Protocol: adult_abdomen_LIVER BH 4/3/2018

3-Plane Localizer

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*3-PLANE*
Series Description	*3-Plane Localizer*

SCAN TIMING	
TE	*80.0*
Number of Echoes	*1*
TR	*525.0*
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, TRF, Fast, SS, FR, ARC*

SCAN RANGE	
FOV	*48.0*
Slice Thickness	*8.0*
Slice Spacing	*5.0*

ACQ TIMING	
Freq	*384*
Phase	*160*
Freq DIR	*Unswap*
# of Acq. Before Pause	*0*
Phase FOV	*1.00*
Auto Shim	*Auto*
Phase Correction	*No*

USER CVS	
User CV1	*1.00*

MULTI-PHASE	
Seperate Series	*0*
Mask Phase	*0*
Mask Pause	*0*

DIFFUSION	
Recon All Images	*On*

CONTRAST	
Contrast Yes/No	*No*

3-Plane Localizer

Protocol: adult_abdomen_LIVER BH 4/3/2018

Cor SSFSE BH

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*OBLIQUE*
Series Description	*Cor SSFSE BH*
SCAN TIMING	
TE	*90.0*
Number of Echoes	*1*
TR	*2095.6*
Receiver Bandwidth	*62.50*
IMAGE ENHANCE	
Filter Choice	*B*
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	*2*

IMAGING PARAMETERS	
Imaging Mode	*2D*
Pulse Sequence	*Spin Echo*
Imaging Options	*EDR, Fast, SS, Asset*
SCAN RANGE	
FOV	*40.0*
Slice Thickness	*7.0*
Slice Spacing	*1.0*
ACQ TIMING	
Freq	*360*
Phase	*260*
Freq DIR	*S/I*
NEX	*1.00*
# of Acq. Before Pause	*12*
Phase FOV	*1.00*
Auto Shim	*Auto*
Phase Correction	*No*
USER CVS	
User CV1	*1.00*
User CV2	*184.00*
User CV13	*1.00*
User CV15	*1.00*
MULTI-PHASE	
Seperate Series	*0*
Mask Phase	*0*
Mask Pause	*0*
DIFFUSION	
Recon All Images	*On*
CONTRAST	
Contrast Yes/No	*No*

Cor SSFSE BH

Protocol: adult_abdomen_LIVER BH 4/3/2018

Ax SSFSE BH

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*OBLIQUE*
Series Description	*Ax SSFSE BH*
SCAN TIMING	
TE	*90.0*
Number of Echoes	*1*
TR	*1176.1*
Receiver Bandwidth	*62.50*
IMAGE ENHANCE	
Filter Choice	*B*
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	*2*

IMAGING PARAMETERS	
Imaging Mode	*2D*
Pulse Sequence	*Spin Echo*
Imaging Options	*EDR, Fast, ZIP512, SS, Asset*
SCAN RANGE	
FOV	*38.0*
Slice Thickness	*7.0*
Slice Spacing	*1.0*
ACQ TIMING	
Freq	*360*
Phase	*260*
Freq DIR	*R/L*
NEX	*1.00*
# of Acq. Before Pause	*15*
Phase FOV	*1.00*
Auto Shim	*On*
Phase Correction	*No*
USER CVS	
User CV1	*1.00*
User CV2	*184.00*
User CV13	*1.00*
User CV15	*1.00*
MULTI-PHASE	
Seperate Series	*0*
Mask Phase	*0*
Mask Pause	*0*
DIFFUSION	
Recon All Images	*On*
CONTRAST	
Contrast Yes/No	*No*

Ax SSFSE BH

Protocol: adult_abdomen_LIVER BH 4/3/2018

Ax SSFSE F/S BH

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*OBLIQUE*
Series Description	*Ax SSFSE F/S BH*
SCAN TIMING	
TE	*90.0*
Number of Echoes	*1*
TR	*1200.9*
Receiver Bandwidth	*62.50*
IMAGE ENHANCE	
Filter Choice	*B*
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 Classic*
TRICKS	
Pause On/Off	*On*
Auto Subtract	*0*
Auto SCIC	*2*

IMAGING PARAMETERS	
Imaging Mode	*2D*
Pulse Sequence	*Spin Echo*
Imaging Options	*EDR, Fast, SS, Asset, FR*
SCAN RANGE	
FOV	*38.0*
Slice Thickness	*7.0*
Slice Spacing	*1.0*
ACQ TIMING	
Freq	*360*
Phase	*260*
Freq DIR	*R/L*
NEX	*1.00*
# of Acq. Before Pause	*15*
Phase FOV	*1.00*
Auto Shim	*On*
Phase Correction	*No*
USER CVS	
User CV1	*1.00*
User CV2	*184.00*
User CV13	*1.00*
User CV15	*1.00*
MULTI-PHASE	
Seperate Series	*0*
Mask Phase	*0*
Mask Pause	*0*
DIFFUSION	
Recon All Images	*On*
CONTRAST	
Contrast Yes/No	*No*

