

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

3Plane_Loc_SSFSE	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Spin Echo
	Coil Configuration	Nova 32ch-Brain	Imaging Options	Seq, EDR, Fast, SS, ARC
	Plane	3-PLANE	<b>SCAN RANGE</b>	
	Series Description	3Plane_Loc_SSFSE	FOV	32.0
	<b>SCAN TIMING</b>		Slice Thickness	10.0
	TE	Minimum	Slice Spacing	0.0
	Number of Echoes	1	<b>ACQ TIMING</b>	
	TR	Minimum	Freq	288
	Receiver Bandwidth	83.33	Phase	192
	<b>IMAGE ENHANCE</b>		Freq DIR	Unswap
	Filter Choice	None	# of Acq. Before Pause	0
	<b>GATING/TRIGGER</b>		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Auto
	<b>FMRI</b>		Phase Correction	No
	PSD Trigger	Internal	<b>USER CVS</b>	
	View Order	Bottom/Up	User CV2	240.00
	# of Repetitions REST	0	User CV13	1.00
	# of Repetitions ACTIVE	0	<b>MULTI-PHASE</b>	
3Plane_Loc_SSFSE	<b>SAT</b>		Seperate Series	0
	Tag Type	None	Mask Phase	0
	<b>TRICKS</b>		Mask Pause	0
	Pause On/Off	On	<b>DIFFUSION</b>	
	Auto Subtract	0	Recon All Images	On
	Auto SCIC	Off	<b>CONTRAST</b>	
			Contrast Yes/No	No

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Calibration

PATIENT POSITION	
Patient Entry	Head First
Patient Position	Supine
Coil Configuration	Nova 32ch-Brain
Plane	AXIAL
Series Description	Calibration
SCAN TIMING	
Number of Echoes	1
IMAGE ENHANCE	
Filter Choice	None
GATING/TRIGGER	
Auto Trigger Type	Off
MULTI-PHASE	
Seperate Series	0
Mask Phase	0
Mask Pause	0
DIFFUSION	
Recon All Images	On
CONTRAST	
Contrast Yes/No	No

IMAGING PARAMETERS	
Imaging Mode	3D
Pulse Sequence	SPGR
Imaging Options	EDR, Fast, ZIP2, Calib
SCAN RANGE	
FOV	30.0
Slice Thickness	9.4
ACQ TIMING	
Freq DIR	A/P
Auto Shim	Auto
Phase Correction	No
FMRI	
PSD Trigger	Internal
View Order	Bottom/Up
# of Repetitions REST	0
# of Repetitions ACTIVE	0
SAT	
Tag Type	None
TRICKS	
Pause On/Off	On
Auto Subtract	0
Auto SCIC	Off

Calibration

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

Sag_MPRAGE_T1	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	3D
	Patient Position	Supine	Pulse Sequence	SPGR
	Coil Configuration	Nova 32ch-Brain	Imaging Options	EDR, Fast, ARC, IrP
	Plane	SAGITTAL	PSD Name	research/ABCD/mprage_pro mo
	Series Description	Sag_MPRAGE_T1	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	25.6
	Flip Angle	8	Slice Thickness	0.8
	TE	Minimum	Location per Slab	208
	Number of Echoes	1	Overlap Locations	0
	TI	1060	<b>ACQ TIMING</b>	
	Receiver Bandwidth	31.25	Freq	320
	<b>IMAGE ENHANCE</b>		Phase	300
	Filter Choice	None	Freq DIR	S/I
	<b>GATING/TRIGGER</b>		NEX	1.00
	Auto Trigger Type	Off	Phase FOV	0.94
	<b>FMRI</b>		Auto Shim	On
	PSD Trigger	Internal	Phase Correction	No
	View Order	Bottom/Up	<b>USER CVS</b>	
	# of Repetitions REST	0	User CV6	1.00
	# of Repetitions ACTIVE	0	User CV9	32.00
	<b>SAT</b>		User CV10	24.00
	Tag Type	None	User CV23	100.00
	<b>TRICKS</b>		User CV24	2400.00
	Pause On/Off	On	<b>MULTI-PHASE</b>	
	Auto Subtract	0	Seperate Series	0
	Auto SCIC	2	Trigger Delay without AV	0
			Mask Phase	0
			Mask Pause	0
			<b>DIFFUSION</b>	
			Recon All Images	On
			<b>CONTRAST</b>	
			Contrast Yes/No	No

