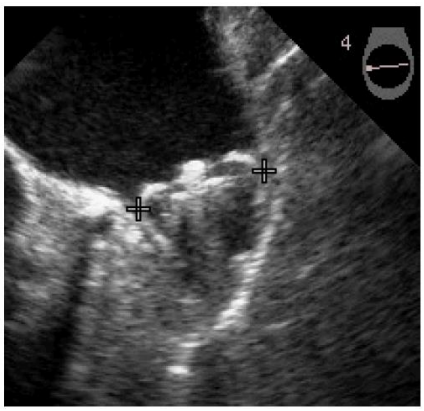
Follow-up TEE after WATCHMAN device deployment

The goal of the **Follow up TEE** examinations for patients with a WATCHMAN device is to assess for the following information:

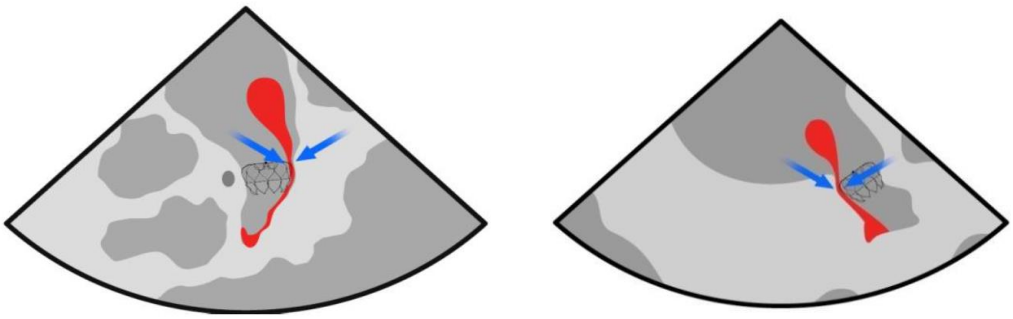
- Absence / presence of residual LAA flow around the device. Use of echo contrast should be considered, as appropriate, to differentiate LAA flow from LUPV pericardial oblique sinus, and to differentiate pectinate muscle from thrombus
- Absence / presence of residual atrial septal shunt
- Device position confirmation
- Absence / presence of thrombus on the WATCHMAN device



Images of the LAA should be optimized at either a decreased depth or in zoom mode.

LAA seal is defined as no or a small amount of visible residual blood flow AROUND the margins of the device in a retrograde or antegrade fashion, with jet size < 5mm. If there is residual LAA blood flow with a jet size > 5mm AROUND the margins of device in either a retrograde or antegrade fashion, the device is not considered 'sealed'.

Device Seal: Perform color Doppler assessment by interrogating the entire device /LAA border. Perform a slow sweep from 0° to 180° to fully visualize the placement of the device while performing color Doppler. **Include stops at approximately 0°, 45°, 90° and 135° to record clips**. Check for residual flow around the device borders. Injection of Echo contrast (with low MI imaging (0.1 – 0.3)) may aid in assessing flow around the device. If a leak is visualized, the width of the leak should be measured at the plane of the device at the vena contracta and should exclude any color bleed over the device and/or myocardial structures.



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Images to be obtained:

- 2D 4 chamber, 2 chamber and 3 chamber views optimizing the LV
- Multiple 2D imaging planes of the LA
- Multiple 2D imaging planes of LAA device at decreased depth or zoom mode to optimize LAA device placement (at a minimum record views at 0°, 45°, 90° and 135°).
- Color Doppler of device at decreased depth or zoom mode, reduce the Nyquist limit to optimize color flow (include the full width of the LAA ostium surrounding the borders and tip of the appendage) (at a minimum record views at 0°, 45°, 90° and 135°).
- Repeat color Doppler interrogation around the device borders to include the entire device/ LAA border. Perform a slow sweep from 0° to 180° to fully visualize placement of the device while performing color Doppler.
- Color Doppler of Interatrial Septum (residual shunt from trans-septal)
- 2D Mitral Valve in multiple images planes (include views such as 4ch, 3ch and 2ch) with and without color
- 2D imaging from the esophagus and / or stomach to assess for pericardial effusion
- 2D of Ascending Aorta, Aortic Arch and Descending Aorta

Use of echo contrast with low MI imaging (0.1 – 0.3) should be considered, as appropriate, to differentiate LAA flow from LUPV pericardial oblique sinus, and to differentiate pectinate muscle from thrombus.

Tips for obtaining LAA images at 0 degrees: Begin in mid-esophageal view; withdraw the probe until just above the mitral valve; counter clock slightly; flex slightly; adjust the depth of the probe until the LAA is visualized; Adjust the “right-left” wheel to optimize the image.