

Protocol: adult_lowerExtremities_ANKLE W/WO

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|-------------------|-------------------------|--|---------------------------|---------------------------|
| 3-Plane Localizer | 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/Foot Coil 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>48.0</i> |
| | SCAN TIMING | | Slice Thickness | <i>8.0</i> |
| | TE | <i>80.0</i> | Slice Spacing | <i>0.0</i> |
| | Number of Echoes | <i>1</i> | ACQ TIMING | |
| | TR | <i>Minimum</i> | Freq | <i>352</i> |
| | Receiver Bandwidth | <i>83.33</i> | Phase | <i>160</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

Protocol: adult_lowerExtremities_ANKLE W/WO

| | | | | | |
|-----------------|-------------------------|--|---------------------------|-----------------------|-----------------|
| SAG T1 FSE LFOV | PATIENT POSITION | | IMAGING PARAMETERS | | SAG T1 FSE LFOV |
| | Patient Entry | <i>Feet First</i> | Imaging Mode | <i>2D</i> | |
| | Patient Position | <i>Supine</i> | Pulse Sequence | <i>FSE-XL</i> | |
| | Coil Configuration | <i>HD T/R Knee/Foot Coil by Invivo</i> | Imaging Options | <i>TRF, Fast, MRF</i> | |
| | Plane | <i>OBLIQUE</i> | SCAN RANGE | | |
| | Series Description | <i>SAG T1 FSE LFOV</i> | FOV | <i>27.0</i> | |
| | SCAN TIMING | | Slice Thickness | <i>4.0</i> | |
| | Flip Angle | <i>160</i> | Slice Spacing | <i>0.5</i> | |
| | TE | <i>Min Full</i> | ACQ TIMING | | |
| | Number of Echoes | <i>1</i> | Freq | <i>320</i> | |
| | TR | <i>704.0</i> | Phase | <i>224</i> | |
| | Echo Train Length | <i>3</i> | Freq DIR | <i>S/I</i> | |
| | Receiver Bandwidth | <i>31.25</i> | Fat Shift DIR | <i>Normal (S)</i> | |
| | IMAGE ENHANCE | | NEX | <i>1.00</i> | |
| | Filter Choice | <i>None</i> | Phase FOV | <i>1.00</i> | |
| | GATING/TRIGGER | | Auto Shim | <i>Auto</i> | |
| | Auto Trigger Type | <i>Off</i> | Phase Correction | <i>Yes</i> | |
| | FMRI | | USER CVS | | |
| | PSD Trigger | <i>Internal</i> | User CV8 | <i>1.00</i> | |
| | Slice Order | <i>Interleaved</i> | User CV22 | <i>1.00</i> | |
| | View Order | <i>Bottom/Up</i> | TR Min | <i>350.0</i> | |
| | # of Repetitions REST | <i>0</i> | TR Max | <i>750.0</i> | |
| | # of Repetitions ACTIVE | <i>0</i> | MULTI-PHASE | | |
| | SAT | | Seperate Series | <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> | | |

Protocol: adult_lowerExtremities_ANKLE W/WO

| PATIENT POSITION | | IMAGING PARAMETERS | |
|-------------------------|--|--------------------|---|
| Patient Entry | <i>Feet First</i> | Imaging Mode | <i>2D</i> |
| Patient Position | <i>Supine</i> | Pulse Sequence | <i>FSE-XL</i> |
| Coil Configuration | <i>HD T/R Knee/Foot Coil by Invivo</i> | Imaging Options | <i>NPW, Seq, EDR, TRF, Fast, ZIP512, MRF, IrP</i> |
| Plane | <i>OBLIQUE</i> | SCAN RANGE | |
| Series Description | <i>SAG STIR</i> | FOV | <i>18.0</i> |
| SCAN TIMING | | Slice Thickness | <i>4.0</i> |
| Flip Angle | <i>160</i> | Slice Spacing | <i>0.5</i> |
| TE | <i>42.0</i> | ACQ TIMING | |
| Number of Echoes | <i>1</i> | Freq | <i>288</i> |
| TR | <i>4586.0</i> | Phase | <i>160</i> |
| TI | <i>140</i> | Freq DIR | <i>S/I</i> |
| Echo Train Length | <i>9</i> | Fat Shift DIR | <i>Normal (S)</i> |
| Receiver Bandwidth | <i>25.00</i> | NEX | <i>2.00</i> |
| IMAGE ENHANCE | | Phase FOV | <i>1.00</i> |
| Filter Choice | <i>None</i> | Auto Shim | <i>Auto</i> |
| GATING/TRIGGER | | Phase Correction | <i>No</i> |
| Auto Trigger Type | <i>Off</i> | USER CVS | |
| FMRI | | User CV21 | <i>1.00</i> |
| PSD Trigger | <i>Internal</i> | User CV22 | <i>1.00</i> |
| Slice Order | <i>Interleaved</i> | TR Min | <i>2000.0</i> |
| View Order | <i>Bottom/Up</i> | TR Max | <i>15000.0</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> |

