

syngo NATIVE TrueFISP Non-contrast Renal MRA with Respiratory Triggering: Scanning Workflow

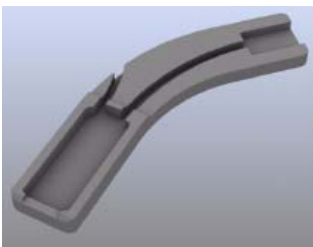
1. Native exam set-up

- Patient orientated on table supine > head (or) feet first.

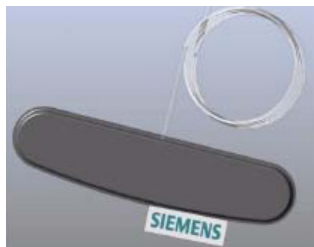
Note: Respiratory triggering is used for this workflow.

2. Respiratory triggering is used for this workflow.

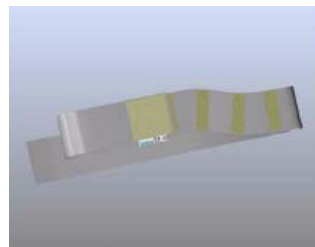
- Place respiratory cushion on the patient.
- Place and secure the respiratory cushion by wrapping the respiratory belt around the patient.
- Connect the hose from the respiratory cushion into the PERU.
- Place the PERU in the PERU cushion.



1) PERU cushion



2) Respiratory cushion



3) Respiratory belt



3. Ensure that a consistent respiratory signal is being acquired by checking the physiological display.



4. Localizers > axial and coronal

Note: Axials should cover the dome of the liver.
Localizers and Native TrueFISP should be run at the same table position (use REF table mode).

5. Open > NATIVE_TrueFISP sequence

- Position slab over renal arteries

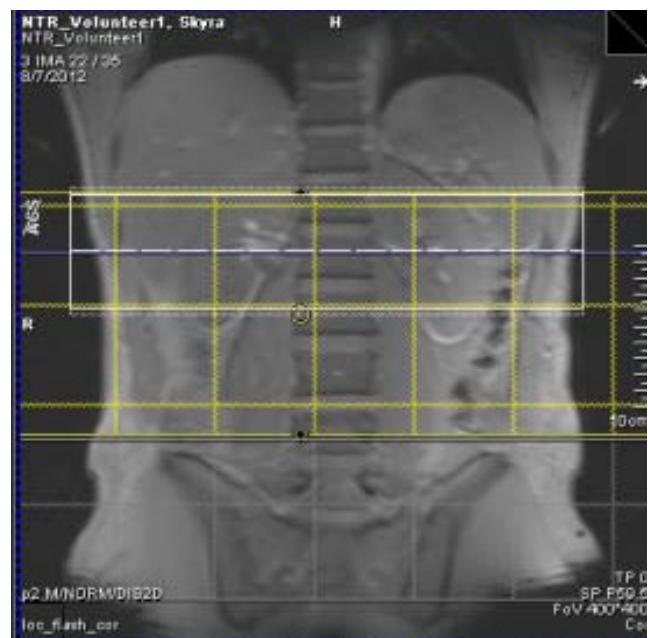
Note: Position imaging field-of-view (FOV), set upper border of FOV very close to origin of the vessel of interest. Do not include too much of the proximal aorta in the FOV.



6. Position > first inversion pulse

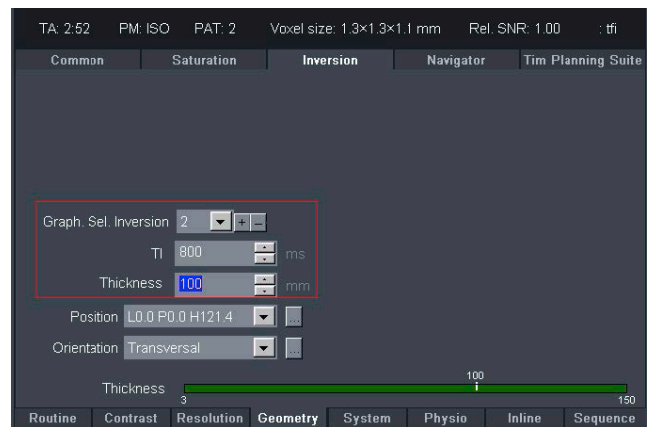
Note: To maximize inflow effect, upper limit of the Inversion band should match the upper limit of the FOV exactly.

Note: Inferior extent of inversion pulse should extend well below imaging slab to maximize venous suppression.



