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|  | 1223                      | <p align="center"><b>POCUS</b></p> <p align="center"><b>Ultrasound Guidelines for<br/>Approved Ground Providers</b></p> |
| Nor-Cal EMS Policy & Procedure Manual   | Treatment Guidelines      |   |
| Effective Date: 08/01/2025  | Next Revision: 08/01/2028 |   |
| Approval: Jeffrey Kepple MD – MEDICAL DIRECTOR                                    | SIGNATURE ON FILE         |   |

## Purpose

To establish authority and parameters for the prehospital use of Prehospital Point of Care Ultrasound (POCUS). Approved provider agencies in conjunction with Paramedics and devices may utilize POCUS as an additional means of patient assessment. Ultrasound exams will be focused and limited to identification of findings of concern (FOC) as specified.

## Policy

1. FOCs are specific ultrasonographic findings that give rise to suspicion for an active pathologic process warranting further assessment and evaluation.
2. **Patient transportation should not be delayed while attempting to complete an ultrasound exam; it may be performed during transport.**
3. FOCs indicate suspicion of a condition, not confirmation, unless verified by a physician on review of the exam images and/or patient evaluation.
4. For patients meeting indications for exams, inform patient of intended use of ultrasound as an additional assessment tool. Paramedics shall explain that the exam will evaluate for FOC and that the exam will not be used to confirm the absence of a medical condition.
5. If a patient refuses POCUS an AMA or release of liability is not required as it is being utilized as an adjunct assessment.
6. No Base Hospital personnel may order utilization of an ultrasound exam as a required element of patient evaluation.
7. Paramedics should communicate FOC to patients and the receiving emergency department to facilitate FOC verification and ongoing care.
8. Nor-Cal EMS is currently approving the Butterfly line of POCUS devices.
9. POCUS findings shall not override any Nor-Cal EMS Treatment Guideline or Policy.
10. Provider agencies shall have in place a Nor-Cal EMS approved training and QA/QI program.

## Indications

1. POCUS may be utilized to evaluate for FOC in patients refusing care and/or transport
2. Paramedics may make use of ultrasound FOC to improve resuscitative efforts
3. Verification of the absence cardiac activity when terminating resuscitation (Adult patients only).
4. Blunt Trauma to chest and/or abdomen (Only patients greater than 15yrs old)
5. Presentation concerning for tension pneumothorax

## Contraindications

1. Utilization of POCUS will delay patient care and/or transportation.

## Approved Exams

1. **Cardiac Arrest:** Position probe to obtain best available view of the heart without interfering chest compressions, subxiphoid or apical views are preferred. Evaluate for cardiac activity if no pulse palpated or visible on carotid ultrasound.

| Finding of concern  | Recommended Action   |
|---|--|
| <ul style="list-style-type: none"><li>○ Coordinated cardiac activity without organized ECG rhythm- Recommended action</li><li>○ Absent Cardiac movement in coordination with chest compressions</li><li>○ Absent cardiac activity despite organized ECG rhythm rate greater than 40 bpm</li></ul> | <ul style="list-style-type: none"><li>○ Reposition electrodes, reassess patient</li><li>○ Reposition compressor and/or Mechanical chest compression device.</li><li>○ Continue resuscitation</li></ul> |

2. **Abdominal/Chest Trauma:** Position probe to obtain views of RUQ along axillae. Obtain views on the hepatorenal interface and potential space between liver and diaphragm. Identify any non-anatomic hypoechoic collections in either of these locations as FOC.

| Finding of concern  | Recommended Action  |
|---|---|
| <ul style="list-style-type: none"><li>○ Non-anatomic hypoechoic collections in right upper abdomen concerning for internal bleeding</li></ul> | <ul style="list-style-type: none"><li>○ Transport to the most appropriate facility with notification to Base hospital of FOC.</li></ul> |

3. **Pulmonary:** Position probe over anterior chest in a sweeping motion and at axillae to view lung fields and diaphragm bilaterally.

| Finding of concern                                 | Recommended Action  |
|--|---|
| Absence of lung sliding, may confirm with 'M-mode' | Watch and treat as appropriate for suspected tension pneumothorax |

## Training and Competency

All POCUS training programs will be conducted in a 3 Phase process ensuring providers develop the required proficiency in ultrasound techniques critical to patient care. The training will focus on Findings Of Concern (FOC) in the 3 areas as allowed by Nor-Cal EMS:

- Cardiac
- Abdominal
- Chest Trauma as well as suspicion for a tension pneumothorax.

All Phases of the training shall be completed within a calendar year unless otherwise allowed by the Nor-Cal EMS Medical Director. Phases of the training shall be:

- Didactic (Months 1-4)
- Hands on Training (Months 4-8)
- Competency Verification (Months 9-12)

**Each phase of training will have mandatory minimums that must be met:**

### **Phase 1- Didactic**

- Mandatory education to include orientation to Butterfly device, EFAST, Lung and Cardiac view education.
- 15 documented Lung scans
- 15 documented Cardiac scans

### **Phase 2- Hands on Training**

- Agency Medical Director (or designee) shall provide initial hands on training.
- 15 documented Lung scans
- 15 documented Cardiac scans

### **Phase 3- Competency Verification**

- Human simulation lab training should be utilized to confirm competency and provide necessary remediation.
- No field use will be permitted until competency verification.

## Documentation, QA/CQI of POCUS Exams

1. Required reporting and documentation shall be completed for all ultrasound exams performed or attempted.
2. All use of paramedic ultrasound and images captured shall be recorded in the ePCR.
3. POCUS shall be included in the provider agency CQI plan. The provider agency shall review 100% of cases and participate in quarterly scheduled case reviews. All cases with FOC shall be physician reviewed for validation.
4. The provider agency shall maintain a log of all ultrasound use cases including the following:
  - a. Date
  - b. Name of provider
  - c. Exam type
  - d. Exam FOC – and if the FOC was validated on physician review.