Sag\_MPRAGE\_T1

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

Sag CUBE T2

PATIENT POSITION	
Patient Entry	Head First
Patient Position	Supine
Coil Configuration	Nova 32ch-Brain
Plane	SAGITTAL
Series Description	Sag CUBE T2
SCAN TIMING	
TE	Maximum
Number of Echoes	1
TR	2400.0
Echo Train Length	125
Receiver Bandwidth	31.25
IMAGE ENHANCE	
Filter Choice	None
GATING/TRIGGER	
Auto Trigger Type	Off
FMRI	
PSD Trigger	Internal
View Order	Bottom/Up
# of Repetitions REST	0
# of Repetitions ACTIVE	0
SAT	
Tag Type	None
Fat/Water Saturation	Fat
TRICKS	
Pause On/Off	On
Auto Subtract	0
Auto SCIC	2
OTHERS	
Protocol Notes	Prescribe scan plane. If head doesn't totally fit within Field of View add to "Locs per Slab" until it fits. CVs opsilent -> 1 srate -> 1

Sag CUBE T2

IMAGING PARAMETERS	
Imaging Mode	3D
Pulse Sequence	Cube
Imaging Options	EDR, Fast, FR, ARC, HS
SCAN RANGE	
FOV	25.6
Slice Thickness	0.8
Location per Slab	208
Overlap Locations	0
ACQ TIMING	
Freq	320
Phase	300
Freq DIR	S/I
NEX	1.00
Phase FOV	0.94
Auto Shim	Auto
Phase Correction	No
USER CVS	
User CV5	1.00
MULTI-PHASE	
Seperate Series	0
Mask Phase	0
Mask Pause	0
DIFFUSION	
Recon All Images	On
CONTRAST	
Contrast Yes/No	No

Sag CUBE T2

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	Spin Echo
Coil Configuration	Nova 32ch-Brain	Imaging Options	EDR, MPh, EPI
Plane	AXIAL	PSD Name	research/ABCD/epi_pepolar
Series Description	rsfMRI_Field_Map	SCAN RANGE	
SCAN TIMING		FOV	22.4
TE	80.0	Slice Thickness	2.0
Number of Echoes	1	Slice Spacing	0.0
TR	7400.0	ACQ TIMING	
Number of Shots	1	Freq	112
IMAGE ENHANCE		Phase	112
Filter Choice	None	Freq DIR	R/L
GATING/TRIGGER		NEX	1.00
Auto Trigger Type	Off	Phase FOV	1.00
FMRI		Auto Shim	Auto
PSD Trigger	Internal	Phase Correction	Yes
View Order	Bottom/Up	USER CVS	
# of Repetitions REST	0	User CV0	1.00
# of Repetitions ACTIVE	0	User CV7	1.00
SAT		User CV12	2.00
Tag Type	None	User CV13	1.00
Fat/Water Saturation	Fat	MULTI-PHASE	
TRICKS		Slice per Location	4
Pause On/Off	On	Phase Acquisition Order	Interleaved
Auto Subtract	0	Delay after Acquisition	Minimum
Auto SCIC	Off	Seperate Series	0
		Mask Phase	0
		Mask Pause	0
		DIFFUSION	
		Recon All Images	On
		CONTRAST	
		Contrast Yes/No	No

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

rsfMRI_HB4_2mm	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Gradient Echo
	Coil Configuration	Nova 32ch-Brain	Imaging Options	EDR, MPh, EPI, ARC, HB
	Plane	AXIAL	PSD Name	research/ABCD/muxepi
	Series Description	rsfMRI_HB4_2mm	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	22.4
	Flip Angle	62	Slice Thickness	2.0
	TE	37.0	Slice Spacing	0.0
	Number of Echoes	1	<b>ACQ TIMING</b>	
	TR	1725.0	Freq	112
	Number of Shots	1	Phase	112
	<b>IMAGE ENHANCE</b>		Freq DIR	R/L
	Filter Choice	None	NEX	1.00
	<b>GATING/TRIGGER</b>		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Auto
	<b>FMRI</b>		Phase Correction	Yes
	PSD Trigger	Internal	<b>USER CVS</b>	
	View Order	Bottom/Up	User CV0	1.00
	# of Repetitions REST	0	User CV5	1.00
	# of Repetitions ACTIVE	0	User CV9	4445.00
	<b>SAT</b>		User CV10	1.00
	Tag Type	None	User CV18	5000.00
	Fat/Water Saturation	Fat	<b>MULTI-PHASE</b>	
	<b>TRICKS</b>		Slice per Location	261
	Pause On/Off	On	Phase Acquisition Order	Interleaved
	Auto Subtract	0	Delay after Acquisition	Minimum
	Auto SCIC	2	Seperate Series	0
			Delay after Acquisition without AV	0
			Mask Phase	0
			Mask Pause	0
			<b>DIFFUSION</b>	
			Recon All Images	On
			<b>CONTRAST</b>	
			Contrast Yes/No	No

