

McLeod Pavilion

Protocol: adult_head_Pituitary

3-Plane Localizer	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Spin Echo
	Coil Configuration	Head;Neck	Imaging Options	Seq, EDR, TRF, Fast, SS, ARC
	Plane	3-PLANE	SCAN RANGE	
	Series Description	3-Plane Localizer	FOV	30.0
	SCAN TIMING		Slice Thickness	10.0
	TE	80.0	Slice Spacing	5.0
	Number of Echoes	1	ACQ TIMING	
	TR	1200.0	Freq	256
	Receiver Bandwidth	83.33	Phase	128
	IMAGE ENHANCE		Freq DIR	Unswap
	Filter Choice	None	# of Acq. Before Pause	0
	GATING/TRIGGER		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Auto
MULTI-PHASE		Phase Correction	No	
Seperate Series	0	FMRI		
Mask Phase	0	PSD Trigger	Internal	
Mask Pause	0	View Order	Bottom/Up	
DIFFUSION		# of Repetitions REST	0	
Recon All Images	On	# of Repetitions ACTIVE	0	
CONTRAST		SAT		
Contrast Yes/No	No	Tag Type	None	
		TRICKS		
		Pause On/Off	On	
		Auto Subtract	0	
		Auto SCIC	Off	
		OTHERS		
		Protocol Notes	<p><i>Important Tip: Improve Head SAR performance will be seen with during a brain exam if the SSFSE localizer calculation is lower than 3.2 W/kg Keep the TR at 1000 msec in order to lower SAR estimations</i></p>	

3-Plane Localizer

WB-SAR: 0.68 Head-SAR: 2.0

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Sag T2 PROPELLER	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	PROPELLER
	Coil Configuration	48Ch Head Coil	Imaging Options	EDR, TRF, Fast, ARC
	Plane	OBLIQUE	SCAN RANGE	
	Series Description	Sag T2 PROPELLER	FOV	24.0
	SCAN TIMING		Slice Thickness	5.0
	Flip Angle	142	Slice Spacing	1.5
	Number of Echoes	1	ACQ TIMING	
	TR	5405.0	Freq	320
	Echo Train Length	32	Freq DIR	S/I
	Receiver Bandwidth	50.00	Fat Shift DIR	Normal (S)
	IMAGE ENHANCE		NEX	1.50
	Filter Choice	None	Auto Shim	Auto
	GATING/TRIGGER		Phase Correction	No
	Auto Trigger Type	Off	USER CVS	
	FMRI		User CV5	1.00
	PSD Trigger	Internal	TR Min	3000.0
	View Order	Bottom/Up	TR Max	10000.0
	# of Repetitions REST	0	MULTI-PHASE	
	# of Repetitions ACTIVE	0	Seperate Series	0
	SAT		Mask Phase	0
	Tag Type	None	Mask Pause	0
	TRICKS		DIFFUSION	
	Pause On/Off	On	Recon All Images	On
Auto Subtract	0	CONTRAST		
Auto SCIC	2	Contrast Yes/No	No	

Sag T2 PROPELLER

McLeod Pavilion

Protocol: adult_head_Pituitary

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	Spin Echo
Coil Configuration	48Ch Head Coil	Imaging Options	EDR, EPI, DIFF, Asset
Plane	OBLIQUE	SCAN RANGE	
Series Description	Ax DWI ALL B-1000	FOV	24.0
SCAN TIMING		Slice Thickness	4.0
TE	Minimum	Slice Spacing	0.4
Number of Echoes	1	ACQ TIMING	
TR	9450.0	Freq	120
Number of Shots	1	Phase	180
IMAGE ENHANCE		Freq DIR	R/L
Filter Choice	None	Phase FOV	1.00
GATING/TRIGGER		Auto Shim	Auto
Auto Trigger Type	Off	Phase Correction	Yes
FMRI		USER CVS	
PSD Trigger	Internal	User CV0	1.00
View Order	Bottom/Up	User CV5	1.00
# of Repetitions REST	0	User CV7	1.00
# of Repetitions ACTIVE	0	User CV17	1.00
SAT		User CV18	1.00
Tag Type	None	TR Min	2000.0
Fat/Water Saturation	Fat	TR Max	17000.0
TRICKS		MULTI-PHASE	
Pause On/Off	On	Seperate Series	0
Auto Subtract	0	Mask Phase	0
Auto SCIC	2	Mask Pause	0
		DIFFUSION	
		Optimized TE	Yes
		Diffusion Directions	All
		Number of Diffusion Directions	3
		Number of T2 Images	1
		Dual Spin Echo	Off
		Recon All Images	On
		CONTRAST	
		Contrast Yes/No	No