SAG STIR

SAG STIR

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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 | Seq, EDR, TRF, Fast, ZIP512, MRF, IrP |
| Plane | OBLIQUE | SCAN RANGE | |
| Series Description | COR STIR | FOV | 18.0 |
| SCAN TIMING | | Slice Thickness | 4.0 |
| Flip Angle | 160 | Slice Spacing | 0.5 |
| TE | 42.0 | ACQ TIMING | |
| Number of Echoes | 1 | Freq | 288 |
| TR | 7297.0 | Phase | 160 |
| TI | 140 | Freq DIR | S/I |
| Echo Train Length | 11 | Fat Shift DIR | Normal (I) |
| Receiver Bandwidth | 25.00 | NEX | 2.00 |
| IMAGE ENHANCE | | Phase FOV | 0.80 |
| Filter Choice | None | Auto Shim | Auto |
| GATING/TRIGGER | | Phase Correction | No |
| Auto Trigger Type | Off | USER CVS | |
| FMRI | | User CV21 | 1.00 |
| PSD Trigger | Internal | User CV22 | 1.00 |
| Slice Order | Interleaved | TR Min | 2000.0 |
| View Order | Bottom/Up | TR Max | 15000.0 |
| # 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 |

COR STIR

COR STIR

Protocol: adult_lowerExtremities_ANKLE W/WO

| 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 | COR T1 | FOV | 18.0 |
| SCAN TIMING | | Slice Thickness | 4.0 |
| Flip Angle | 160 | Slice Spacing | 0.5 |
| TE | Min Full | ACQ TIMING | |
| Number of Echoes | 1 | Freq | 320 |
| TR | 485.0 | Phase | 224 |
| Echo Train Length | 3 | Freq DIR | S/I |
| Receiver Bandwidth | 31.25 | Fat Shift DIR | Normal (I) |
| IMAGE ENHANCE | | NEX | 1.00 |
| Filter Choice | None | # of Acq. Before Pause | 0 |
| GATING/TRIGGER | | Phase FOV | 0.80 |
| 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 | TR Min | 350.0 |
| # of Repetitions ACTIVE | 0 | TR Max | 750.0 |
| SAT | | 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 | Off | Recon All Images | On |
| | | CONTRAST | |
| | | Contrast Yes/No | No |

COR T1

COR T1

Protocol: adult_lowerExtremities_ANKLE W/WO

| 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 | AX T1 | FOV | 18.0 |
| 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 | 477.0 | Phase | 224 |
| Echo Train Length | 3 | Freq DIR | A/P |
| Receiver Bandwidth | 31.25 | Fat Shift DIR | Normal (A) |
| IMAGE ENHANCE | | NEX | 1.00 |
| Filter Choice | None | # of Acq. Before Pause | 0 |
| GATING/TRIGGER | | Phase FOV | 0.70 |
| Auto Trigger Type | Off | Auto Shim | Auto |
| FMRI | | Phase Correction | 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 | TR Min | 350.0 |
| # of Repetitions ACTIVE | 0 | TR Max | 750.0 |
| SAT | | 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 | Off | Recon All Images | On |
| | | CONTRAST | |
| | | Contrast Yes/No | No |