Ax SSFSE F/S BH

Protocol: adult_abdomen_LIVER BH 4/3/2018

Ax FIESTA ASPIR BH

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*AXIAL*
Series Description	*Ax FIESTA ASPIR BH*
SCAN TIMING	
Flip Angle	*50*
TE	*Minimum*
Number of Echoes	*1*
TI	*210*
Receiver Bandwidth	*125.00*
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	*2D*
Pulse Sequence	*Fiesta*
Imaging Options	*Seq, EDR, Fast, ARC*
SCAN RANGE	
FOV	*40.0*
Slice Thickness	*7.0*
Slice Spacing	*1.0*
ACQ TIMING	
Freq	*192*
Phase	*300*
Freq DIR	*R/L*
NEX	*1.00*
# of Acq. Before Pause	*0*
Phase FOV	*0.80*
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*
Fat/Water Saturation	*Fat Special*
TRICKS	
Pause On/Off	*On*
Auto Subtract	*0*
Auto SCIC	*Off*
OTHERS	
Protocol Notes	*Tip: - Place a shim volume over the liver to help reduce artifacts. -TI time for ASPIR (ChemSAT) can be modified by changing the Prep Time.*

Ax FIESTA ASPIR BH

Protocol: adult_abdomen_LIVER BH 4/3/2018

Ax DWI 3:1 B-800-500-50

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*AXIAL*
Series Description	*Ax DWI 3:1 B-800-500-50*

SCAN TIMING	
TE	*Minimum*
Number of Echoes	*1*
Number of Shots	*1*

IMAGE ENHANCE	
Filter Choice	*None*

GATING/TRIGGER	
Auto Trigger Type	*Off*
Resp. Trigger Window	*30*

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*

CONTRAST	
Contrast Yes/No	*No*

IMAGING PARAMETERS	
Imaging Mode	*2D*
Pulse Sequence	*Spin Echo*
Imaging Options	*EDR, EPI, DIFF, Asset, Nav*

SCAN RANGE	
FOV	*40.0*
Slice Thickness	*7.0*
Slice Spacing	*1.0*

ACQ TIMING	
Freq	*80*
Phase	*128*
Freq DIR	*R/L*
Phase FOV	*1.00*
Auto Shim	*Auto*
Phase Correction	*Yes*

USER CVS	
User CV0	*1.00*
User CV5	*1.00*
User CV17	*1.00*
User CV18	*1.00*

MULTI-PHASE	
Seperate Series	*0*
Mask Phase	*0*
Mask Pause	*0*

DIFFUSION	
Optimized TE	*Yes*
Diffusion Directions	*64*
Number of Diffusion Directions	*1*
Number of T2 Images	*0*
Dual Spin Echo	*Off*
Recon All Images	*On*

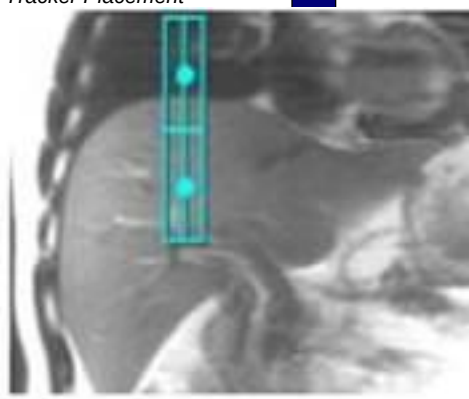
TRACKER	
Tracker Length	*120.0*
Tracker Thickness	*20.0*

Ax DWI 3:1 B-800-500-50

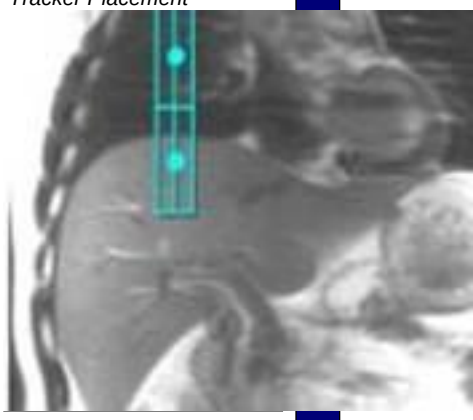
OTHERS

Protocol Notes

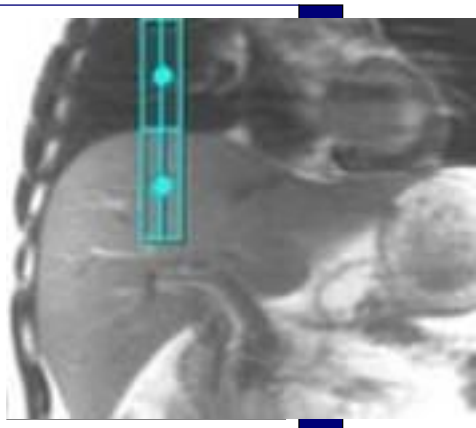
Auto Tracker placement is turned on
Tracker will be placed automatically
Manual Placement Instructions:
Navigator Tracker Placement Considerations
** Place navigator tracker on a breath hold localizer for the optimum performance**
- Center of tracker should be 1.5 cm below diaphragm if localizer was acquired with expiration breath hold
- Center of tracker should be 1.5 cm above diaphragm if localizer was acquired with inspiration breath hold
- Center of tracker should be placed on the diaphragm if localizer was acquired free breathing
**Please review operator manual for additional information*
Expiration-Breath Hold Tracker Placement