rsfMRI\_HB4\_2mm

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	Spin Echo
Coil Configuration	Nova 32ch-Brain	Imaging Options	EDR, MPh, EPI
Plane	AXIAL	PSD Name	research/ABCD/epi_pepolar
Series Description	rsfMRI_Field_Map	SCAN RANGE	
SCAN TIMING		FOV	22.4
TE	80.0	Slice Thickness	2.0
Number of Echoes	1	Slice Spacing	0.0
TR	7400.0	ACQ TIMING	
Number of Shots	1	Freq	112
IMAGE ENHANCE		Phase	112
Filter Choice	None	Freq DIR	R/L
GATING/TRIGGER		NEX	1.00
Auto Trigger Type	Off	Phase FOV	1.00
FMRI		Auto Shim	Auto
PSD Trigger	Internal	Phase Correction	Yes
View Order	Bottom/Up	USER CVS	
# of Repetitions REST	0	User CV0	1.00
# of Repetitions ACTIVE	0	User CV7	1.00
SAT		User CV12	2.00
Tag Type	None	User CV13	1.00
Fat/Water Saturation	Fat	MULTI-PHASE	
TRICKS		Slice per Location	4
Pause On/Off	On	Phase Acquisition Order	Interleaved
Auto Subtract	0	Delay after Acquisition	Minimum
Auto SCIC	Off	Seperate Series	0
		Mask Phase	0
		Mask Pause	0
		DIFFUSION	
		Recon All Images	On
		CONTRAST	
		Contrast Yes/No	No

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

rsfMRI_HB4_2mm	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Gradient Echo
	Coil Configuration	Nova 32ch-Brain	Imaging Options	EDR, MPh, EPI, ARC, HB
	Plane	AXIAL	PSD Name	research/ABCD/muxepi
	Series Description	rsfMRI_HB4_2mm	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	22.4
	Flip Angle	62	Slice Thickness	2.0
	TE	37.0	Slice Spacing	0.0
	Number of Echoes	1	<b>ACQ TIMING</b>	
	TR	1725.0	Freq	112
	Number of Shots	1	Phase	112
	<b>IMAGE ENHANCE</b>		Freq DIR	R/L
	Filter Choice	None	NEX	1.00
	<b>GATING/TRIGGER</b>		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Auto
	<b>FMRI</b>		Phase Correction	Yes
	PSD Trigger	Internal	<b>USER CVS</b>	
	View Order	Bottom/Up	User CV0	1.00
	# of Repetitions REST	0	User CV5	1.00
	# of Repetitions ACTIVE	0	User CV9	4445.00
	<b>SAT</b>		User CV10	1.00
	Tag Type	None	User CV18	5000.00
	Fat/Water Saturation	Fat	<b>MULTI-PHASE</b>	
	<b>TRICKS</b>		Slice per Location	261
	Pause On/Off	On	Phase Acquisition Order	Interleaved
	Auto Subtract	0	Delay after Acquisition	Minimum
	Auto SCIC	2	Seperate Series	0
			Delay after Acquisition without AV	0
			Mask Phase	0
			Mask Pause	0
			<b>DIFFUSION</b>	
			Recon All Images	On
			<b>CONTRAST</b>	
			Contrast Yes/No	No