Ax DWI ALL B-1000

Ax DWI ALL B-1000

McLeod Pavilion

Protocol: adult_head_Pituitary

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	Gradient Echo
Coil Configuration	Head;Neck	Imaging Options	EDR
Plane	OBLIQUE	SCAN RANGE	
Series Description	Ax T2* GRE	FOV	24.0
SCAN TIMING		Slice Thickness	4.0
Flip Angle	15	Slice Spacing	1.5
TE	Min Full	ACQ TIMING	
Number of Echoes	1	Freq	380
TR	334.0	Phase	260
Receiver Bandwidth	27.78	Freq DIR	A/P
IMAGE ENHANCE		NEX	2.00
Filter Choice	G	Phase FOV	1.00
GATING/TRIGGER		Auto Shim	Auto
Auto Trigger Type	Off	Phase Correction	No
FMRI		USER CVS	
PSD Trigger	Internal	TR Min	200.0
Slice Order	Interleaved	TR Max	11000.0
View Order	Bottom/Up	MULTI-PHASE	
# of Repetitions REST	0	Seperate Series	0
# of Repetitions ACTIVE	0	Mask Phase	0
SAT		Mask Pause	0
Tag Type	None	DIFFUSION	
TRICKS		Recon All Images	On
Pause On/Off	On	CONTRAST	
Auto Subtract	0	Contrast Yes/No	No
Auto SCIC	On		

Ax T2* GRE

Ax T2* GRE

McLeod Pavilion

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PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	Head;Neck	Imaging Options	EDR, TRF, Fast, ARC, T2flair
Plane	OBLIQUE		
Series Description	Ax T2 FLAIR		
SCAN TIMING		SCAN RANGE	
Flip Angle	160	FOV	24.0
TE	140.0	Slice Thickness	4.0
Number of Echoes	1	Slice Spacing	1.5
TR	12000.0		
TI	2711	ACQ TIMING	
Echo Train Length	21	Freq	260
Receiver Bandwidth	41.67	Phase	200
		Freq DIR	A/P
		Fat Shift DIR	Normal (A)
IMAGE ENHANCE		NEX	1.00
Filter Choice	A	Phase FOV	1.00
		Auto Shim	On
GATING/TRIGGER		Phase Correction	No
Auto Trigger Type	Off		
FMRI		USER CVS	
PSD Trigger	Internal	User CV22	1.00
Slice Order	Interleaved		
View Order	Bottom/Up	MULTI-PHASE	
# of Repetitions REST	0	Seperate Series	0
# of Repetitions ACTIVE	0	Mask Phase	0
		Mask Pause	0
SAT		DIFFUSION	
Tag Type	None	Recon All Images	On
TRICKS		CONTRAST	
Pause On/Off	On	Contrast Yes/No	No
Auto Subtract	0		
Auto SCIC	2		

Ax T2 FLAIR

Ax T2 FLAIR

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PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	Head;Neck	Imaging Options	EDR, TRF, Fast
Plane	OBLIQUE	SCAN RANGE	
Series Description	Ax T1 FSE Optimized	FOV	24.0
SCAN TIMING		Slice Thickness	4.0
Flip Angle	111	Slice Spacing	1.5
TE	11.0	ACQ TIMING	
Number of Echoes	1	Freq	320
TR	750.0	Phase	260
Echo Train Length	3	Freq DIR	A/P
Receiver Bandwidth	41.67	Fat Shift DIR	Normal (A)
IMAGE ENHANCE		NEX	1.00
Filter Choice	G	# of Acq. Before Pause	0
GATING/TRIGGER		Phase FOV	1.00
Auto Trigger Type	Off	Auto Shim	Auto
FMRI		Phase Correction	Yes
PSD Trigger	Internal	USER CVS	
Slice Order	Interleaved	User CV16	1.00
View Order	Bottom/Up	User CV22	1.00
# of Repetitions REST	0	TR Min	750.0
# of Repetitions ACTIVE	0	TR Max	950.0
SAT		MULTI-PHASE	
SAT Location	I	Seperate Series	0
Tag Type	None	Mask Phase	0
TRICKS		Mask Pause	0
Pause On/Off	On	DIFFUSION	
Auto Subtract	0	Recon All Images	On
Auto SCIC	2	CONTRAST	
OTHERS		Contrast Yes/No	No
Protocol Notes	Don't cut back on matrix		