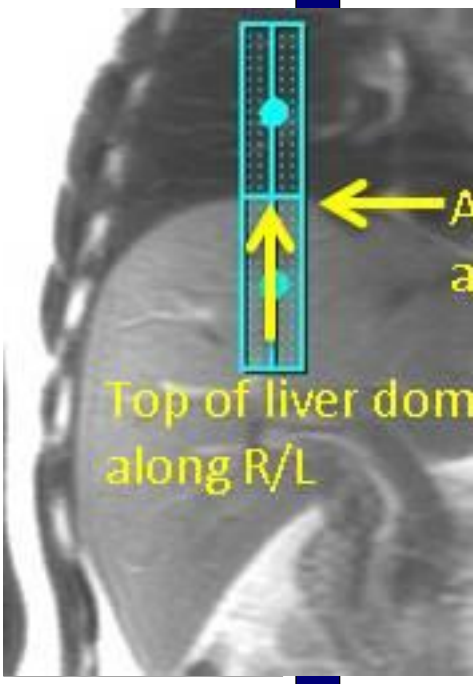


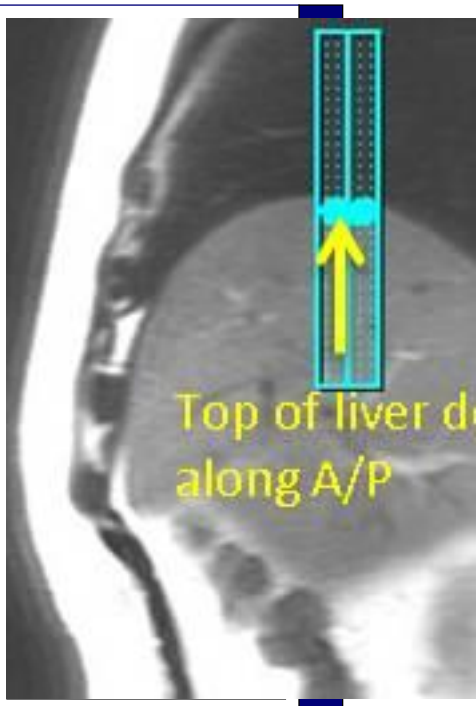
Inspiration-Breath Hold Tracker Placement

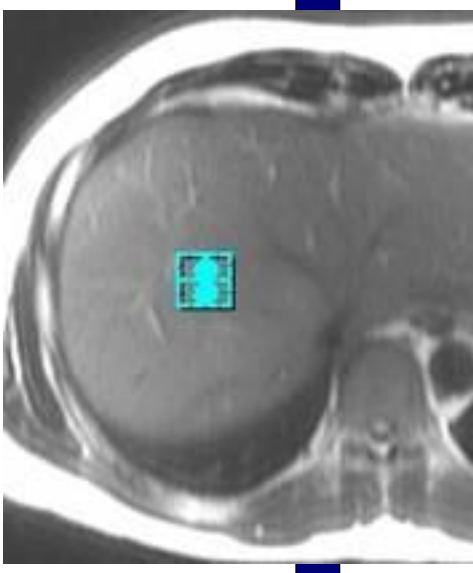


Free Breathing Tracker Placement

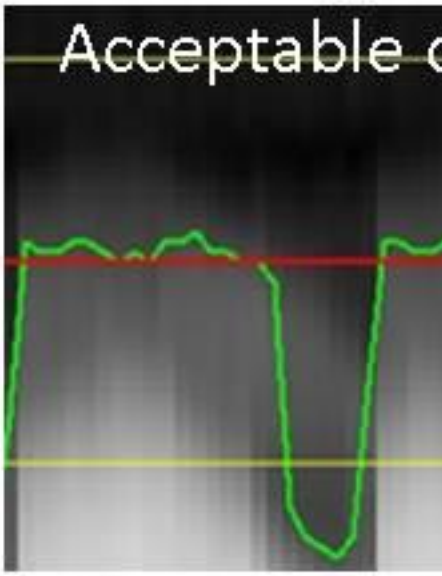








Easy Tro



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anything since g
waveform reflec
respiratory statu

Protocol: adult_abdomen_LIVER BH 4/3/2018

3D Ax LAVA Flex Pre/A/V

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*AXIAL*
Series Description	*3D Ax LAVA Flex Pre/A/V*
SCAN TIMING	
Flip Angle	*10*
TE	*Minimum*
Number of Echoes	*2*
Receiver Bandwidth	*142.86*
IMAGE ENHANCE	
Filter Choice	*A*
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	*4099*
Auto SCIC	*2*

IMAGING PARAMETERS	
Imaging Mode	*3D*
Pulse Sequence	*LAVA*
Imaging Options	*EDR, Fast, ZIP2, MPhVar, ARC, Flex*
IDEAL	*15*
SCAN RANGE	
FOV	*42.0*
Slice Thickness	*4.4*
Location per Slab	*56*
Overlap Locations	*0*
ACQ TIMING	
Freq	*300*
Phase	*200*
Freq DIR	*R/L*
NEX	*1.00*
Phase FOV	*1.10*
Auto Shim	*Auto*
Phase Correction	*No*
USER CVS	
User CV6	*1.00*
MULTI-PHASE	
# of Phases	*3*
Seperate Series	*1*
Trigger Delay without AV	*6*
Mask Phase	*1*
Mask Pause	*1*
DIFFUSION	
Recon All Images	*On*
CONTRAST	
Contrast Yes/No	*No*