rsfMRI\_HB4\_2mm



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PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	Spin Echo
Coil Configuration	Nova 32ch-Brain	Imaging Options	EDR, MPh, EPI
Plane	AXIAL	PSD Name	research/ABCD/epi_pepolar
Series Description	rsfMRI_Field_Map	SCAN RANGE	
SCAN TIMING		FOV	22.4
TE	80.0	Slice Thickness	2.0
Number of Echoes	1	Slice Spacing	0.0
TR	7400.0	ACQ TIMING	
Number of Shots	1	Freq	112
IMAGE ENHANCE		Phase	112
Filter Choice	None	Freq DIR	R/L
GATING/TRIGGER		NEX	1.00
Auto Trigger Type	Off	Phase FOV	1.00
FMRI		Auto Shim	Auto
PSD Trigger	Internal	Phase Correction	Yes
View Order	Bottom/Up	USER CVS	
# of Repetitions REST	0	User CV0	1.00
# of Repetitions ACTIVE	0	User CV7	1.00
SAT		User CV12	2.00
Tag Type	None	User CV13	1.00
Fat/Water Saturation	Fat	MULTI-PHASE	
TRICKS		Slice per Location	4
Pause On/Off	On	Phase Acquisition Order	Interleaved
Auto Subtract	0	Delay after Acquisition	Minimum
Auto SCIC	Off	Seperate Series	0
		Mask Phase	0
		Mask Pause	0
		DIFFUSION	
		Recon All Images	On
		CONTRAST	
		Contrast Yes/No	No

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

dMRI_pepolar0	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Spin Echo
	Coil Configuration	Nova 32ch-Brain	Imaging Options	EDR, Cla, EPI, DIFF, ARC, HB
	Plane	AXIAL	PSD Name	research/ABCD/muxepi2
	Series Description	dMRI_pepolar0	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	24.0
	TE	88.0	Slice Thickness	1.7
	Number of Echoes	1	Slice Spacing	0.0
	TR	4800.0	<b>ACQ TIMING</b>	
	Number of Shots	1	Freq	140
	Receiver Bandwidth	125.00	Phase	140
	<b>IMAGE ENHANCE</b>		Freq DIR	R/L
	Filter Choice	None	Phase FOV	1.00
	<b>GATING/TRIGGER</b>		Auto Shim	Auto
	Auto Trigger Type	Off	Phase Correction	Yes
	<b>FMRI</b>		<b>USER CVS</b>	
	PSD Trigger	Internal	User CV5	1.00
	View Order	Bottom/Up	User CV10	4444.00
	# of Repetitions REST	0	User CV11	160.00
	# of Repetitions ACTIVE	0	User CV12	3.00
	<b>SAT</b>		User CV15	1.00
	Tag Type	None	User CV17	1.00
	Fat/Water Saturation	Fat	<b>MULTI-PHASE</b>	
	<b>TRICKS</b>		Seperate Series	0
	Pause On/Off	On	Mask Phase	0
	Auto Subtract	0	Mask Pause	0
	Auto SCIC	2	<b>DIFFUSION</b>	
			Optimized TE	Yes
			Diffusion Directions	Tensor
			Number of Diffusion Directions	74
			Number of T2 Images	2
			Dual Spin Echo	Off
			Diffusion Tensor Processing Output	No Selection
			Recon All Images	Off
			<b>CONTRAST</b>	
			Contrast Yes/No	No

dMRI\_pepolar0

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

dMRI_pepolar1	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Spin Echo
	Coil Configuration	Nova 32ch-Brain	Imaging Options	EDR, Cla, EPI, DIFF, ARC, HB
	Plane	AXIAL	PSD Name	research/ABCD/muxepi2
	Series Description	dMRI_pepolar1	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	24.0
	TE	88.0	Slice Thickness	1.7
	Number of Echoes	1	Slice Spacing	0.0
	TR	4800.0	<b>ACQ TIMING</b>	
	Number of Shots	1	Freq	140
	Receiver Bandwidth	125.00	Phase	140
	<b>IMAGE ENHANCE</b>		Freq DIR	R/L
	Filter Choice	None	Phase FOV	1.00
	<b>GATING/TRIGGER</b>		Auto Shim	Auto
	Auto Trigger Type	Off	Phase Correction	Yes
	<b>FMRI</b>		<b>USER CVS</b>	
	PSD Trigger	Internal	User CV3	1.00
	View Order	Bottom/Up	User CV5	1.00
	# of Repetitions REST	0	User CV10	4444.00
	# of Repetitions ACTIVE	0	User CV11	160.00
	<b>SAT</b>		User CV12	3.00
	Tag Type	None	User CV15	1.00
	Fat/Water Saturation	Fat	User CV17	1.00
	<b>TRICKS</b>		<b>MULTI-PHASE</b>	
	Pause On/Off	On	Seperate Series	0
	Auto Subtract	0	Mask Phase	0
	Auto SCIC	2	Mask Pause	0
			<b>DIFFUSION</b>	
			Optimized TE	Yes
			Diffusion Directions	Tensor
			Number of Diffusion Directions	75
			Number of T2 Images	2
			Dual Spin Echo	Off
			Diffusion Tenser	No Selection
			Processing Output	
			Recon All Images	Off
			<b>CONTRAST</b>	
			Contrast Yes/No	No