Ax T1 FSE Optimized

Ax T1 FSE Optimized

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PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	Head;Neck	Imaging Options	FC, EDR, TRF, Fast, Asset, FR
Plane	OBLIQUE		
Series Description	Coronal T2 FSE Thin		
SCAN TIMING		SCAN RANGE	
Flip Angle	111	FOV	15.0
TE	102.0	Slice Thickness	3.0
Number of Echoes	1	Slice Spacing	0.0
TR	2748.0		
Echo Train Length	22	ACQ TIMING	
Receiver Bandwidth	50.00	Freq	260
		Phase	260
		Freq DIR	S/I
		Fat Shift DIR	Normal (S)
		NEX	4.00
		Phase FOV	1.00
		Auto Shim	Auto
		Phase Correction	No
		Flow Direction	Slice
		Compensation	
IMAGE ENHANCE		USER CVS	
Filter Choice	G	User CV22	1.00
		TR Min	2500.0
		TR Max	11000.0
GATING/TRIGGER		MULTI-PHASE	
Auto Trigger Type	Off	Seperate Series	0
		Mask Phase	0
		Mask Pause	0
FMRI		DIFFUSION	
PSD Trigger	Internal	Recon All Images	On
Slice Order	Interleaved		
View Order	Bottom/Up	CONTRAST	
# of Repetitions REST	0	Contrast Yes/No	No
# of Repetitions ACTIVE	0		
SAT			
Tag Type	None		
TRICKS			
Pause On/Off	On		
Auto Subtract	0		
Auto SCIC	Off		

Coronal T2 FSE Thin

Coronal T2 FSE Thin

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Protocol: adult_head_Pituitary

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	Head;Neck	Imaging Options	EDR, TRF, Fast
Plane	OBLIQUE	SCAN RANGE	
Series Description	Cor T1 FSE 3mm	FOV	18.0
SCAN TIMING		Slice Thickness	3.0
Flip Angle	111	Slice Spacing	0.0
TE	Min Full	ACQ TIMING	
Number of Echoes	1	Freq	260
TR	546.0	Phase	240
Echo Train Length	4	Freq DIR	Unswap
Receiver Bandwidth	50.00	Fat Shift DIR	Normal
IMAGE ENHANCE		NEX	2.00
Filter Choice	G	Phase FOV	1.00
GATING/TRIGGER		Auto Shim	Auto
Auto Trigger Type	Off	Phase Correction	No
FMRI		USER CVS	
PSD Trigger	Internal	User CV22	1.00
View Order	Bottom/Up	TR Min	400.0
# of Repetitions REST	0	TR Max	850.0
# of Repetitions ACTIVE	0	MULTI-PHASE	
SAT		Seperate Series	0
Tag Type	None	Mask Phase	0
TRICKS		Mask Pause	0
Pause On/Off	On	DIFFUSION	
Auto Subtract	0	Recon All Images	On
Auto SCIC	Off	CONTRAST	
		Contrast Yes/No	No

