

Protocol: adult_lowerExtremities_KNEE

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	<i>Feet First</i>	Imaging Mode	<i>2D</i>
Patient Position	<i>Supine</i>	Pulse Sequence	<i>Spin Echo</i>
Coil Configuration	<i>HD T/R Knee Array by Invivo</i>	Imaging Options	<i>Seq, EDR, Fast, SS</i>
Plane	<i>3-PLANE</i>	SCAN RANGE	
Series Description	<i>3-Plane Localizer</i>	FOV	<i>28.0</i>
SCAN TIMING		Slice Thickness	<i>5.0</i>
TE	<i>80.0</i>	Slice Spacing	<i>6.0</i>
Number of Echoes	<i>1</i>	ACQ TIMING	
TR	<i>Minimum</i>	Freq	<i>384</i>
Receiver Bandwidth	<i>62.50</i>	Phase	<i>256</i>
IMAGE ENHANCE		Freq DIR	<i>Unswap</i>
Filter Choice	<i>None</i>	# of Acq. Before Pause	<i>0</i>
GATING/TRIGGER		Phase FOV	<i>1.00</i>
Auto Trigger Type	<i>Off</i>	Auto Shim	<i>Auto</i>
FMRI		Phase Correction	<i>No</i>
PSD Trigger	<i>Internal</i>	USER CVS	
Slice Order	<i>Interleaved</i>	User CV1	<i>1.00</i>
View Order	<i>Bottom/Up</i>	User CV2	<i>240.00</i>
# of Repetitions REST	<i>0</i>	MULTI-PHASE	
# of Repetitions ACTIVE	<i>0</i>	Seperate Series	<i>0</i>
SAT		Mask Phase	<i>0</i>
Tag Type	<i>None</i>	Mask Pause	<i>0</i>
TRICKS		DIFFUSION	
Pause On/Off	<i>On</i>	Recon All Images	<i>On</i>
Auto Subtract	<i>0</i>	CONTRAST	
Auto SCIC	<i>Off</i>	Contrast Yes/No	<i>No</i>

3-Plane Localizer

3-Plane Localizer

Protocol: adult_lowerExtremities_KNEE

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Feet First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HD T/R Knee Array by Invivo	Imaging Options	FC, EDR, TRF, Fast, MRF
Plane	OBLIQUE	SCAN RANGE	
Series Description	AX T2 FSE FS	FOV	16.0
SCAN TIMING		Slice Thickness	4.0
Flip Angle	142	Slice Spacing	0.5
TE	85.0	ACQ TIMING	
Number of Echoes	1	Freq	320
TR	4863.0	Phase	224
Echo Train Length	16	Freq DIR	A/P
Receiver Bandwidth	35.71	Fat Shift DIR	Normal (A)
IMAGE ENHANCE		NEX	3.00
Filter Choice	None	Phase FOV	0.90
GATING/TRIGGER		Auto Shim	Auto
Auto Trigger Type	Off	Phase Correction	Yes
FMRI		Flow Direction Compensation	Freq
PSD Trigger	Internal	USER CVS	
Slice Order	Interleaved	User CV8	1.00
View Order	Bottom/Up	User CV19	0.90
# of Repetitions REST	0	User CV21	2.00
# of Repetitions ACTIVE	0	User CV22	1.00
SAT		TR Min	3000.0
SAT Location	S	TR Max	6000.0
SAT Location	I	MULTI-PHASE	
Tag Type	None	Seperate Series	0
Fat/Water Saturation	Fat Classic	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	No

