PEDIATRIC ABDOMEN FREE-BREATHING 3T

INSTRUCTIONS AND PATIENT PREPARATION

Instructions	NPO 4 hours prior. Free-breathing. Cover top of liver through kidneys.
Position	Supine, head first
Coil	dStream Torso coil
Landmark	Center at mid abdomen

CONTRAST AGENT PARAMETERS

Contrast Agent	Dose	Injection Rate	Dose Timing Method and Scan Delay
Gadopiclenol (VUEWAY)	0.1 mL/kg (single dose, weight-based)	Hand injection	IV placed prior to start of MRI
Saline Flush	5-10 mL	Hand injection	Following contrast
Comments	Single dose of VUEWAY 0.1 mL/kg based on patient weight; hand inject followed by 5-10 mL saline flush. Report agent administered and dose.		

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MR Gadopiclenol (VUEWAY®) Protocol for Philips MRI Scanners
Pediatric

IMAGING FORUMS, INC.

INFO PAGE

Scan Description	Survey	CO T2 FS MVXD	AX T2 FS MVXD	SG T2 FS MVXD	AX T1 mDIXON VANE 3D NAV	AX DWI 0 100 600 RT	AX T1 mDIXON VANE 3D NAV POST CONTRAST
Total scan duration	00:11.4	02:15.0	02:48.0	03:12.0	02:30.5	03:12.0	02:30.5
Rel. SNR	5.3363061	4.17610502	3.60832	4.95956373	5.61057186	12.4888773	5.61057186
Act. TR(ms)	—	1860	1860	1860	—	1210	—
Act. TE(ms)	—	80	80	80	—	57	—
Act. TR/TE(ms)	8.0 / 2.5	—	—	—	—	—	—
Act. TR/TI(ms)	—	—	—	—	—	—	—
Act. TR/TE1/delta TE(ms)	—	—	—	—	—	—	—
ACQ matrix M x P	116 x 57	188 x 188	168 x 168	172 x 172	140 x 140	72 x 38	140 x 140
ACQ voxel MPS (mm)	1.72 / 3.51 / 5.00	1.20 / 1.20 / 3.00	1.19 / 1.19 / 3.00	1.31 / 1.31 / 3.00	1.29 / 1.29 / 1.30	2.50 / 3.71 / 5.00	1.29 / 1.29 / 1.30
REC voxel MPS (mm)	1.56 / 1.56 / 5.00	0.94 / 0.94 / 3.00	0.89 / 0.89 / 3.00	0.94 / 0.94 / 3.00	1.02 / 1.02 / 1.00	1.61 / 1.61 / 5.00	1.02 / 1.02 / 1.00
Scan percentage (%)	49.1379318	—	—	—	—	67.3076935	—
Packages	—	5	8	8	—	2	—
TFE shots	—	—	—	—	—	—	—
TFE dur. shot / acq (ms)	1036.2 / 456.0	—	—	—	662.8 / 564.0	—	662.8 / 564.0
TFE shot interval (ms)	—	—	—	—	—	—	—
Min. TI delay	262.777191	—	—	—	—	—	—
Min. slice gap (mm)	—	3	3	3	—	-0	—
EPIfactor	—	—	—	—	—	35	—
Act.slicegap (mm)	—	—	—	—	-0.299999952	—	-0.299999952
Act. WFS (pix) / BW (Hz)	1.318 / 329.5	—	—	—	0.452 / 960.1	—	0.452 / 960.1
Min. WFS (pix) / Max. BW (Hz)	0.282 / 1539.4	—	—	—	0.380 / 1144.7	—	0.380 / 1144.7
Min. TR/TE(ms)	5.0 / 2.5	—	—	—	—	—	—
Min. TR/TE1/delta TE(ms)	—	—	—	—	—	—	—
WFS (pix) / BW (Hz)	—	0.386 / 1126.9	0.385 / 1127.3	0.353 / 1231.7	—	8.410 / 51.7	—
TSE es / shot(ms)	—	5.5 / 155	5.7 / 154	5.5 / 155	—	—	—
TEeff / TEequiv(ms)	—	80 / 58	80 / 58	80 / 58	—	—	—
Min. TR(ms)	—	1692	1690	1691	—	—	—
Min. TR/TI(ms)	—	—	—	—	—	—	—
BW in EPI freq. dir. (Hz)	—	—	—	—	—	2386.8	—
SPIR offset act./default (Hz)	—	—	—	—	—	—	—
Local torso SAR	< 11 %	< 75 %	< 73 %	< 75 %	< 12 %	< 51 %	< 12 %
Whole body SAR / level	< 0.4 W/kg / normal	< 2.4 W/kg / 1st level	< 2.4 W/kg / 1st level	< 2.4 W/kg / 1st level	< 0.4 W/kg / normal	< 1.6 W/kg / normal	< 0.4 W/kg / normal
SED	0.0 kJ/kg	< 0.3 kJ/kg	< 0.4 kJ/kg	< 0.5 kJ/kg	< 0.1 kJ/kg	< 0.3 kJ/kg	< 0.1 kJ/kg
Coil Power	—	71 %	70 %	71 %	12 %	48 %	12 %
Max B1+rms	0.75 uT	1.98 uT	1.96 uT	1.98 uT	0.80 uT	1.63 uT	0.80 uT
PNS / level	70 % / normal	54 % / normal	56 % / normal	58 % / normal	75 % / normal	84 % / 1st level	75 % / normal
dB/dt	49.7 T/s	72.2 T/s	73.8 T/s	72.7 T/s	63.2 T/s	131.2 T/s	63.2 T/s
Sound Pressure Level (dB)	13.0032883	10.7640982	9.18202496	11.0394154	14.9188089	13.1319609	14.9188089
Boil-off (hPa/h)	—	—	—	—	—	—	—
Max Boil-off (hPa/h)	—	—	—	—	—	—	—
Boil-off (hPa)	—	—	—	—	—	—	—

