



## **IMT Carotid Ultrasound Scanning Protocol**

For use with the **Terason uSmart 3300 NexGen** Ultrasound System

### **1. Press Patient- New Patient**

In the following fields, enter the required data.

Patient Last, First, Middle initial: Enter Participant's ID, DOB

In Accession: Imaging Center ID, Sonographer ID (e.g., UA, EM, JH)  
ACCEPT. (It will bring you to the main screen)

### **2. Check: Depth (40mm) and frame rate (26Hz).**

### **4. Start study of right side. Press TEXT MENU and Label (Rt) or (R) along left side of the Right screen.**

### **5. RIGHT CAROTID SYSTEM: Do initial exploratory scan to determine anatomy of vessels. Press RECORD RT and begin:**

A. Cross-sectional sweep (10-20 seconds) of the right Carotid system, from the proximal part of the CCA through the bifurcation/bulb to the most distal portion of the ICA that can be visualized.

B. Longitudinal sweep (10-20 seconds, or longer if needed) of the right Carotid system, from the proximal CCA, moving cranially and pausing at the bulb/bifurcation for a few seconds, rotating the transducer slowly to bring the ECA, the tip of the Flow Divider and then the ICA into focus (if all 3 cannot be visualized together).

### **6. IMT study:**

a. **CCA**: Acquire longitudinal view of the proximal CCA, adjusting angle of inquiry to get optimal image of maximal near wall and far wall intima, with the CCA oriented as near to the horizontal plane as possible. Acquires as follows:

Enter label (RCCANFW) at upper left-hand corner, avoiding overlap with on-screen data. Optimize the CCA IMT image (Distal third of CCA adjacent to the bifurcation). This image should occupy the middle of the screen, if possible. Hold your hand position and scanned image as steady as possible and Press FREEZE of frozen image.

b. **CAROTID BIFURCATION**: from beginning of the tip of the flow divider extending to 10 mm proximal of the flow divider tip

Repeat as in step 6a. with correct labels (RBIFFW) and (RBIFNW).

c. **ICA**: from the beginning of the tip of the flow divider to 10 mm distal of the tip of the flow divider.

Repeat as in step 6a. with correct labels (RICAFW) and (RICANW)



## **7. PULSE WAVE STUDY:**

Record Doppler velocity spectrum (PW) to confirm the identity and position of the following arteries:

- Activate PW. Adjust (Doppler Gain) for best image. Toggle (Velocity Scale) for best fit and to avoid aliasing.
- a. CCA: Record 5 second's real time. Press (Freeze). Acquire frozen image.
- b. ICA: same as 7a.
- c. ECA: same as 7a.
- d. VA: same as 7a.

**Exit PW.**

## **9. LEFT CAROTID SYSTEM.**

Repeat steps 5 to 7 for the LEFT side. (Make sure images are labeled correctly).

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If plaques are found outside the specified carotid segments, image the best view and acquire - stored images-