3D Ax LAVA Flex Pre/A/V

Protocol: adult_abdomen_LIVER BH 4/3/2018

3D Cor LAVA Flex BH

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*CORONAL*
Series Description	*3D Cor LAVA Flex BH*
SCAN TIMING	
Flip Angle	*10*
TE	*Minimum*
Number of Echoes	*2*
Receiver Bandwidth	*142.86*
IMAGE ENHANCE	
Filter Choice	*A*
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	*2*

IMAGING PARAMETERS	
Imaging Mode	*3D*
Pulse Sequence	*LAVA*
Imaging Options	*EDR, Fast, ZIP2, ARC, Flex*
IDEAL	*3*
SCAN RANGE	
FOV	*44.0*
Slice Thickness	*4.4*
Location per Slab	*56*
Overlap Locations	*0*
ACQ TIMING	
Freq	*300*
Phase	*200*
Freq DIR	*S/I*
NEX	*1.00*
Phase FOV	*1.00*
Auto Shim	*Auto*
Phase Correction	*No*
USER CVS	
User CV4	*6.60*
User CV6	*1.00*
MULTI-PHASE	
Seperate Series	*0*
Trigger Delay without AV	*6.6*
Mask Phase	*0*
Mask Pause	*0*
DIFFUSION	
Recon All Images	*On*
CONTRAST	
Contrast Yes/No	*No*

3D Cor LAVA Flex BH

Protocol: adult_abdomen_LIVER BH 4/3/2018

3D Ax LAVA Flex 3MIN

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*AXIAL*
Series Description	*3D Ax LAVA Flex 3MIN*

SCAN TIMING	
Flip Angle	*10*
TE	*Minimum*
Number of Echoes	*2*
Receiver Bandwidth	*142.86*

IMAGE ENHANCE	
Filter Choice	*A*

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	*2*

IMAGING PARAMETERS	
Imaging Mode	*3D*
Pulse Sequence	*LAVA*
Imaging Options	*EDR, Fast, ZIP2, ARC, Flex*
IDEAL	*3*

SCAN RANGE	
FOV	*42.0*
Slice Thickness	*4.4*
Location per Slab	*56*
Overlap Locations	*0*

ACQ TIMING	
Freq	*300*
Phase	*200*
Freq DIR	*R/L*
NEX	*1.00*
Phase FOV	*1.10*
Auto Shim	*Auto*
Phase Correction	*No*

USER CVS	
User CV4	*6.60*
User CV6	*1.00*

MULTI-PHASE	
Seperate Series	*0*
Trigger Delay without AV	*6.6*
Mask Phase	*0*
Mask Pause	*0*

DIFFUSION	
Recon All Images	*On*

CONTRAST	
Contrast Yes/No	*No*

3D Ax LAVA Flex 3MIN

Protocol: adult_abdomen_LIVER BH 4/3/2018

3D Ax LAVA Flex 6MIN

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*AXIAL*
Series Description	*3D Ax LAVA Flex 6MIN*

SCAN TIMING	
Flip Angle	*10*
TE	*Minimum*
Number of Echoes	*2*
Receiver Bandwidth	*142.86*

IMAGE ENHANCE	
Filter Choice	*A*

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	*2*

IMAGING PARAMETERS	
Imaging Mode	*3D*
Pulse Sequence	*LAVA*
Imaging Options	*EDR, Fast, ZIP2, ARC, Flex*
IDEAL	*3*

SCAN RANGE	
FOV	*42.0*
Slice Thickness	*4.4*
Location per Slab	*56*
Overlap Locations	*0*

ACQ TIMING	
Freq	*300*
Phase	*200*
Freq DIR	*R/L*
NEX	*1.00*
Phase FOV	*1.10*
Auto Shim	*Auto*
Phase Correction	*No*

USER CVS	
User CV4	*6.60*
User CV6	*1.00*

MULTI-PHASE	
Seperate Series	*0*
Trigger Delay without AV	*6.6*
Mask Phase	*0*
Mask Pause	*0*

DIFFUSION	
Recon All Images	*On*

CONTRAST	
Contrast Yes/No	*No*

3D Ax LAVA Flex 6MIN

Protocol: adult_abdomen_LIVER BH 4/3/2018

3D Ax LAVA Flex 10 MIN

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*AXIAL*
Series Description	*3D Ax LAVA Flex 10 MIN*
SCAN TIMING	
Flip Angle	*12*
TE	*Minimum*
Number of Echoes	*2*
Receiver Bandwidth	*142.86*
IMAGE ENHANCE	
Filter Choice	*A*
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	*2*

IMAGING PARAMETERS	
Imaging Mode	*3D*
Pulse Sequence	*LAVA*
Imaging Options	*EDR, Fast, ZIP2, ARC, Flex*
IDEAL	*3*
SCAN RANGE	
FOV	*42.0*
Slice Thickness	*4.4*
Location per Slab	*56*
Overlap Locations	*0*
ACQ TIMING	
Freq	*300*
Phase	*200*
Freq DIR	*R/L*
NEX	*1.00*
Phase FOV	*1.10*
Auto Shim	*Auto*
Phase Correction	*No*
USER CVS	
User CV4	*6.60*
User CV6	*1.00*
MULTI-PHASE	
Seperate Series	*0*
Trigger Delay without AV	*6.6*
Mask Phase	*0*
Mask Pause	*0*
DIFFUSION	
Recon All Images	*On*
CONTRAST	
Contrast Yes/No	*No*