AX T1

AX T1

Protocol: adult_lowerExtremities_ANKLE W/WO

| 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 | AX T1 FATSAT PRE | FOV | 18.0 |
| 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 | 429.0 | Phase | 224 |
| Echo Train Length | 3 | Freq DIR | A/P |
| Receiver Bandwidth | 31.25 | Fat Shift DIR | Normal (A) |
| IMAGE ENHANCE | | NEX | 1.00 |
| Filter Choice | None | # of Acq. Before Pause | 0 |
| GATING/TRIGGER | | Phase FOV | 0.70 |
| Auto Trigger Type | Off | Auto Shim | Auto |
| FMRI | | Phase Correction | 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 | 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 |

AX T1 FATSAT PRE

AX T1 FATSAT PRE

Protocol: adult_lowerExtremities_ANKLE W/WO

| 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 | Seq, EDR, TRF, Fast, ZIP512, MRF, IrP |
| Plane | OBLIQUE | SCAN RANGE | |
| Series Description | AX STIR | FOV | 18.0 |
| SCAN TIMING | | Slice Thickness | 4.0 |
| Flip Angle | 160 | Slice Spacing | 1.0 |
| TE | 42.0 | ACQ TIMING | |
| Number of Echoes | 1 | Freq | 288 |
| TR | 6762.0 | Phase | 160 |
| TI | 140 | Freq DIR | A/P |
| Echo Train Length | 10 | Fat Shift DIR | Normal (A) |
| Receiver Bandwidth | 25.00 | NEX | 2.00 |
| IMAGE ENHANCE | | Phase FOV | 0.70 |
| Filter Choice | None | Auto Shim | Auto |
| GATING/TRIGGER | | Phase Correction | No |
| Auto Trigger Type | Off | USER CVS | |
| FMRI | | User CV21 | 1.00 |
| PSD Trigger | Internal | User CV22 | 1.00 |
| Slice Order | Interleaved | TR Min | 2000.0 |
| View Order | Bottom/Up | TR Max | 15000.0 |
| # 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 |

AX STIR

AX STIR

Protocol: adult_lowerExtremities_ANKLE W/WO

| 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 SAG T1 FS | FOV | 18.0 |
| SCAN TIMING | | Slice Thickness | 4.0 |
| Flip Angle | 160 | Slice Spacing | 0.5 |
| TE | Min Full | ACQ TIMING | |
| Number of Echoes | 1 | Freq | 320 |
| TR | 705.0 | Phase | 192 |
| Echo Train Length | 4 | 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 | Yes |

+C SAG T1 FS

+C SAG T1 FS

Protocol: adult_lowerExtremities_ANKLE W/WO

| 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 COR T1 FS | FOV | 18.0 |
| SCAN TIMING | | Slice Thickness | 4.0 |
| Flip Angle | 160 | Slice Spacing | 0.5 |
| TE | Min Full | ACQ TIMING | |
| Number of Echoes | 1 | Freq | 320 |
| TR | 623.0 | Phase | 224 |
| Echo Train Length | 3 | Freq DIR | S/I |
| Receiver Bandwidth | 31.25 | Fat Shift DIR | Normal (I) |
| IMAGE ENHANCE | | NEX | 1.00 |
| Filter Choice | None | # of Acq. Before Pause | 0 |
| GATING/TRIGGER | | Phase FOV | 0.80 |
| 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 COR T1 FS

+C COR T1 FS

Protocol: adult_lowerExtremities_ANKLE W/WO

| 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 AX T1 FS | FOV | 18.0 |
| 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 | 429.0 | Phase | 224 |
| Echo Train Length | 3 | Freq DIR | A/P |
| Receiver Bandwidth | 31.25 | Fat Shift DIR | Normal (A) |
| IMAGE ENHANCE | | NEX | 1.00 |
| Filter Choice | None | # of Acq. Before Pause | 0 |
| GATING/TRIGGER | | Phase FOV | 0.70 |
| Auto Trigger Type | Off | Auto Shim | Auto |
| FMRI | | Phase Correction | 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 | 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 AX T1 FS

+C AX T1 FS