

PRE-RFA/ABLATION PLANNING ULTRASOUND PROTOCOL (UABLAT*)

*Only one code is to be used per exam regardless if single or multiple lesions.

**This is a limited exam with focus on redetermined lesions of the liver or kidney. A full ultrasound study is not required.

PATIENT PREP: No prep required

PATIENT POSITION:

KIDNEY: Must always be done in a prone position. No exceptions.

LIVER: Supine or right side elevated to 30 degrees with right arm resting on pillow above patient's head, or on chest if shoulder mobility limitations.

GENERAL INFORMATION

REVIEW IMAGES: Before scanning the patient, always discuss the reference exam/prior imaging with a radiologist to identify the target and the liver segments involved. Often there are multiple lesions present and only specific ones are being ablated. The radiologist review the notes from the tumor board in which it was discussed if it is not clear.

EPIQ NAVIGATION OR CONTRAST ENHANCED ULTRASOUND can be used to help localize lesions difficult to visualize and is done at the discretion of the radiologist and referring provider.

IMAGES TO OBTAIN

ESTABLISH BEST WINDOW AND PATIENT POSITIONING BEFORE PROCEEDING TO IMAGES.

ANNOTATIONS: The following should be labeled on all images taken:

Liver Segment: RHL or LHL including segment of lesion to be targeted

Scanning Plane: TRV or SAG

Scanning Approach: Epigastric, subcostal, or intercostal

Patient Position: Liver - Supine or Right side elevated to 30 degrees

Kidney - Prone (always!)

NOTE: True LLD is difficult to reproduce in IR/Angio and is not a preferred position

Breathing: Normal respiration or small inspiration.

NOTE: Because they are not attainable under anesthesia, do not use medium or large breath holds or breath hold in expiration for planning of ablations. The respirations used need to be able to be reproduced.

1. MEASURE LESION:

- Document size of lesion in transverse and sagittal with 3 dimensions measured.
- Include the largest dimension of the lesion in the report.
- If the lesion is not spherical in shape and is elongated, indicate this information in the report. This may change management for the patient.

2. **CINE CLIPS:** *The cine clips should sweep completely through the lesion and include demonstration of the adjacent structures – vessels, bile ducts, etc.*
 - 2D: Cine clips in sagittal and transverse through the lesion.
 - COLOR DOPPLER: Cine clips in sagittal and transverse through the lesion.

3. **BIOPSY GUIDE/TRAJECTORY PLANNING:** Using the biopsy guide, select and document the best trajectory for ablation.
 - Measure and document the distance from the skin to the **DISTAL** margin of the mass using sliding biopsy guide marker.
 - Avoid adjacent organs, major vessels or bile ducts within the trajectory, if possible.

4. **ABLATION ZONE:** Document size of **ablation zone** using the ellipse in transverse and sagittal.
 - In the ellipse mode, place the points of the ellipse approximately 1cm from the edge of the lesion. This shows the 1cm safety margin of the ablation surrounding the lesion.
 - Do not circle the mass itself, the circle obscures visualization of the tumor margins.
 - If the lesion is elongated, the ellipse may not be able to be used.
 - If the exam is a planning study for alcohol (ethanol) ablation, no ellipse is needed.

5. **NOTE NEARBY STRUCTURES AT RISK OF DAMAGE:**
 - Structures to evaluate proximity of within ablation zone:
 - Bile ducts
 - Blood vessels
 - Diaphragm
 - Gallbladder
 - Stomach
 - Bowel
 - If hepatic vessels are in close proximity to the target, use color doppler when documenting the ablation zone.
 - Use arrows to point out other organs or structures at risk for thermal damage if not apparent on images.

PRE-RFA/ ABLATION PLANNING PROTOCOL HISTORY

	Date	Changes made	By whom
Created	2013		Orpheus Kolokythas
Updated	10/11/22	Format change and reorganized requirements. No changes made.	Renee Betit Fitzgerald