3D Ax LAVA Flex 10 MIN

Protocol: adult_abdomen_LIVER BH 4/3/2018

--OPTIONS--

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*3-PLANE*
Series Description	*--OPTIONS--*
SCAN TIMING	
TE	*80.0*
Number of Echoes	*1*
TR	*525.0*
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, TRF, Fast, SS, FR, ARC*
SCAN RANGE	
FOV	*48.0*
Slice Thickness	*8.0*
Slice Spacing	*5.0*
ACQ TIMING	
Freq	*384*
Phase	*160*
Freq DIR	*Unswap*
# of Acq. Before Pause	*0*
Phase FOV	*1.00*
Auto Shim	*Auto*
Phase Correction	*No*
USER CVS	
User CV1	*1.00*
MULTI-PHASE	
Seperate Series	*0*
Mask Phase	*0*
Mask Pause	*0*
DIFFUSION	
Recon All Images	*On*
CONTRAST	
Contrast Yes/No	*No*

--OPTIONS--

Protocol: adult_abdomen_LIVER BH 4/3/2018

3D Ax DISCO Dyn Mph 3 BH

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*AXIAL*
Series Description	*3D Ax DISCO Dyn Mph 3 BH*

SCAN TIMING	
Flip Angle	*12*
TE	*Minimum*
Number of Echoes	*2*
Receiver Bandwidth	*166.67*

IMAGE ENHANCE	
Filter Choice	*A*

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	*2*

OTHERS	
Protocol Notes	*Scan Time Dislay:* *1st scan time* *= total time for wash in and delay phases.* *2nd scan time* *= mask scan time/non wash in phases scan time.* *If "Mask" and "Pause After Mask" are selected the scanner will pause after completeing the mask portion and wait for the scan button to be pressed before starting the wash in portions.* *Phases per Locations:* *= wash in and deayed phases* *(Total number of phases)* *Wash-in-Phases:* *= number of phases for the wash in portion.* *- After the pre/mask is complete the scanner will pause.* *- Press the scan button to begin the wash in portions* *- The delayed phases will start after the prescribed delay time runs down.*

IMAGING PARAMETERS	
Imaging Mode	*3D*
Pulse Sequence	*DISCO*
Imaging Options	*EDR, Fast, ZIP2, MPhVar, ARC, Flex*
IDEAL	*3*

SCAN RANGE	
FOV	*42.0*
Slice Thickness	*4.4*
Location per Slab	*56*
Overlap Locations	*0*

ACQ TIMING	
Freq	*320*
Phase	*192*
Freq DIR	*R/L*
Phase FOV	*0.80*
Auto Shim	*Auto*
Phase Correction	*No*

USER CVS	
User CV11	*2.00*

MULTI-PHASE	
# of Phases	*5*
Seperate Series	*0*
Trigger Delay without AV	*0*
Mask Phase	*1*
Mask Pause	*1*

DIFFUSION	
Recon All Images	*On*

CONTRAST	
Contrast Yes/No	*No*

3D Ax DISCO Dyn Mph 3 BH

Protocol: adult_abdomen_LIVER BH 4/3/2018

Ax Dual Echo BH

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*AXIAL*
Series Description	*Ax Dual Echo BH*
SCAN TIMING	
Flip Angle	*55*
Number of Echoes	*2*
TR	*150.0*
IMAGE ENHANCE	
Filter Choice	*A*
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	*2D*
Pulse Sequence	*SPGR*
Imaging Options	*EDR, Fast, ARC*
SCAN RANGE	
FOV	*46.0*
Slice Thickness	*7.0*
Slice Spacing	*1.0*
ACQ TIMING	
Freq	*288*
Phase	*192*
Freq DIR	*R/L*
Phase FOV	*0.80*
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	*2*

Ax Dual Echo BH

Protocol: adult_abdomen_LIVER BH 4/3/2018

3D Obl MRCP Nav

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*OBLIQUE*
Series Description	*3D Obl MRCP Nav*

SCAN TIMING	
TE	*900.0*
Number of Echoes	*1*
Echo Train Length	*120*
Receiver Bandwidth	*41.67*

IMAGE ENHANCE	
Filter Choice	*None*

GATING/TRIGGER	
Auto Trigger Type	*Off*
Resp. Trigger Window	*30*

MULTI-PHASE	
Seperate Series	*0*
Mask Phase	*0*
Mask Pause	*0*

DIFFUSION	
Recon All Images	*On*

TRACKER	
Tracker Length	*120.0*
Tracker Thickness	*20.0*

IMAGING PARAMETERS	
Imaging Mode	*3D*
Pulse Sequence	*FRFSE-XL*
Imaging Options	*EDR, Fast, ZIP2, T2P, Asset, FR, Nav, MRCP*

SCAN RANGE	
FOV	*34.0*
Slice Thickness	*1.4*
Location per Slab	*64*
Overlap Locations	*0*

ACQ TIMING	
Freq	*288*
Phase	*288*
Freq DIR	*Unswap*
NEX	*1.00*
Phase FOV	*1.00*
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*
Fat/Water Saturation	*Fat*