AX T2 FSE FS

AX T2 FSE FS

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PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Feet First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HD T/R Knee Array by Invivo	Imaging Options	FC, NPW, EDR, TRF, Fast, MRF
Plane	OBLIQUE		
Series Description	Sag PD FSE FS		
SCAN TIMING		SCAN RANGE	
Flip Angle	140	FOV	16.0
TE	30.0	Slice Thickness	4.0
Number of Echoes	1	Slice Spacing	0.5
TR	2651.0		
Echo Train Length	8	ACQ TIMING	
Receiver Bandwidth	31.25	Freq	288
		Phase	224
		Freq DIR	A/P
		Fat Shift DIR	Normal (P)
		NEX	3.00
		Phase FOV	1.00
		Auto Shim	Auto
		Phase Correction	Yes
		Flow Direction	Freq
		Compensation	
IMAGE ENHANCE		USER CVS	
Filter Choice	None	User CV8	1.00
		User CV19	0.90
		User CV22	1.00
		TR Min	2000.0
		TR Max	4000.0
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			
SAT Location	S		
SAT Location	I		
Tag Type	None		
Fat/Water Saturation	Fat Classic		
TRICKS			
Pause On/Off	On		
Auto Subtract	0		
Auto SCIC	2		

Sag PD FSE FS

Sag PD FSE FS

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PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Feet First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HD T/R Knee Array by Invivo	Imaging Options	FC, NPW, EDR, TRF, Fast, MRF
Plane	OBLIQUE		
Series Description	Sag T2 FSE FS		
SCAN TIMING		SCAN RANGE	
Flip Angle	160	FOV	16.0
TE	85.0	Slice Thickness	4.0
Number of Echoes	1	Slice Spacing	0.5
TR	4557.0		
Echo Train Length	16	ACQ TIMING	
Receiver Bandwidth	35.71	Freq	320
		Phase	224
		Freq DIR	A/P
		Fat Shift DIR	Normal (P)
		NEX	3.00
		Phase FOV	1.00
		Auto Shim	Auto
		Phase Correction	Yes
		Flow Direction	Freq
		Compensation	
IMAGE ENHANCE		USER CVS	
Filter Choice	None	User CV8	1.00
		User CV19	0.90
		User CV21	2.00
		User CV22	1.00
		TR Min	3000.0
		TR Max	6000.0
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			
SAT Location	S		
SAT Location	I		
Tag Type	None		
Fat/Water Saturation	Fat Classic		
TRICKS			
Pause On/Off	On		
Auto Subtract	0		
Auto SCIC	2		

Sag T2 FSE FS

Sag T2 FSE FS

Protocol: adult_lowerExtremities_KNEE

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Feet First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HD T/R Knee Array by Invivo	Imaging Options	NPW, EDR, TRF, Fast, MRF
Plane	OBLIQUE	SCAN RANGE	
Series Description	Cor T1 FSE	FOV	16.0
SCAN TIMING		Slice Thickness	4.0
Flip Angle	160	Slice Spacing	1.0
TE	Min Full	ACQ TIMING	
Number of Echoes	1	Freq	320
TR	500.0	Phase	224
Echo Train Length	2	Freq DIR	S/I
Receiver Bandwidth	50.00	Fat Shift DIR	Normal (I)
IMAGE ENHANCE		NEX	2.00
Filter Choice	None	# 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 CV8	1.00
View Order	Bottom/Up	User CV22	1.00
# 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

Cor T1 FSE

Cor T1 FSE

Protocol: adult_lowerExtremities_KNEE

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Feet First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HD T/R Knee Array by Invivo	Imaging Options	FC, NPW, EDR, TRF, Fast, ARC, MRF
Plane	OBLIQUE		
Series Description	Cor PD FSE FS		
SCAN TIMING		SCAN RANGE	
Flip Angle	160	FOV	16.0
TE	30.0	Slice Thickness	4.0
Number of Echoes	1	Slice Spacing	1.0
TR	2341.0		
Echo Train Length	6	ACQ TIMING	
Receiver Bandwidth	27.78	Freq	288
		Phase	224
		Freq DIR	S/I
		Fat Shift DIR	Normal (I)
		NEX	3.00
		Phase FOV	1.00
		Auto Shim	Auto
		Phase Correction	Yes
		Flow Direction Compensation	Freq
IMAGE ENHANCE		USER CVS	
Filter Choice	None	User CV8	1.00
		User CV19	0.90
		User CV22	1.00
		TR Min	2000.0
		TR Max	4000.0
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			
SAT Location	S		
SAT Location	I		
Tag Type	None		
Fat/Water Saturation	Fat Classic		
TRICKS			
Pause On/Off	On		
Auto Subtract	0		
Auto SCIC	2		

