0	0

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