TRICKS	
Pause On/Off	*On*
Auto Subtract	*0*
Auto SCIC	*Off*

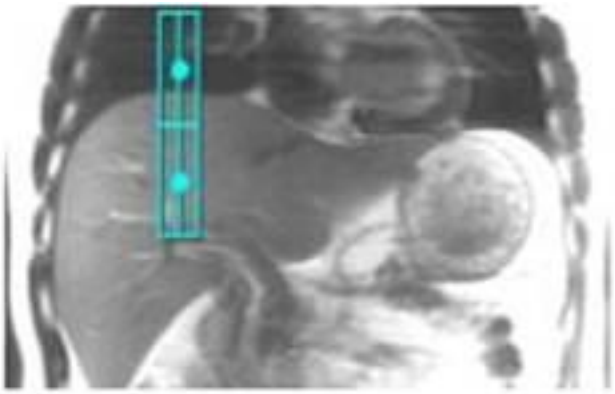
CONTRAST	
Contrast Yes/No	*No*

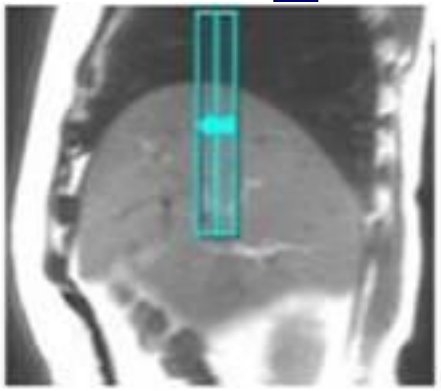
3D Obl MRCP Nav

OTHERS

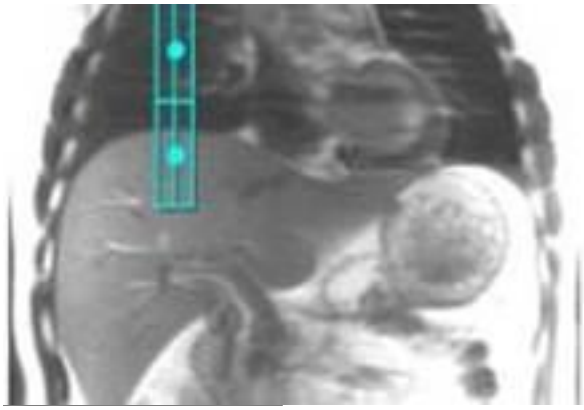
Protocol Notes

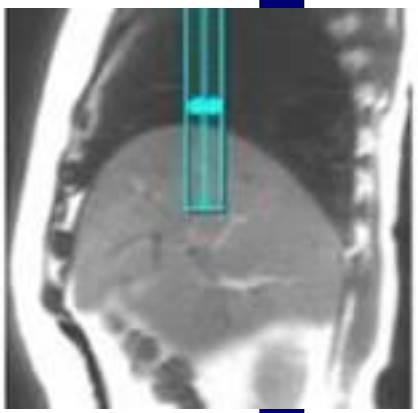
Auto Tracker placement is turned on
Tracker will be placed automatically
Manual Placement Instructions:
Navigator Tracker Placement Considerations
** Place navigator tracker on a breath hold localizer for the optimum performance**
- Center of tracker should be 1.5 cm below diaphragm if localizer was acquired with expiration breath hold
- Center of tracker should be 1.5 cm above diaphragm if localizer was acquired with inspiration breath hold
- Center of tracker should be placed on the diaphragm if localizer was acquired free breathing
**Please review operator manual for additional information*
Expiration-Breath Hold Tracker Placement



