Duplex Mapping: Tweaking The Buttons For Image Optimization

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Disclosures
None

Goals of Duplex Mapping
- Perform a thorough exam regardless of the patient’s body habitus
- Adjust the manufacturer’s settings accordingly
- Acquire superlative images that demonstrate the pathological findings
- Answer the clinical question

Tweaking the Buttons for Image Optimization

Gray Scale
- Harmonics
- Overall Gain
- Depth
- TGC
- Focal Zones
- Chroma

Color Flow
- Scale
- Gain
- Persistence
- Wall Filter
- Color Box Size
- Color Box Size

Spectral Doppler
- Scale
- Gain
- Steer
- Wall Filter
- Baseline Shift
- Doppler Angle
- TGC
- Slow Sweep Speed

Overall Gain
- Overall Gain Set Low
- Overall Gain Set High
**Time Gain Compensation**

- Precise gain adjustments at the depth of interest

**Harmonic Imaging**

- Hunter’s Canal
  - Fundamental Imaging
  - Harmonic Imaging
  - TGC
  - Increase Overall Gain

**2D Vessel Optimization**

- Calf Veins
  - Penetration
    - Fundamental Imaging
    - Harmonic Imaging
  - TGC
  - Increase Overall Gain

**Transducer Selection**

- Popliteal Fossa
  - Resolution Harmonics
  - Increase Color Scale
  - Decreased Color Gain
  - Soft Tissue Sarcoma

**Spectral Doppler Aliasing**

- Normal Flow
  - Decreased Color Scale
  - Decreased Color Gain

- Venous Stenosis
  - Increased Color Scale
  - Decreased Color Gain
  - Increase Doppler Scale
  - Slow Sweep Speed
Adjusting Spectral Doppler Gain

Over Gain

Appropriate Gain

Inversion of Spectral Doppler Flow

Incorrect Direction Of Flow

Correct Direction Of Flow

Duplex Mapping

Mass

Acute DVT

Lymph Node

Harmonics

Overall Gain

Depth

TGC

Focal Zones

Gray Map

Chroma

Abscess

Chronic DVT

Hematoma

Cyst

Conclusion

Image optimization is vital to the quality of the exam.

Failure to optimize the image settings can have a direct impact on the quality of patient care.