



# AGENDA

## Emergency Medicine Education Conference

### Knobology Course—Basic Ultrasound

October 27, 2020

Course Coordinator & Moderator:

*Andrew Butki, DO; Ultrasound Director, Assistant PD Emergency Medicine;  
McLaren Oakland*

|       |   |
|-------|---|
| 9:00  | E-Sign In: <a href="http://www.scs.msu.edu/s">www.scs.msu.edu/s</a> |
| 9:45  | Probe Mechanics and Knobology                                       |
| 10:15 | Proprioception and Image Optimization                               |
| 10:20 | Probe Ergonomics and Room Orientation                               |
| 10:45 | Ultrasound Artifacts  |
| 11:00 | CORE Modes of POCUS   |
| 11:15 | Apply M-Mode, B-Mode, Color Doppler, Spectral Doppler               |
| 12:00 | Complete course evaluations   |

#### Course Objectives:

- Recognize differences in ultrasound probe mechanics
- Comprehend the role of proprioception during image acquisition
- Apply probe ergonomics and orientation to differing clinical scenarios
- Recognize the key factors influencing image quality: depth, gain, frequency, and harmonics (and machine presets)
- Recognize the most common artifacts encountered in POCUS
- Comprehend the 6 core assumptions inherent in ultrasound physics that lead to the generation of common artifacts
- Synthesize the clinical application of ultrasound artifacts in helping (or hindering) diagnoses
- Comprehend the principles of physics underlying the models of POCUS:
- B-Mode, M-Mode, Color Doppler, PW Doppler, CW Doppler
- Apply Knobology skills to produce diagnostic quality images with all modes of POCUS