PEDIATRIC JOINT 3T

INSTRUCTIONS AND PATIENT PREPARATION

Instructions	No NPO requirements. Free-breathing.
Position	Lower extremity: feet first, supine. Upper extremity: head first, supine.
Coil	dStream Torso coil, plus any extremity coil (knee, foot/ankle, wrist, or flex coil)
Landmark	Center at area of interest

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.		

Disclaimer: The MR Protocols information is provided by independent physicians and technologists and is not intended to provide definitive or complete medical instructional or treatment information. Products referenced herein should be used consistently with their package inserts, and any devices referenced herein should be used consistently with the operation instructions provided by their respective manufactures. Northwest Imaging Forums, Inc. and Bracco Diagnostics Inc. do not offer medical advice and shall not be responsible for any person's reliance on this protocol.

Supported by an educational grant from Bracco Diagnostics Inc.

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

IMAGING FORUMS, INC.

INFO PAGE

Scan Description	Survey	AX PD DIXON	AX T2 FS	CO PD FS	SG T1 DIXON	SG T2 FS	SG PD 3D	AX T1 DIXON POST CONTRAST	SG T1 DIXON POST CONTRAST
Total scan duration	00:39.2	03:18.0	02:43.9	02:21.3	04:04.5	02:46.0	03:13.0	04:08.3	04:04.5
Rel. SNR	1.11542869	0.370975137	0.312063575	0.257172376	0.195703596	0.177991331	0.22781831	0.200619847	0.195703596
Act. TR(ms)	—	3000	3279	4157	500	2964	1000	662	500
Act. TE(ms)	—	30	80	27	15	80	37	15	15
Act. TR/TE(ms)	36 / 1.49	—	—	—	—	—	—	—	—
Act. TR/TI(ms)	—	—	—	—	—	—	—	—	—
Act. TR/TE1/delta TE(ms)	—	—	—	—	—	—	—	—	—
ACQ matrix M x P	256 x 179	244 x 131	240 x 83	400 x 167	232 x 232	312 x 243	308 x 347	240 x 187	232 x 232
ACQ voxel MPS (mm)	1.17 / 1.68 / 10.0	0.41 / 0.77 / 3.00	0.58 / 0.75 / 3.00	0.35 / 0.48 / 3.00	0.43 / 0.57 / 3.00	0.48 / 0.62 / 3.00	0.52 / 0.52 / 0.52	0.50 / 0.64 / 3.00	0.43 / 0.57 / 3.00
REC voxel MPS (mm)	1.17 / 1.17 / 10.0	0.35 / 0.35 / 3.00	0.36 / 0.36 / 3.00	0.25 / 0.25 / 3.00	0.24 / 0.24 / 3.00	0.39 / 0.39 / 3.00	0.26 / 0.26 / 0.26	0.36 / 0.36 / 3.00	0.24 / 0.24 / 3.00
Scan percentage (%)	69.7674408	53.4693871	77.7777786	72.925766	75.803978	77.7243576	100	77.9166641	75.803978
Packages	3	2	2	2	3	2	—	5	3
TFE shots	—	—	—	—	—	—	—	—	—
TFE dur. shot / acq (ms)	—	—	—	—	—	—	—	—	—
TFE shot interval (ms)	—	—	—	—	—	—	—	—	—
Min. TI delay	—	—	—	—	—	—	—	—	—
Min. slice gap (mm)	-0	3	3	3	3	3	—	3	3
EPIfactor	—	—	—	—	—	—	—	—	—
Act.slicegap (mm)	—	—	—	—	—	—	-0.25999999	0.300000012	—
Act. WFS (pix) / BW (Hz)	1.935 / 224.5	—	—	—	—	—	—	—	—
Min. WFS (pix) / Max. BW (Hz)	0.561 / 775.0	—	—	—	—	—	—	—	—
Min. TR/TE(ms)	—	—	—	—	—	—	—	—	—
Min. TR/TE1/delta TE(ms)	—	—	—	—	—	—	—	—	—
WFS (pix) / BW (Hz)	—	1.187 / 365.9	2.590 / 167.7	2.106 / 206.3	1.129 / 384.9	1.713 / 253.6	0.883 / 491.9	0.976 / 445.2	1.129 / 384.9
TSE es / shot(ms)	—	8.8 / 106	10.0 / 150	8.5 / 128	9.1 / 45	10.0 / 150	5.3 / 389	8.4 / 42	9.1 / 45
TEeff / TEequiv(ms)	—	30 / 27	80 / 69	27 / 25	15 / 14	80 / 69	37 / 32	15 / 14	15 / 14
Min. TR(ms)	—	1965	—	—	463	—	410	662	463
Min. TR/TI(ms)	—	—	—	—	—	—	—	—	—
BW in EPI freq. dir. (Hz)	—	—	—	—	—	—	—	—	—
SPIR offset act./default (Hz)	—	—	—	—	—	—	—	—	—
Local torso SAR	< 68 %	—	< 71 %	—	—	—	—	—	—
Whole body SAR / level	< 2.2 W/kg / 1st level	< 0.4 W/kg / normal	< 2.3 W/kg / 1st level	< 0.5 W/kg / normal	< 0.5 W/kg / normal	< 0.5 W/kg / normal	0.0 W/kg / normal	< 0.5 W/kg / normal	< 0.5 W/kg / normal
SED	< 0.1 kJ/kg	< 0.1 kJ/kg	< 0.4 kJ/kg	< 0.1 kJ/kg	< 0.1 kJ/kg	< 0.1 kJ/kg	0.0 kJ/kg	< 0.1 kJ/kg	< 0.1 kJ/kg
Coil Power	—	55 %	0 %	84 %	77 %	69 %	—	84 %	77 %
Max B1+rms	1.88 uT	1.73 uT	1.93 uT	2.14 uT	2.06 uT	1.94 uT	2.06 uT	2.14 uT	2.06 uT
PNS / level	57 % / normal	51 % / normal	47 % / normal	66 % / normal	50 % / normal	52 % / normal	74 % / normal	48 % / normal	50 % / normal
dB/dt	49.8 T/s	45.7 T/s	36.0 T/s	80.8 T/s	53.1 T/s	48.1 T/s	109.5 T/s	53.0 T/s	53.1 T/s
Sound Pressure Level (dB)	11.6193457	6.66277409	2.43944931	6.26572943	12.765729	8.09633636	10.1590042	7.29756308	12.765729
Boil-off (hPa/h)	—	—	—	—	—	—	—	—	—
Max Boil-off (hPa/h)	—	—	—	—	—	—	—	—	—
Boil-off (hPa)	—	—	—	—	—	—	—	—	—