Cor T1 FSE 3mm

Cor T1 FSE 3mm

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PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	Head;Neck	Imaging Options	NPW, EDR, TRF, Fast
Plane	OBLIQUE	SCAN RANGE	
Series Description	SAG T1 FSE 3mm	FOV	18.0
SCAN TIMING		Slice Thickness	3.0
Flip Angle	111	Slice Spacing	0.0
TE	Min Full	ACQ TIMING	
Number of Echoes	1	Freq	260
TR	546.0	Phase	240
Echo Train Length	4	Freq DIR	Unswap
Receiver Bandwidth	50.00	Fat Shift DIR	Normal
IMAGE ENHANCE		NEX	2.00
Filter Choice	G	Auto Shim	Auto
GATING/TRIGGER		Phase Correction	No
Auto Trigger Type	Off	USER CVS	
FMRI		User CV22	1.00
PSD Trigger	Internal	TR Min	400.0
View Order	Bottom/Up	TR Max	850.0
# of Repetitions REST	0	MULTI-PHASE	
# of Repetitions ACTIVE	0	Seperate Series	0
SAT		Mask Phase	0
Tag Type	None	Mask Pause	0
TRICKS		DIFFUSION	
Pause On/Off	On	Recon All Images	On
Auto Subtract	0	CONTRAST	
Auto SCIC	Off	Contrast Yes/No	No

SAG T1 FSE 3mm

SAG T1 FSE 3mm

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PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	Gradient Echo
Coil Configuration	Head;Neck	Imaging Options	Seq, Fast
Plane	3-PLANE	SCAN RANGE	
Series Description	--CONTRAST--	FOV	24.0
SCAN TIMING		Slice Thickness	10.0
Number of Echoes	1	Slice Spacing	5.0
IMAGE ENHANCE		ACQ TIMING	
Filter Choice	None	Freq	256
GATING/TRIGGER		Phase	128
Auto Trigger Type	Off	Freq DIR	Unswap
MULTI-PHASE		NEX	1.00
Seperate Series	0	Phase FOV	1.00
Mask Phase	0	Auto Shim	Auto
Mask Pause	0	Phase Correction	No
DIFFUSION		FMRI	
Recon All Images	On	PSD Trigger	Internal
CONTRAST		Slice Order	Interleaved
Contrast Yes/No	No	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

--CONTRAST--

--CONTRAST--

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Protocol: adult_head_Pituitary

+C Ax T1 FSE Optimized	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	FSE-XL
	Coil Configuration	Head;Neck	Imaging Options	EDR, TRF, Fast
	Plane	OBLIQUE	SCAN RANGE	
	Series Description	+C Ax T1 FSE Optimized	FOV	24.0
	SCAN TIMING		Slice Thickness	4.0
	Flip Angle	111	Slice Spacing	1.5
	TE	11.0	ACQ TIMING	
	Number of Echoes	1	Freq	320
	TR	841.0	Phase	224
	Echo Train Length	4	Freq DIR	A/P
	Receiver Bandwidth	41.67	Fat Shift DIR	Normal (A)
	IMAGE ENHANCE		NEX	1.00
	Filter Choice	G	# of Acq. Before Pause	0
	GATING/TRIGGER		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Auto
	FMRI		Phase Correction	Yes
	PSD Trigger	Internal	USER CVS	
	View Order	Bottom/Up	User CV16	1.00
	# of Repetitions REST	0	User CV22	1.00
	# of Repetitions ACTIVE	0	TR Min	750.0
	SAT		TR Max	950.0
	SAT Location	I	MULTI-PHASE	
	Tag Type	None	Seperate Series	0
	TRICKS		Mask Phase	0
	Pause On/Off	On	Mask Pause	0
	Auto Subtract	0	DIFFUSION	
Auto SCIC	2	Recon All Images	On	
OTHERS		CONTRAST		
Protocol Notes	Don't cut back on matrix	Contrast Yes/No	No	

+C Ax T1 FSE Optimized

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Protocol: adult_head_Pituitary