Cor PD FSE FS

Cor PD FSE FS

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PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Feet First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	Spin Echo
Coil Configuration	HD T/R Knee Array by Invivo	Imaging Options	Seq, EDR, Fast, SS
Plane	3-PLANE	SCAN RANGE	
Series Description	3-Plane Localizer	FOV	28.0
SCAN TIMING		Slice Thickness	5.0
TE	80.0	Slice Spacing	6.0
Number of Echoes	1	ACQ TIMING	
TR	Minimum	Freq	384
Receiver Bandwidth	62.50	Phase	256
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
FMRI		Phase Correction	No
PSD Trigger	Internal	USER CVS	
Slice Order	Interleaved	User CV1	1.00
View Order	Bottom/Up	User CV2	240.00
# 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

3-Plane Localizer

3-Plane Localizer

Protocol: adult_lowerExtremities_KNEE

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	<i>Feet First</i>	Imaging Mode	<i>3D</i>
Patient Position	<i>Supine</i>	Pulse Sequence	<i>SPGR</i>
Plane	<i>AXIAL</i>	Imaging Options	<i>EDR, Fast, ZIP2, Calib</i>
Series Description	<i>---optional contrast---</i>	SCAN RANGE	
SCAN TIMING		FOV	<i>48.0</i>
Number of Echoes	<i>1</i>	Slice Thickness	<i>15.0</i>
Receiver Bandwidth	<i>62.50</i>	Location per Slab	<i>32</i>
IMAGE ENHANCE		Overlap Locations	<i>0</i>
Filter Choice	<i>None</i>	ACQ TIMING	
GATING/TRIGGER		Freq DIR	<i>R/L</i>
Auto Trigger Type	<i>Off</i>	Phase FOV	<i>1.00</i>
FMRI		Auto Shim	<i>Auto</i>
PSD Trigger	<i>Internal</i>	Phase Correction	<i>No</i>
Slice Order	<i>Interleaved</i>	USER CVS	
View Order	<i>Bottom/Up</i>	User CV23	<i>100.00</i>
# of Repetitions REST	<i>0</i>	MULTI-PHASE	
# of Repetitions ACTIVE	<i>0</i>	Seperate Series	<i>0</i>
SAT		Trigger Delay without AV	<i>0</i>
Tag Type	<i>None</i>	Mask Phase	<i>0</i>
TRICKS		Mask Pause	<i>0</i>
Pause On/Off	<i>On</i>	DIFFUSION	
Auto Subtract	<i>0</i>	Recon All Images	<i>On</i>
Auto SCIC	<i>Off</i>	CONTRAST	
		Contrast Yes/No	<i>No</i>

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PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Feet First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HD T/R Knee/Foot Coil by Invivo	Imaging Options	NPW, TRF, Fast, MRF
Plane	OBLIQUE	SCAN RANGE	
Series Description	AX (SA) T1	FOV	17.0
SCAN TIMING		Slice Thickness	4.0
Flip Angle	160	Slice Spacing	1.0
TE	Min Full	ACQ TIMING	
Number of Echoes	1	Freq	320
TR	740.0	Phase	224
Echo Train Length	3	Freq DIR	S/I
Receiver Bandwidth	31.25	Fat Shift DIR	Normal (I)
IMAGE ENHANCE		NEX	2.00
Filter Choice	None	# of Acq. Before Pause	0
GATING/TRIGGER		Phase FOV	0.70
Auto Trigger Type	Off	Auto Shim	Auto
FMRI		Phase Correction	No
PSD Trigger	Internal	USER CVS	
Slice Order	Interleaved	User CV19	1.00
View Order	Bottom/Up	User CV22	1.00
# of Repetitions REST	0	TR Min	350.0
# of Repetitions ACTIVE	0	TR Max	750.0
SAT		MULTI-PHASE	
Tag Type	None	Seperate Series	0
Fat/Water Saturation	Fat Classic	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	Yes