Disclaimer: The MR Protocols information is provided by independent physicians and technologists and is not intended to provide definitive or complete medical instructional or treatment information. Products referenced herein should be used consistently with their package inserts, and any devices referenced herein should be used consistently with the operation instructions provided by their respective manufactures. Northwest Imaging Forums, Inc. and Bracco Diagnostics Inc. do not offer medical advice and shall not be responsible for any person's reliance on this protocol.

Supported by an educational grant from Bracco Diagnostics Inc.

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

NW IMAGING FORUMS, INC.

GEOMETRY

Scan Description	Survey	AX PD DIXON	AX T2 FS	CO PD FS	SG T1 DIXON	SG T2 FS	SG PD 3D	AX T1 DIXON POST CONTRAST	SG T1 DIXON POST CONTRAST
Nucleus	—	—	—	—	—	—	—	—	—
SmartSelect	yes	yes	yes	yes	yes	yes	yes	yes	yes
Coil 1 (exclude)	—	None	None	None	None	None	None	None	None
Uniformity	—	CLEAR	CLEAR	Body-tuned	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
FOV AP (mm)	—	100	140	87	132.07547	150	180.512817	164.699997	132.07547
FOV FH (mm)	300	111	95	140	100	150	160	120	100
FOV RL (mm)	300	100	62.7083321	80	83	83	115.699997	120	83
stack RL (mm)	—	—	—	—	—	—	—	—	—
ACQ voxel size AP (mm)	—	0.409999996	0.585937977	—	0.541000009	0.600000024	0.519999981	—	0.541000009
ACQ voxel size FH (mm)	1.171875	—	—	0.349999994	0.430000007	0.479999989	0.519999981	0.5	0.430000007
ACQ voxel size RL (mm)	1.67597795	0.569999993	0.731706977	0.473372787	—	—	0.519999981	0.628272235	—
Slice thickness (mm)	10	3	3	3	3	3	—	3	3
Recon voxel size AP (mm)	—	0.347222209	0.364583343	—	0.235849053	0.390625	0.256410241	—	0.235849053
Recon voxel size FH (mm)	1.171875	—	—	0.25	0.235849053	0.390625	0.256410241	0.357142866	0.235849053
Recon voxel size RL (mm)	1.171875	0.347222209	0.364583343	0.25	—	—	0.25999999	0.357142866	—
Fold-over suppression	oversampling	oversampling	oversampling	no	oversampling	oversampling	no	no	oversampling
Slice oversampling	—	—	—	—	—	—	user defined	—	—
oversample factor	—	—	—	—	—	—	1.20000005	—	—
ENCASE enable	—	—	—	—	—	—	—	—	—
RF select. FOS	—	—	—	—	—	—	—	—	—
Reconstruction matrix	256	288	384	560	560	384	704	336	560
SENSE	no	no	no	no	no	no	no	no	no
Preduction (AP)	—	—	—	—	—	—	—	—	—
MB SENSE	—	—	—	—	—	—	—	—	—
CS-SENSE	no	yes	yes	yes	yes	yes	yes	yes	yes
reduction	—	3	1.20000005	1.39999998	2.5	1.20000005	6	2.0999999	2.5
denoising	—	system default	system default	system default	system default	system default	weak	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
current	—	—	—	—	—	—	—	—	—
type	parallel	parallel	parallel	parallel	parallel	parallel	—	parallel	parallel
slices	5	28	24	29	21	21	445	50	21
slice gap	user defined	user defined	user defined	user defined	user defined	user defined	—	default	user defined
gap (mm)	10	1	1	0	1	1	—	—	1
slice orientation	coronal	transverse	transverse	coronal	sagittal	sagittal	sagittal	coronal	sagittal
fold-over direction	RL	RL	RL	RL	AP	AP	AP	RL	AP
fat shift direction	P	P	P	F	F	F	F	F	F
Minimum number of packages	1	1	1	1	1	1	—	1	1
Multi-chunk	—	—	—	—	—	—	no	—	—
Slice scan order	default	default	default	default	default	default	—	default	default
Stack scan order	ascend	—	—	—	—	—	—	—	—