dMRI\_pepolar1

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

AFI B1+ Map	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	3D
	Patient Position	Supine	Pulse Sequence	SPGR
	Coil Configuration	Nova 32ch-Brain	Imaging Options	EDR, Fast, Asset
	Plane	SAGITTAL	PSD Name	/usr/g/M/waisman/efgre3dmo d
	Series Description	AFI B1+ Map	SCAN RANGE	
	SCAN TIMING		FOV	22.8
	Flip Angle	40	Slice Thickness	6.0
	TE	Minimum	Location per Slab	32
	Number of Echoes	2	Overlap Locations	0
	TR	10.0	ACQ TIMING	
	Receiver Bandwidth	142.86	Freq	36
	IMAGE ENHANCE		Phase	36
	Filter Choice	None	Freq DIR	S/I
	GATING/TRIGGER		NEX	1.00
	Auto Trigger Type	Off	Phase FOV	1.00
	FMRI		Auto Shim	Auto
	PSD Trigger	Internal	Phase Correction	No
	View Order	Bottom/Up	USER CVS	
	# of Repetitions REST	0	User CV6	2.00
	# of Repetitions ACTIVE	0	User CV23	75.00
	SAT		User CV24	-1.00
	Tag Type	None	MULTI-PHASE	
	TRICKS		Seperate Series	0
	Pause On/Off	On	Trigger Delay without AV	0
	Auto Subtract	0	Mask Phase	0
	Auto SCIC	2	Mask Pause	0
	OTHERS		DIFFUSION	
	Protocol Notes	If Phase changes -> make sure to set to 48 CVs: opsilent -> 1 srate ->2 Auto prescan		
			CONTRAST	
			Contrast Yes/No	No
		</		

AFI B1+ Map

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

MAGIC_1.3	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	3D
	Patient Position	Supine	Pulse Sequence	SPGR
	Coil Configuration	Nova 32ch-Brain	Imaging Options	EDR, Fast, T2P, ARC, PROMO, HS, IrP
	Plane	SAGITTAL	PSD Name	3dmc/qalas
	Series Description	MAGIC_1.3	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	22.8
	Flip Angle	4	Slice Thickness	1.3
	TE	Min Full	<b>ACQ TIMING</b>	
	Number of Echoes	1	Freq	176
	TI	100	Phase	176
	Receiver Bandwidth	31.25	Freq DIR	S/I
	<b>IMAGE ENHANCE</b>		NEX	1.00
	Filter Choice	None	Phase FOV	1.00
	<b>GATING/TRIGGER</b>		Auto Shim	On
	Auto Trigger Type	Off	Phase Correction	No
	<b>FMRI</b>		<b>USER CVS</b>	
	PSD Trigger	Internal	User CV8	3.00
	View Order	Bottom/Up	<b>MULTI-PHASE</b>	
	# of Repetitions REST	0	Seperate Series	0
	# of Repetitions ACTIVE	0	Mask Phase	0
	<b>SAT</b>		Mask Pause	0
	Tag Type	None	<b>DIFFUSION</b>	
	<b>TRICKS</b>		Recon All Images	On
	Pause On/Off	On	<b>CONTRAST</b>	
	Auto Subtract	0	Contrast Yes/No	No
	Auto SCIC	2		