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MR Gadopiclenol (VUEWAY®) Protocol for Philips MRI Scanners
Pediatric

IMAGING FORUMS, INC.

GEOMETRY

Scan Description	Survey	CO T2 FS MVXD	AX T2 FS MVXD	SG T2 FS MVXD	AX T1 mDIXON VANE 3D NAV	AX DWI 0 100 600 RT	AX T1 mDIXON VANE 3D NAV POST CONTRAST
Nucleus	—	—	—	—	—	—	—
SmartSelect	yes	yes	yes	yes	yes	yes	yes
Coil 1 (exclude)	—	None	None	None	None	None	None
Uniformity	—	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
FOV AP (mm)	—	119	200	225	180	141.428574	180
FOV FH (mm)	200	225	191	225	156	164.5	156
FOV RL (mm)	200	225	200	179	180	180	180
stack RL (mm)	—	—	—	—	—	—	—
ACQ voxel size AP (mm)	—	—	1.20000005	1.29999995	1.29999995	3.60160422	1.29999995
ACQ voxel size FH (mm)	1.75781298	1.20000005	—	1.29999995	1.29999995	—	1.29999995
ACQ voxel size RL (mm)	3.5087719	1.20000005	1.20000005	—	1.29999995	2.50999999	1.29999995
Slice thickness (mm)	5	3	3	3	—	5	—
Recon voxel size AP (mm)	—	—	0.892857134	0.9375	1.02272725	1.60714281	1.02272725
Recon voxel size FH (mm)	1.5625	0.9375	—	0.9375	1	—	1
Recon voxel size RL (mm)	1.5625	0.9375	0.892857134	—	1.02272725	1.60714281	1.02272725
Fold-over suppression	no	no	no	no	no	oversampling	no
Slice oversampling	—	—	—	—	default	—	default
oversample factor	—	—	—	—	—	—	—
ENCASE enable	—	—	—	—	no	—	no
RF select. FOS	—	—	—	—	—	—	—
Reconstruction matrix	128	240	224	240	176	112	176
SENSE	no	yes	yes	yes	yes	yes	yes
Preduction (AP)	—	—	—	—	1	2	1
MB SENSE	—	—	—	—	—	no	—
CS-SENSE	no	—	—	—	—	no	—
reduction	—	—	—	—	—	—	—
denoising	—	—	—	—	—	—	—
k-t Acceleration	no	no	no	no	no	no	no
Stacks	3	1	1	1	1	1	1
current	—	—	—	—	—	—	—
type	parallel	parallel	parallel	parallel	—	parallel	—
slices	3	30	48	45	156	30	156
slice gap	user defined	user defined	user defined	user defined	—	user defined	—
gap (mm)	10	1	1	1	—	0.5	—
slice orientation	coronal	coronal	transverse	sagittal	transverse	transverse	transverse
fold-over direction	RL	—	—	—	—	AP	—
fat shift direction	P	—	—	—	—	A	—
Minimum number of packages	—	1	1	1	—	2	—
Multi-chunk	—	—	—	—	no	—	no
Slice scan order	interleaved	default	default	default	—	interleaved	—
Stack scan order	ascend	—	—	—	—	—	—

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Stack sort order	no	—	—	—	—	—	—
O-MAR	—	no	no	no	—	—	—
Large table movement	no	no	no	no	no	no	no
Plan Align	no	no	no	no	no	no	no
REST slabs	0	0	0	0	0	0	0
type	—	—	—	—	—	—	—
thickness (mm)	—	—	—	—	—	—	—
position	—	—	—	—	—	—	—
gap	—	—	—	—	—	—	—
power	—	2	2	2	—	—	—
Interactive positioning	no	no	no	no	no	no	no
Allow table movement	—	—	—	—	—	—	—
Patient position	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
Patient orientation	supine	supine	supine	supine	supine	supine	supine
Patient body orientation	supine	supine	supine	supine	supine	supine	supine

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Pediatric

IMAGING FORUMS, INC.