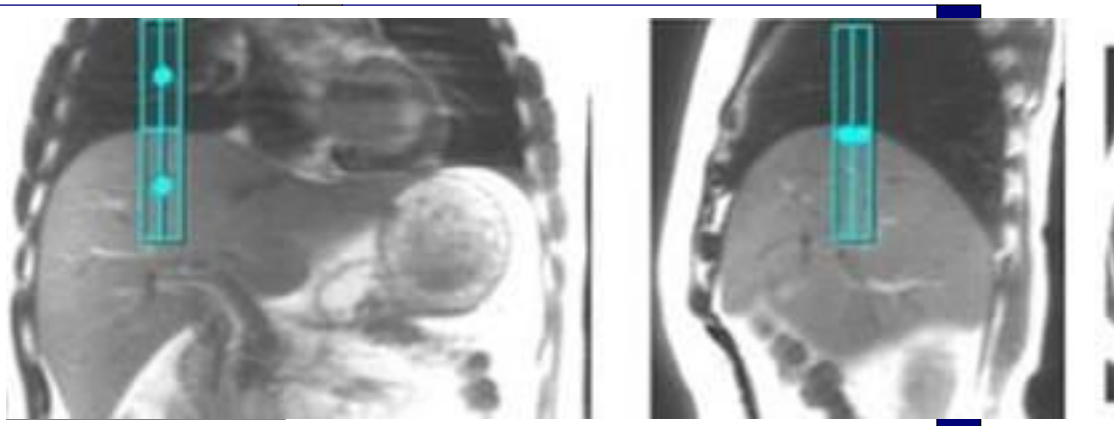


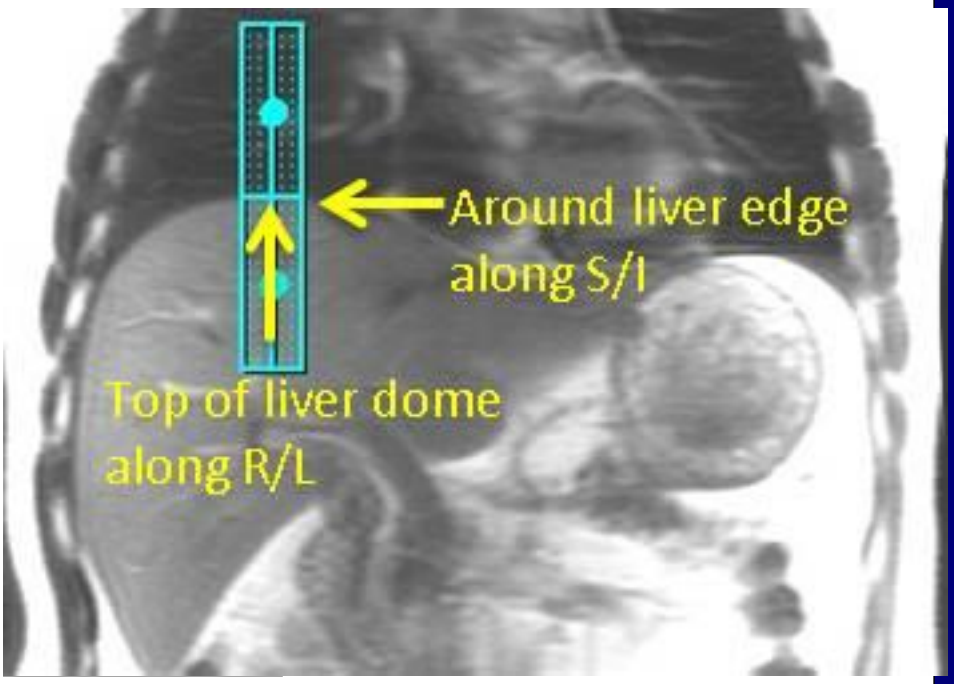
Inspiration-Breath Hold Tracker Placement