Disclaimer: The MR Protocols information is provided by independent physicians and technologists and is not intended to provide definitive or complete medical instructional or treatment information. Products referenced herein should be used consistently with their package inserts, and any devices referenced herein should be used consistently with the operation instructions provided by their respective manufactures. Northwest Imaging Forums, Inc. and Bracco Diagnostics Inc. do not offer medical advice and shall not be responsible for any person's reliance on this protocol.

Supported by an educational grant from Bracco Diagnostics Inc.

Stack sort order	no	—	—	—	—	—	—	—	—
O-MAR	—	no	no	no	no	no	no	no	no
Large table movement	no	no	no	no	no	no	no	no	no
Plan Align	no	no	no	no	no	no	no	no	no
REST slabs	0	0	0	0	0	0	0	0	0
type	—	—	—	—	—	—	—	—	—
thickness (mm)	—	—	—	—	—	—	—	—	—
position	—	—	—	—	—	—	—	—	—
gap	—	—	—	—	—	—	—	—	—
power	—	—	1	1	—	1	—	—	—
Interactive positioning	no	no	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	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

Disclaimer: The MR Protocols information is provided by independent physicians and technologists and is not intended to provide definitive or complete medical instructional or treatment information. Products referenced herein should be used consistently with their package inserts, and any devices referenced herein should be used consistently with the operation instructions provided by their respective manufactures. Northwest Imaging Forums, Inc. and Bracco Diagnostics Inc. do not offer medical advice and shall not be responsible for any person's reliance on this protocol.

Supported by an educational grant from Bracco Diagnostics Inc.

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

IMAGING FORUMS, INC.