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	Head;Neck	Imaging Options	NPW, EDR, TRF, Fast
Plane	OBLIQUE	SCAN RANGE	
Series Description	+ C Cor T1 FSE 3mm	FOV	18.0
SCAN TIMING		Slice Thickness	3.0
Flip Angle	111	Slice Spacing	0.0
TE	Min Full	ACQ TIMING	
Number of Echoes	1	Freq	260
TR	546.0	Phase	240
Echo Train Length	4	Freq DIR	Unswap
Receiver Bandwidth	50.00	Fat Shift DIR	Normal
IMAGE ENHANCE		NEX	2.00
Filter Choice	G	Auto Shim	Auto
GATING/TRIGGER		Phase Correction	No
Auto Trigger Type	Off	USER CVS	
FMRI		User CV19	1.00
PSD Trigger	Internal	User CV22	1.00
View Order	Bottom/Up	TR Min	400.0
# of Repetitions REST	0	TR Max	850.0
# of Repetitions ACTIVE	0	MULTI-PHASE	
SAT		Seperate Series	0
Tag Type	None	Mask Phase	0
Fat/Water Saturation	Fat	Mask Pause	0
TRICKS		DIFFUSION	
Pause On/Off	On	Recon All Images	On
Auto Subtract	0	CONTRAST	
Auto SCIC	Off	Contrast Yes/No	Yes

+ C Cor T1 FSE 3mm

+ C Cor T1 FSE 3mm

Protocol: adult_head_Pituitary

+C SAG T1 FSE 3mm	PATIENT POSITION		IMAGING PARAMETERS		+C SAG T1 FSE 3mm
	Patient Entry	Head First	Imaging Mode	2D	
	Patient Position	Supine	Pulse Sequence	FSE-XL	
	Coil Configuration	Head;Neck	Imaging Options	NPW, EDR, TRF, Fast	
	Plane	OBLIQUE	SCAN RANGE		
	Series Description	+C SAG T1 FSE 3mm	FOV	18.0	
	SCAN TIMING		Slice Thickness	3.0	
	Flip Angle	111	Slice Spacing	0.0	
	TE	Min Full	ACQ TIMING		
	Number of Echoes	1	Freq	260	
	TR	546.0	Phase	240	
	Echo Train Length	4	Freq DIR	Unswap	
	Receiver Bandwidth	50.00	Fat Shift DIR	Normal	
	IMAGE ENHANCE		NEX	2.00	
	Filter Choice	G	Auto Shim	Auto	
	GATING/TRIGGER		Phase Correction	No	
	Auto Trigger Type	Off	USER CVS		
	FMRI		User CV19	1.00	
	PSD Trigger	Internal	User CV22	1.00	
	View Order	Bottom/Up	TR Min	400.0	
	# of Repetitions REST	0	TR Max	850.0	
	# of Repetitions ACTIVE	0	MULTI-PHASE		
	SAT		Seperate Series	0	
	Tag Type	None	Mask Phase	0	
	Fat/Water Saturation	Fat	Mask Pause	0	
	TRICKS		DIFFUSION		
	Pause On/Off	On	Recon All Images	On	
	Auto Subtract	0	CONTRAST		
Auto SCIC	Off	Contrast Yes/No	Yes		

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Protocol: adult_head_Pituitary

+ C 3D Ax T1 FSPGR	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	3D
	Patient Position	Supine	Pulse Sequence	SPGR
	Coil Configuration	Head;Neck	Imaging Options	EDR, Fast, ZIP512, ZIP2, Asset, IrP
	Plane	OBLIQUE	SCAN RANGE	
	Series Description	+ C 3D Ax T1 FSPGR	FOV	24.0
	SCAN TIMING		Slice Thickness	1.2
	Flip Angle	12	Location per Slab	130
	TE	Min Full	Overlap Locations	0
	Number of Echoes	1	ACQ TIMING	
	TI	450	Freq	256
	Receiver Bandwidth	31.25	Phase	256
	IMAGE ENHANCE		Freq DIR	Unswap
	Filter Choice	G	NEX	1.00
	GATING/TRIGGER		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Auto
	FMRI		Phase Correction	No
	Initial State	Control	USER CVS	
	PSD Trigger	Internal	User CV6	2.00
	View Order	Bottom/Up	User CV23	90.00
	# of Repetitions REST	0	MULTI-PHASE	
	# of Repetitions ACTIVE	0	Seperate Series	0
	SAT		Trigger Delay without AV	0
	Tag Type	None	Mask Phase	0
	TRICKS		Mask Pause	0
	Pause On/Off	On	DIFFUSION	
	Auto Subtract	0	Recon All Images	On
	Auto SCIC	2	CONTRAST	
		Contrast Yes/No	Yes	

+ C 3D Ax T1 FSPGR