AX (SA) T1

AX (SA) T1

Protocol: adult_lowerExtremities_KNEE

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Feet First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HD T/R Knee/Foot Coil by Invivo	Imaging Options	TRF, Fast, MRF
Plane	OBLIQUE	SCAN RANGE	
Series Description	+C SAG T1 FS	FOV	16.0
SCAN TIMING		Slice Thickness	4.0
Flip Angle	160	Slice Spacing	0.0
TE	Min Full	ACQ TIMING	
Number of Echoes	1	Freq	320
TR	624.0	Phase	160
Echo Train Length	5	Freq DIR	S/I
Receiver Bandwidth	31.25	Fat Shift DIR	Normal (S)
IMAGE ENHANCE		NEX	2.00
Filter Choice	None	# 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 CV8	1.00
View Order	Bottom/Up	User CV19	1.00
# of Repetitions REST	0	User CV22	1.00
# of Repetitions ACTIVE	0	TR Min	350.0
SAT		TR Max	750.0
Tag Type	None	MULTI-PHASE	
Fat/Water Saturation	Fat Classic	Seperate Series	0
TRICKS		Mask Phase	0
Pause On/Off	On	Mask Pause	0
Auto Subtract	0	DIFFUSION	
Auto SCIC	Off	Recon All Images	On
		CONTRAST	
		Contrast Yes/No	No

+C SAG T1 FS

+C SAG T1 FS

Protocol: adult_lowerExtremities_KNEE

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Feet First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HD T/R Knee/Foot Coil by Invivo	Imaging Options	NPW, TRF, Fast, MRF
Plane	OBLIQUE	SCAN RANGE	
Series Description	+C AX (SA) T1 FS	FOV	17.0
SCAN TIMING		Slice Thickness	4.0
Flip Angle	160	Slice Spacing	1.0
TE	Min Full	ACQ TIMING	
Number of Echoes	1	Freq	320
TR	740.0	Phase	224
Echo Train Length	3	Freq DIR	S/I
Receiver Bandwidth	31.25	Fat Shift DIR	Normal (I)
IMAGE ENHANCE		NEX	2.00
Filter Choice	None	# of Acq. Before Pause	0
GATING/TRIGGER		Phase FOV	0.70
Auto Trigger Type	Off	Auto Shim	Auto
FMRI		Phase Correction	No
PSD Trigger	Internal	USER CVS	
Slice Order	Interleaved	User CV19	1.00
View Order	Bottom/Up	User CV22	1.00
# of Repetitions REST	0	TR Min	350.0
# of Repetitions ACTIVE	0	TR Max	750.0
SAT		MULTI-PHASE	
Tag Type	None	Seperate Series	0
Fat/Water Saturation	Fat Classic	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	Yes

+C AX (SA) T1 FS

+C AX (SA) T1 FS

Protocol: adult_lowerExtremities_KNEE

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Feet First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	FSE-XL
Coil Configuration	HD T/R Knee/Foot Coil by Invivo	Imaging Options	NPW, TRF, Fast, MRF
Plane	OBLIQUE	SCAN RANGE	
Series Description	+C COR T1 (LA) FSE	FOV	16.0
SCAN TIMING		Slice Thickness	4.0
Flip Angle	160	Slice Spacing	0.0
TE	Min Full	ACQ TIMING	
Number of Echoes	1	Freq	320
TR	626.0	Phase	224
Echo Train Length	3	Freq DIR	A/P
Receiver Bandwidth	31.25	Fat Shift DIR	Normal (A)
IMAGE ENHANCE		NEX	2.00
Filter Choice	None	Phase FOV	0.75
GATING/TRIGGER		Auto Shim	Auto
Auto Trigger Type	Off	Phase Correction	No
FMRI		USER CVS	
PSD Trigger	Internal	User CV22	1.00
Slice Order	Interleaved	TR Min	350.0
View Order	Bottom/Up	TR Max	750.0
# 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	Yes

+C COR T1 (LA) FSE

+C COR T1 (LA) FSE