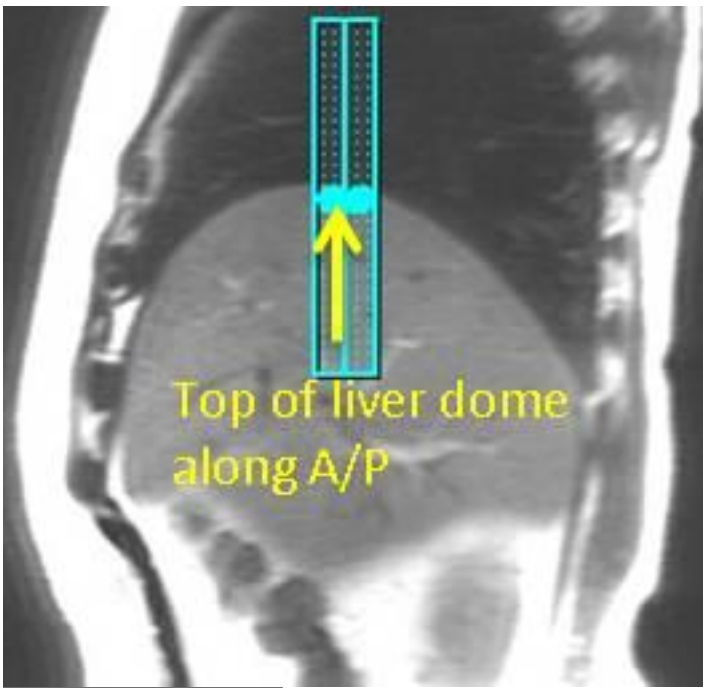


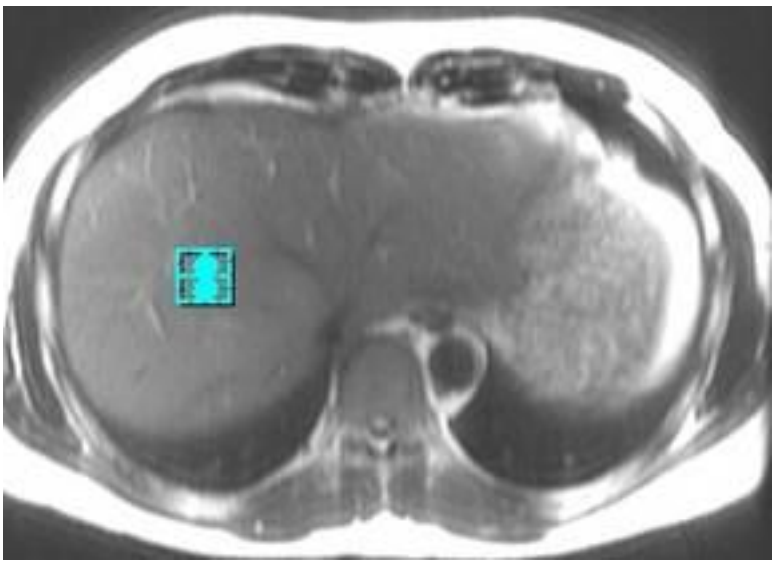


Free Breathing Tracker Placement

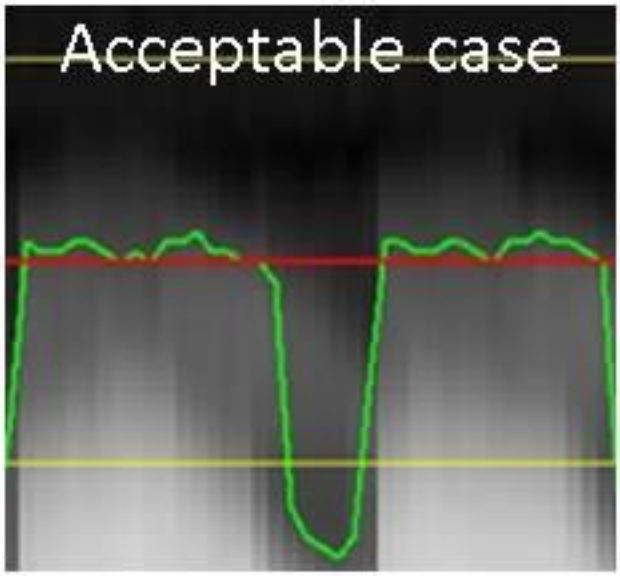




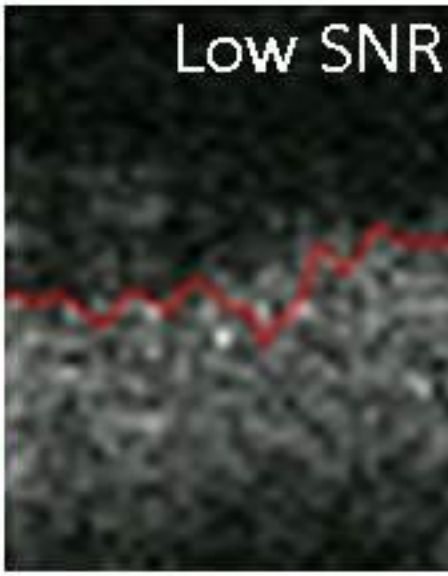




Easy Troubleshooting fo



-> No need to change anything since green waveform reflects respiratory status



-> Increase Track Thickness

Protocol: adult_abdomen_LIVER BH 4/3/2018

Radial SSFSE ASPIR Thick BH

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*OBLIQUE*
Series Description	*Radial SSFSE ASPIR Thick BH*
SCAN TIMING	
TE	*900.0*
Number of Echoes	*1*
TR	*Minimum*
TI	*170*
Receiver Bandwidth	*31.25*
IMAGE ENHANCE	
Filter Choice	*None*
GATING/TRIGGER	
Auto Trigger Type	*Off*
FMRI	
PSD Trigger	*Internal*
Slice Order	*Interleaved*
View Order	*Bottom/Up*
# of Repetitions REST	*0*
# of Repetitions ACTIVE	*0*
SAT	
Tag Type	*None*
Fat/Water Saturation	*Fat Special*
TRICKS	
Pause On/Off	*On*
Auto Subtract	*0*
Auto SCIC	*Off*

IMAGING PARAMETERS	
Imaging Mode	*2D*
Pulse Sequence	*Spin Echo*
Imaging Options	*Fast, SS, Asset*
SCAN RANGE	
FOV	*38.0*
Slice Thickness	*40.0*
Slice Spacing	*0.0*
ACQ TIMING	
Freq	*320*
Phase	*256*
Freq DIR	*Unswap*
NEX	*1.00*
# of Acq. Before Pause	*1*
Phase FOV	*1.00*
Auto Shim	*Auto*
Phase Correction	*No*
USER CVS	
User CV1	*1.00*
User CV2	*264.00*
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*

Radial SSFSE ASPIR Thick BH

Protocol: adult_abdomen_LIVER BH 4/3/2018

3D Ax FAT FRACTION IDEAL IQ BH

PATIENT POSITION	
Patient Entry	*Feet First*
Patient Position	*Supine*
Coil Configuration	*Body*
Plane	*AXIAL*
Series Description	*3D Ax FAT FRACTION IDEAL IQ BH*

SCAN TIMING	
Flip Angle	*3*
TE	*Min Full*
Number of Echoes	*6*
Echo Train Length	*3*
Number of Shots	*2*
Receiver Bandwidth	*111.11*

IMAGE ENHANCE	
Filter Choice	*None*

GATING/TRIGGER	
Auto Trigger Type	*Off*

FMRI	
PSD Trigger	*Internal*
Slice Order	*Interleaved*
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*

OTHERS	
Protocol Notes	** Number of echoes = Number of shots x ETL The "Auto" Flip angle feature optimizes this sequence for maximal SNR, minimal T1 weighting and maximum fat fraction accuracy for the liver. If this sequence is used outside of the liver, the fixed flip angle value of 3 degrees is recommended otherwise fat fraction values may be overestimated R2* value may be overestimated after injection of contrast media. *Fat fraction value may change after injection of contrast media especially when the flip angle is sufficiently high. Please use auto flip angle option*

IMAGING PARAMETERS	
Imaging Mode	*3D*
Pulse Sequence	*IDEAL IQ*
Imaging Options	*EDR, Fast, IDEAL, ARC*
IDEAL	*195*

SCAN RANGE	
FOV	*44.0*
Slice Thickness	*10.0*
Location per Slab	*32*
Overlap Locations	*0*

ACQ TIMING	
Freq	*160*
Phase	*160*
Freq DIR	*R/L*
NEX	*0.50*
Phase FOV	*0.90*
Auto Shim	*Auto*
Phase Correction	*No*

USER CVS	
User CV4	*5.60*

MULTI-PHASE	
Seperate Series	*0*
Trigger Delay without AV	*5.6*
Mask Phase	*0*
Mask Pause	*0*

DIFFUSION	
Recon All Images	*On*

CONTRAST	
Contrast Yes/No	*No*

3D Ax FAT FRACTION IDEAL IQ BH