CONTRAST

Scan Description	Survey	CO T2 FS MVXD	AX T2 FS MVXD	SG T2 FS MVXD	AX T1 mDIXON VANE 3D NAV	AX DWI 0 100 600 RT	AX T1 mDIXON VANE 3D NAV POST CONTRAST
Scan type	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging
Scan mode	M2D	MS	MS	MS	3D	MS	3D
technique	FFE	SE	SE	SE	FFE	SE	FFE
Modified SE	—	no	no	no	—	no	—
3D non-selective	—	—	—	—	—	—	—
loop order	—	—	—	—	—	—	—
Contrast enhancement	T1	—	—	—	T1	—	T1
Acquisition mode	cartesian	MultiVane	MultiVane	MultiVane	radial	cartesian	radial
Fast Imaging mode	TFE	TSE	TSE	TSE	TFE	EPI	TFE
3D VIEW	—	—	—	—	—	—	—
shot mode	single-shot	multishot	multishot	multishot	single-shot	single-shot	single-shot
TFE factor	57	—	—	—	96	—	96
TSE factor	—	28	27	28	—	—	—
startup echoes	default	0	0	0	default	—	default
shot interval	—	—	—	—	shortest	—	shortest
profile order	linear	linear	linear	linear	—	—	—
turbo direction	—	—	—	—	Z	—	Z
DRIVE	—	no	no	no	—	—	—
ultrashort	—	no	no	no	—	—	—
shift	—	—	—	—	—	—	—
fid reduction	—	default	default	default	—	—	—
Echoes	1	1	1	1	2	1	2
partial echo	no	no	no	no	no	no	no
shifted echo	no	—	—	—	no	—	no
TE	shortest	user defined	user defined	user defined	shortest	shortest	shortest
(ms)	—	80	80	80	—	—	—
echospacing	—	—	—	—	—	—	—
(ms)	—	—	—	—	—	—	—
flyback	—	—	—	—	no	—	no
Flip angle (deg)	15	90	90	90	10	90	10
Refocusing control	—	constant	constant	constant	—	—	—
angle (deg)	—	80	80	80	—	—	—
bright fat reduction	—	no	no	no	—	—	—
TR	user defined	user defined	user defined	user defined	shortest	shortest	shortest
(ms)	8	1860	1860	1860	—	—	—
minimum (ms)	—	—	—	—	—	—	—
maximum (ms)	—	—	—	—	—	—	—
Halfscan	no	no	no	no	yes	yes	yes
factor	—	—	—	—	—	0.698113024	—
factor Y	—	—	—	—	—	—	—
factor Z	—	—	—	—	0.800000012	—	0.800000012

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Water-fat shift	user defined	minimum	minimum	minimum	user defined	minimum	user defined
(pixels)	3.5	—	—	—	0.449999988	—	0.449999988
IR delay (ms)	—	—	—	—	—	—	—
dual	—	—	—	—	—	—	—
power	—	—	—	—	—	—	—
RF Shims	—	fixed	fixed	fixed	fixed	fixed	fixed
Shim	—	volume	default	default	default	auto	default
mDIXON	no	no	no	no	yes	no	yes
Fat suppression	no	SPAIR	SPAIR	SPAIR	no	SPIR	no
strength	—	—	—	—	—	strong	—
power	—	2	2	2	—	—	—
inversion delay	—	auto	auto	auto	—	—	—
suppr. level	—	strong	strong	strong	—	—	—
frequency offset	—	default	default	default	—	default	—
offset (Hz)	—	—	—	—	—	—	—
Grad Rev Fat suppr	—	no	no	no	—	yes	—
Water suppression	no	no	no	no	no	no	no
TFE prepulse	invert	—	—	—	no	—	no
slice selection	no	—	—	—	—	—	—
delay	user defined	—	—	—	—	—	—
(ms)	800	—	—	—	—	—	—
BB pulse	—	no	no	no	—	no	—
MTC	no	no	no	no	no	no	no
T2prep	no	—	—	—	no	—	no
echo time(ms)	—	—	—	—	—	—	—
refocusing pulses	—	—	—	—	—	—	—
APT	—	no	no	no	—	no	—
Custom prepulse	no	no	no	no	no	no	no
MDME	no	no	no	no	no	no	no
Diffusion mode	no	no	no	no	no	DWI	no
sequence	—	—	—	—	—	—	—
gradient expert mode	—	—	—	—	—	—	—
gradient overplus	—	—	—	—	—	yes	—
direction	—	—	—	—	FH	—	FH
nr of b-factors	—	—	—	—	—	3	—
b-factor order	—	—	—	—	—	user defined	—
max b-factor	—	—	—	—	—	—	—
average high b	—	—	—	—	—	yes	—
T1 mapping	no	no	no	no	no	no	no
Transmit channels	—	both	both	both	both	both	both
SAR mode	high	high	high	high	high	high	high
B1 mode	default	default	default	default	default	default	default
SAR allow first level	yes	yes	yes	yes	yes	yes	yes

