CARDIAC ULTRASOUND IN OUT OF HOSPITAL CARDIAC ARRES

General

- Ultrasonography is a useful diagnostic adjunct for patients in cardiac arrest. While a cardiac
- monitor provides information about the electrical activity of the heart, ultrasound provides
- information about the heart's mechanical activity. These tools in combination allow providers to
- make an accurate assessment of the patient's physiology
- A reversible cause of cardiac arrest may also potentially be identified
- Capturing a visual demonstration of the heart's mechanical activity during out-of- hospital
- cardiac arrest will contribute to the body of evidence surrounding cardiac activity and the
- long-term survival after out-of-hospital cardiac arrest

Paramedic

- Reference Albuquerque-Bernalillo County Adult Cardiac Arrest (Non-Traumatic) Guideline
- Perform cardiac ultrasound exam by assessing the heart with a phased-array transducer in one of the following windows:
  - Sub-xyphoid
    - Place transducer into subxiphoid space on anterior abdominal wall
  - Parasternal Short Axis
    - Place transducer to the left of the sternum in 3rd-5th intercostal space, with the transducer indicator facing the patient's right shoulder
      - View may be inaccessible if mechanical CPR device is in place
  - Parasternal Long Axis
    - Place transducer to the left of the sternum in 3rd-5th intercostal space, with the transducer indicator facing the patient's left shoulder
      - View may be inaccessible if mechanical CPR device is in place
  - Apical 4-Chamber
    - Place transducer in approximately 6th intercostal space in mid-clavicular line with the transducer indicator facing the patient's left shoulder
      - View may be inaccessible if mechanical CPR device is in place
- Perform ultrasound during pulse/rhythm check, taking no longer than 6-8 seconds
- Ventilations and chest compressions should be paused while ultrasound is obtained
- Still ultrasound images, video ultrasound clips, and paramedic's interpretation of each should be captured and saved to the ultrasound device. These media files should be uploaded to the PCR for QA/QI and review by the medical director

Notes

- Consult service medical director or UNM EMS Physician On-Call for assistance interpreting ultrasound images
- Ultrasound is an adjunct to the primary management of out-of-hospital cardiac arrest. Perseverating on the presence or absence of a given ultrasound finding in lieu of actively monitoring and responding to the patient's condition is not beneficial.