CONTRAST

Scan Description	Survey	AX PD DIXON	AX T2 FS	CO PD FS	SG T1 DIXON	SG T2 FS	SG PD 3D	AX T1 DIXON POST CONTRAST	SG T1 DIXON POST CONTRAST
Scan type	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging	Imaging
Scan mode	MS	MS	MS	MS	MS	MS	3D	MS	MS
technique	FFE	SE	SE	SE	SE	SE	SE	SE	SE
Modified SE	—	no	no	no	no	no	no	no	no
3D non-selective	—	—	—	—	—	—	—	—	—
loop order	—	—	—	—	—	—	—	—	—
Contrast enhancement	no	—	—	—	—	—	—	—	—
Acquisition mode	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian	cartesian
Fast Imaging mode	none	TSE	TSE	TSE	TSE	TSE	TSE	TSE	TSE
3D VIEW	—	—	—	—	—	—	MSK PD	—	—
shot mode	—	multishot	multishot	multishot	multishot	multishot	multishot	multishot	multishot
TFE factor	—	—	—	—	—	—	—	—	—
TSE factor	—	12	15	15	5	15	66	5	5
startup echoes	—	0	0	0	0	0	4	0	0
shot interval	—	—	—	—	—	—	—	—	—
profile order	—	asymmetric	linear	asymmetric	asymmetric	linear	low_high	asymmetric	asymmetric
turbo direction	—	—	—	—	—	—	radial	—	—
DRIVE	—	no	no	no	no	no	yes	no	no
ultrashort	—	no	no	yes	no	no	—	no	no
shift	—	—	—	—	—	—	—	—	—
fid reduction	—	default	default	default	default	default	strong	default	default
Echoes	1	1	1	1	1	1	1	1	1
partial echo	yes	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)	—	30	80	27	15	80	—	15	15
echospacing	—	shortest	—	user defined	shortest	—	—	shortest	shortest
(ms)	—	—	—	8.5	—	—	—	—	—
flyback	—	—	—	—	—	—	—	—	—
Flip angle (deg)	45	90	90	90	90	90	90	90	90
Refocusing control	—	constant	constant	constant	constant	constant	constant	constant	constant
angle (deg)	—	110	110	130	100	110	65	100	100
bright fat reduction	—	no	no	no	no	no	no	no	no
TR	shortest	range	shortest	shortest	range	shortest	user defined	range	range
(ms)	—	—	—	—	—	—	1000	—	—
minimum (ms)	—	3000	—	—	500	—	—	500	500
maximum (ms)	—	5500	—	—	700	—	—	700	700
Halfscan	no	no	no	no	no	no	no	no	no
factor	—	—	—	—	—	—	—	—	—
factor Y	—	—	—	—	—	—	—	—	—
factor Z	—	—	—	—	—	—	—	—	—

Disclaimer: The MR Protocols information is provided by independent physicians and technologists and is not intended to provide definitive or complete medical instructional or treatment information. Products referenced herein should be used consistently with their package inserts, and any devices referenced herein should be used consistently with the operation instructions provided by their respective manufactures. Northwest Imaging Forums, Inc. and Bracco Diagnostics Inc. do not offer medical advice and shall not be responsible for any person's reliance on this protocol.

Supported by an educational grant from Bracco Diagnostics Inc.

Water-fat shift	maximum	maximum	maximum	maximum	minimum	maximum	maximum	minimum	minimum
(pixels)	—	—	—	—	—	—	—	—	—
IR delay (ms)	—	—	—	—	—	—	—	—	—
dual	—	—	—	—	—	—	—	—	—
power	—	—	—	—	—	—	—	—	—
RF Shims	—	fixed	fixed	fixed	fixed	fixed	—	fixed	fixed
Shim	—	default	auto	PB-volume	default	volume	auto	default	default
mDIXON	no	yes	no	no	yes	no	no	yes	yes
Fat suppression	no	no	SPAIR	SPAIR	no	SPAIR	no	no	no
strength	—	—	—	—	—	—	—	—	—
power	—	—	1	1	—	1	—	—	—
inversion delay	—	—	auto	auto	—	auto	—	—	—
suppr. level	—	—	strong	strong	—	strong	—	—	—
frequency offset	—	—	user defined	user defined	—	user defined	—	—	—
offset (Hz)	—	—	220	200	—	220	—	—	—
Grad Rev Fat suppr	—	no	no	no	no	no	no	no	no
Water suppression	no	no	no	no	no	no	no	no	no
TFE prepulse	—	—	—	—	—	—	—	—	—
slice selection	—	—	—	—	—	—	—	—	—
delay	—	—	—	—	—	—	—	—	—
(ms)	—	—	—	—	—	—	—	—	—
BB pulse	—	no	no	no	no	no	no	no	no
MTC	no	no	no	no	no	no	no	no	no
T2prep	—	—	—	—	—	—	—	—	—
echo time(ms)	—	—	—	—	—	—	—	—	—
refocusing pulses	—	—	—	—	—	—	—	—	—
APT	—	no	no	no	no	no	no	no	no
Custom prepulse	no	no	no	no	no	no	no	no	no
MDME	no	no	no	no	no	no	no	no	no
Diffusion mode	no	no	no	no	no	no	no	no	no
sequence	—	—	—	—	—	—	—	—	—
gradient expert mode	—	—	—	—	—	—	—	—	—
gradient overplus	—	—	—	—	—	—	—	—	—
direction	—	—	—	—	—	in-plane	—	—	—
nr of b-factors	—	—	—	—	—	—	—	—	—
b-factor order	—	—	—	—	—	—	—	—	—
max b-factor	—	—	—	—	—	—	—	—	—
average high b	—	—	—	—	—	—	—	—	—
T1 mapping	no	no	no	no	no	no	no	no	no
Transmit channels	—	both	both	both	both	both	—	both	both
SAR mode	high	high	high	high	high	high	high	high	high
B1 mode	user defined	default	default	default	default	default	default	default	default
SAR allow first level	yes	yes	yes	yes	yes	yes	yes	yes	yes