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Patient pregnancy	no	no	no	no	no	no	no
Patient WB SAR [W/kg]	0	0	0	0	0	0	0
Patient Head SAR [W/kg]	0	0	0	0	0	0	0
Patient max. dB/dt [T/s]	0	0	0	0	0	0	0
Max slewrate [T/m/s]	0	0	0	0	0	0	0
Max. B1+rms [uT]	0	0	0	0	0	0	0
PNS mode	moderate	high	high	high	high	high	high
Gradient mode	default	maximum	maximum	maximum	maximum	maximum	maximum
SofTone mode	no	no	no	no	no	no	no

MOTION

Scan Description	Survey	CO T2 FS MVXD	AX T2 FS MVXD	SG T2 FS MVXD	AX T1 mDIXON VANE 3D NAV	AX DWI 0 100 600 RT	AX T1 mDIXON VANE 3D NAV POST CONTRAST
Cardiac synchronization	no	no	no	no	no	no	no
Heart rate > 250 bpm	no	no	no	no	no	no	no
Respiratory compensation	breath hold	trigger	trigger	trigger	no	trigger	no
Navigator respiratory comp	no	no	no	no	gate	no	gate
type	—	parallel	parallel	parallel	lead	parallel	lead
Flow compensation	no	no	no	no	no	no	no
Temporal slice spacing	—	default	default	default	—	default	—
Motion smoothing	no	no	no	no	no	—	no
fMRI echo stabilisation	no	—	—	—	no	—	no
NSA	1	1	1	1	1	3	1
MRE enable	no	no	no	no	no	no	no

DYNAMIC ANGIO

Scan Description	Survey	CO T2 FS MVXD	AX T2 FS MVXD	SG T2 FS MVXD	AX T1 mDIXON VANE 3D NAV	AX DWI 0 100 600 RT	AX T1 mDIXON VANE 3D NAV POST CONTRAST
Angio / Contrast enh.	no	—	—	—	no	—	no
Quantitative flow	no	—	—	—	no	—	no
CENTRA	—	—	—	—	—	—	—
Manual start	no	no	no	no	no	no	no
Dynamic study	no	no	no	no	no	no	no
Arterial Spin labeling	no	no	no	no	no	no	no

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POST PROCESSING

Scan Description	Survey	CO T2 FS MVXD	AX T2 FS MVXD	SG T2 FS MVXD	AX T1 mDIXON VANE 3D NAV	AX DWI 0 100 600 RT	AX T1 mDIXON VANE 3D NAV POST CONTRAST
Preparation phases	—	auto	auto	auto	full	auto	full
Interactive F0	no	no	no	no	no	no	no
Quick Survey	default	default	default	default	default	default	default
SmartPlan survey	no	no	no	no	no	no	no
B0 field map	no	no	no	no	no	no	no
B1 field map	no	no	no	no	no	no	no
MIP/MPR	no	no	no	no	no	no	no
SWIp	no	—	—	—	no	—	no
Images	no	no	no	no	—	no	—
Autoview image	M	M	M	M	—	M	—
Calculated images	no	no	no	no	—	no	—
Reference tissue	Liver	Grey matter	Grey matter	Grey matter	Liver	Liver	Liver
Recon compression	No	No	No	No	Default	No	Default
Preset window contrast	soft	soft	soft	soft	no	soft	no
Reconstruction mode	real time	immediate	immediate	immediate	immediate	immediate	immediate
Save raw data	no	no	no	no	no	no	no
Hardcopy protocol	no	no	no	no	no	no	no
Image filter	system default	system default	system default	system default	system default	system default	system default
Uniformity correction	no	no	no	no	yes	no	yes
Geometry correction	default	default	default	default	none	default	none
EPI geometry correction	—	—	—	—	—	no	—
ADC correction	—	—	—	—	—	no	—
Elliptical k-space shutter	—	—	—	—	—	—	—
Free rotatable	no	no	no	no	no	no	no

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