MAGIC\_1.3

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

Localizer

PATIENT POSITION	
Patient Entry	Head First
Patient Position	Supine
Coil Configuration	Nova 32ch-Brain
Plane	3-PLANE
Series Description	Localizer
SCAN TIMING	
TE	Minimum
Number of Echoes	1
TR	Minimum
Receiver Bandwidth	83.33
IMAGE ENHANCE	
Filter Choice	None
GATING/TRIGGER	
Auto Trigger Type	Off
FMRI	
PSD Trigger	Internal
View Order	Bottom/Up
# of Repetitions REST	0
# of Repetitions ACTIVE	0
SAT	
Tag Type	None
TRICKS	
Pause On/Off	On
Auto Subtract	0
Auto SCIC	Off

IMAGING PARAMETERS	
Imaging Mode	2D
Pulse Sequence	Spin Echo
Imaging Options	Seq, EDR, Fast, SS, ARC
SCAN RANGE	
FOV	24.0
Slice Thickness	5.0
Slice Spacing	0.0
ACQ TIMING	
Freq	180
Phase	180
Freq DIR	Unswap
# of Acq. Before Pause	0
Phase FOV	1.00
Auto Shim	Auto
Phase Correction	No
USER CVS	
User CV2	240.00
User CV13	1.00
MULTI-PHASE	
Seperate Series	0
Mask Phase	0
Mask Pause	0
DIFFUSION	
Recon All Images	On
CONTRAST	
Contrast Yes/No	No

Localizer

# HBCD fMRI Protocols

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

PRESS

PATIENT POSITION	
Patient Entry	Head First
Patient Position	Supine
Coil Configuration	Nova 32ch-Brain
Plane	AXIAL
Series Description	PRESS
SCAN TIMING	
TE	35.0
Number of Echoes	1
TR	2000.0
IMAGE ENHANCE	
Filter Choice	None
GATING/TRIGGER	
Auto Trigger Type	Off
FMRI	
PSD Trigger	Internal
View Order	Bottom/Up
# of Repetitions REST	0
# of Repetitions ACTIVE	0
SAT	
Tag Type	None
TRICKS	
Pause On/Off	On
Auto Subtract	0
Auto SCIC	Off

IMAGING PARAMETERS	
Imaging Mode	MRS
Pulse Sequence	Probe-P
Imaging Options	EDR
SCAN RANGE	
FOV	30.0
Slice Thickness	23.0
Slice Spacing	23.0
Location per Slab	1
ACQ TIMING	
Freq	1
Phase	1
Freq DIR	A/P
NEX	8.00
Auto Shim	Auto
Phase Correction	No
USER CVS	
User CV3	1.00
User CV4	32.00
MULTI-PHASE	
Seperate Series	0
Mask Phase	0
Mask Pause	0
DIFFUSION	
Recon All Images	On
CONTRAST	
Contrast Yes/No	No

PRESS

Protocol: pediatric\_lowerExtremities\_HBCD\_Pilot\_v1.2\_2022.08.15

HERMES	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	MRS
	Patient Position	Supine	Pulse Sequence	Probe-P
	Coil Configuration	Nova 32ch-Brain	Imaging Options	EDR
	Plane	OBLIQUE	PSD Name	jpress
	Series Description	HERMES	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	30.0
	TE	80.0	Slice Thickness	23.0
	Number of Echoes	4	Slice Spacing	23.0
	TR	2000.0	Location per Slab	1
	<b>IMAGE ENHANCE</b>		<b>ACQ TIMING</b>	
	Filter Choice	None	Freq	1
	<b>GATING/TRIGGER</b>		Phase	1
	Auto Trigger Type	Off	Freq DIR	Unswap
	<b>FMRI</b>		NEX	8.00
	PSD Trigger	Internal	Auto Shim	Auto
	View Order	Bottom/Up	Phase Correction	No
	# of Repetitions REST	0	<b>USER CVS</b>	
	# of Repetitions ACTIVE	0	User CV0	5000.00
	<b>SAT</b>		User CV1	4096.00
	Tag Type	None	User CV3	1.00
	<b>TRICKS</b>		User CV4	56.00
	Pause On/Off	On	User CV19	19.00
	Auto Subtract	0	User CV22	-1.00
	Auto SCIC	Off	User CV23	25.00
			User CV24	161.00
			<b>MULTI-PHASE</b>	
			Seperate Series	0
			Mask Phase	0
			Mask Pause	0
			<b>DIFFUSION</b>	
			Recon All Images	On
			<b>CONTRAST</b>	
			Contrast Yes/No	No

HERMES