Disclaimer: The MR Protocols information is provided by independent physicians and technologists and is not intended to provide definitive or complete medical instructional or treatment information. Products referenced herein should be used consistently with their package inserts, and any devices referenced herein should be used consistently with the operation instructions provided by their respective manufactures. Northwest Imaging Forums, Inc. and Bracco Diagnostics Inc. do not offer medical advice and shall not be responsible for any person's reliance on this protocol.

Supported by an educational grant from Bracco Diagnostics Inc.

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

MOTION

Scan Description	Survey	AX PD DIXON	AX T2 FS	CO PD FS	SG T1 DIXON	SG T2 FS	SG PD 3D	AX T1 DIXON POST CONTRAST	SG T1 DIXON POST CONTRAST
Cardiac synchronization	no	no	no	no	no	no	no	no	no
Heart rate > 250 bpm	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	yes	no	no	no
Temporal slice spacing	default	default	default	default	default	default	—	default	default
Motion smoothing	—	no	no	no	no	no	no	no	no
fMRI echo stabilisation	no	—	—	—	—	—	—	—	—
NSA	1	2	2	2	2	1	1	2	2
MRE enable	no	no	no	no	no	no	no	no	no

DYNAMIC ANGIO

Scan Description	Survey	AX PD DIXON	AX T2 FS	CO PD FS	SG T1 DIXON	SG T2 FS	SG PD 3D	AX T1 DIXON POST CONTRAST	SG T1 DIXON POST CONTRAST
Angio / Contrast enh.	no	—	—	—	—	—	—	—	—
Quantitative flow	no	—	—	—	—	—	—	—	—
CENTRA	—	—	—	—	—	—	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

Disclaimer: The MR Protocols information is provided by independent physicians and technologists and is not intended to provide definitive or complete medical instructional or treatment information. Products referenced herein should be used consistently with their package inserts, and any devices referenced herein should be used consistently with the operation instructions provided by their respective manufactures. Northwest Imaging Forums, Inc. and Bracco Diagnostics Inc. do not offer medical advice and shall not be responsible for any person's reliance on this protocol.

Supported by an educational grant from Bracco Diagnostics Inc.

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

IMAGING FORUMS, INC.

POST PROCESSING

Scan Description	Survey	AX PD DIXON	AX T2 FS	CO PD FS	SG T1 DIXON	SG T2 FS	SG PD 3D	AX T1 DIXON POST CONTRAST	SG T1 DIXON POST CONTRAST
Preparation phases	—	auto	auto	auto	auto	full	full	auto	auto
Interactive F0	no	no	no	no	no	no	no	no	no
Quick Survey	default	default	default	default	default	default	default	default	default
SmartPlan survey	no	no	no	no	no	no	no	no	no
B0 field map	no	no	no	no	no	no	no	no	no
B1 field map	no	no	no	no	no	no	no	no	no
MIP/MPR	no	no	no	no	no	no	no	no	no
SWIp	no	—	—	—	—	—	—	—	—
Images	no	—	no	no	—	no	no	—	—
Autoview image	M	—	M	M	—	M	M	—	—
Calculated images	no	—	no	no	—	no	no	—	—
Reference tissue	Skeletal muscle	Skeletal muscle	Skeletal muscle	Skeletal muscle	Skeletal muscle	Skeletal muscle	Bone marrow	Skeletal muscle	Skeletal muscle
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	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	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
EPI geometry correction	—	—	—	—	—	—	—	—	—
ADC correction	—	—	—	—	—	—	—	—	—
Elliptical k-space shutter	—	—	—	—	—	—	default	—	—
Free rotatable	no	no	no	no	no	no	no	no	no

Disclaimer: The MR Protocols information is provided by independent physicians and technologists and is not intended to provide definitive or complete medical instructional or treatment information. Products referenced herein should be used consistently with their package inserts, and any devices referenced herein should be used consistently with the operation instructions provided by their respective manufactures. Northwest Imaging Forums, Inc. and Bracco Diagnostics Inc. do not offer medical advice and shall not be responsible for any person's reliance on this protocol.

Supported by an educational grant from Bracco Diagnostics Inc.