• To hear the audio portion dial in: 1-888-466-9845 use pass code: 7095535#

• CME information:
  - Must be individually registered
  - Must individually login/access the web presentation
  - Evaluation/survey must be completed/submitted by January 18th
Optimizing Your Echo Images & Doppler Evaluations

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Objectives

- Provide the sonographer with helpful pearls and methods for improving 2D images and Doppler evaluations
- Provide examples of common errors made with 2D imaging and Doppler
- Explain the benefits of contrast utilization during transthoracic and stress imaging
Optimizing the 2D Image

Image as perpendicular to the walls as possible

Low Parasternal Window

Equal distance from IVS & aortic wall
2D Measurements
RV Trabeculations
Where do you measure?

septal focal hypertrophy
2D LVOT Measurement

• Tips for a better measurement
  – Become as perpendicular to the walls as possible
  – Zoom over LVOT
  – Adjust gain, focal zone, and frequency
  – Measure approximately 0.5 cm below the aortic valve
  – Measure during systole
  – Measure at least twice
  – Avoid including calcifications
2D LVOT Measurement

Angled measurement

Perpendicular with the walls of the LVOT
Optimizing the 2D Image
Near Field Gain
Focal Zone
Sector Width
Frequency
Optimizing the 2D Image

No harmonics

Harmonics
Optimizing the 2D Image: ICAEL & Contrast

• “If contrast is used, there must be a written policy for the use of contrast agents.”

• “If contrast is not able to be used there must be a policy for alternative imaging.”

• “Contrast should be used in the presence of poor endocardial border definition for quantification of chamber dimensions, volumes, ejection fraction and assessment of regional wall motion.”
Optimizing the 2D Image
More accurate & reproducible results with contrast
Optimizing Your Doppler Signal
Color Doppler

Adjust 2D Gain
Color Doppler

Adjust color gain
Color Doppler

Adjust color box size
Color Doppler

Adjust color scale
Color Doppler

Pulmonary Veins
Optimizing Your Doppler Signal

Spectral Doppler
- CW
- PW
Optimizing Your Doppler Signal

Expand the Doppler Scale
Optimizing Your Doppler Signal

Increase the Sweep Speed

50 mm/s

100 mm/s
Optimizing Your Doppler Signal

- Ped Off
- Aortic Stenosis
Doppler Tracings

Bad Trace

Good Trace
Spectral Doppler

- Expand the scale
- Increase sweep speed
- Utilize color Doppler to place spectral Doppler cursor
- Check gain settings
Tissue Doppler
Tissue Doppler
Optimizing Your Doppler Exam

Tissue Doppler
Parallel to wall motion
Optimizing Your Doppler Exam

Sample Volume Placement
Parallel to flow & not in flow acceleration
Optimizing your Doppler Exam

Sample Volume Placement
Mitral Leaflet Tips
Improving Your Doppler Exam

• Adjust 2D image to become parallel to flow
  – Center image over valve
  – Foreshorten
• Utilize Color Doppler for sample volume placement
• Utilize saline contrast or LVO contrast to improve Doppler signals
Tricuspid Regurgitation

Not parallel with TR flow

Parallel with TR
Saline Contrast
Saline Enhanced TR
Foreshortened vs. Non-Foreshortened Apical
Foreshortening can be your friend!
Inferior Vena Cava
Hepatic Vein
Questions

Due to the number of participants, as a courtesy to others, the limit is one question per lab/caller. Press * and then the 1 on their touch tone phone to be placed in the queue. To be removed from the queue, press # on your phone.

You may choose to contact the ICAEL directly with questions.
Phone: 800-838-2110
Email: online-app-help@intersocietal.org or (for webinar info) webinars@intersocietal.org