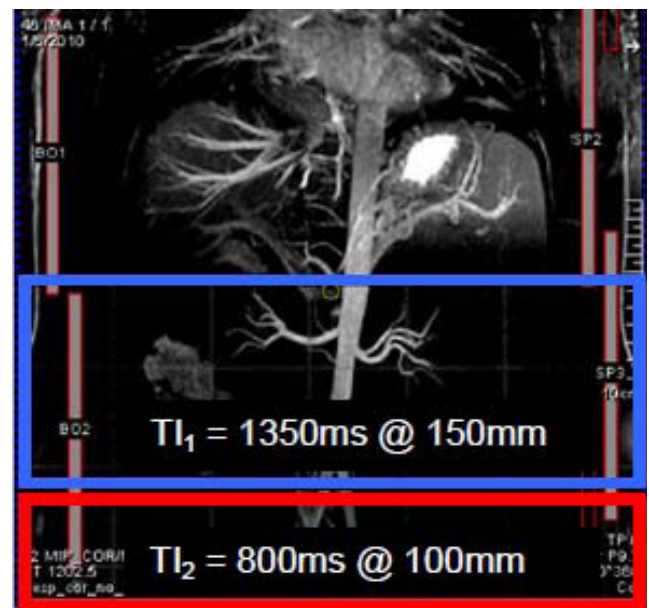
7. Add a second inversion volume

- First inversion pulse should be 1350 ms at 150 mm.
- Second inversion pulse should be 800 ms at 100 mm.

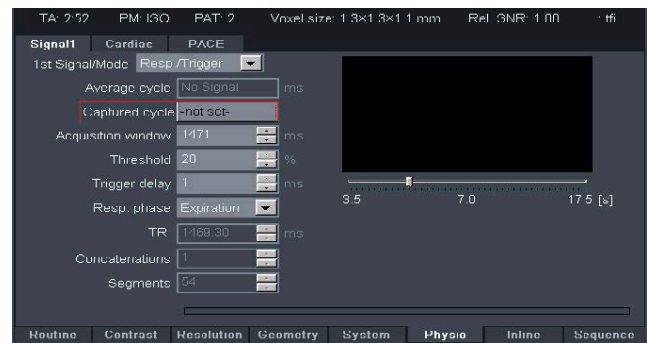


8. Position > second inversion pulse inferior to the first inversion volume

Note: This helps suppress venous signal from the Inferior Vena Cava (IVC).



9. Select > Physio > Signal1Tab > Captured cycle

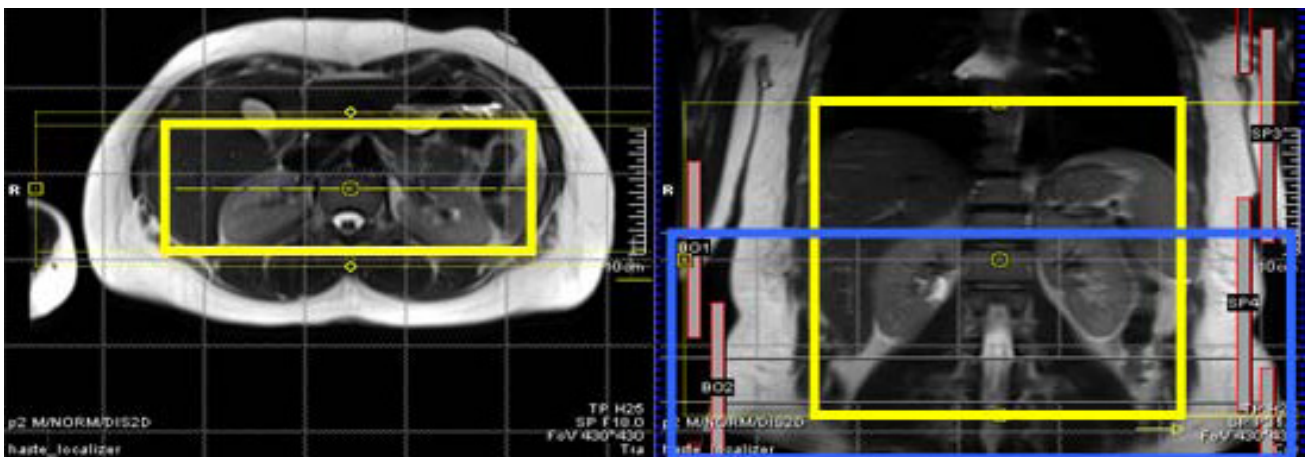


10. Apply sequence

11. Load 3D NATIVE TrueFISP series to 3D task card and MIP

12. Imaging tips

- If the patient is an abdominal breather, place the respiratory belt around abdomen. Or, if the patient is a thoracic breather, place the respiration belt around their chest.
- The imaging volume can be prescribed in the coronal view then increase the phase FOV and add more phase oversampling. An example of coronal imaging volume is illustrated below. The yellow box represents the coronal imaging volume, while the blue box represents the axial inversion volume. Note, the upper edge of the inversion volume is planned at the level of the top of the kidneys.



A second inversion volume can be located inferior to the first inversion volume to suppress venous signal from Inferior Vena Cava.