APP W	**Appendix W: Point of Care Ultrasound (POCUS)**	APP W
Last Modified: NEW	Academy of Medicine of Cincinnati EMS Protocols Prehospital Care Clinical Practice Guidelines	2027

MEDIC

I. INTRODUCTION

A. Point-of-Care Ultrasound (POCUS) is an emerging tool that allows EMS providers to perform focused ultrasound examinations in the prehospital environment to assist with patient assessment and clinical decision-making.

B. Ultrasound can be used as an adjunct to traditional assessment techniques but should not replace standard clinical evaluation.

C. Ultrasound may be used to help confirm suspected conditions or support clinical decisions already indicated by protocol, including transport method, destination selection, pre-arrival notification, and appropriate prehospital interventions.

D. The scope and implementation of a prehospital ultrasound program shall be determined by the individual agency's Medical Director, consistent with applicable state EMS scope-of-practice guidelines.

E. While Point-of-Care Ultrasound (POCUS) can be highly sensitive and specific for certain conditions (e.g., free fluid, pneumothorax, pericardial effusion), it has limitations, including the potential for false positives and false negatives due to patient factors, environmental conditions, and operator variability. Ultrasound findings must always be interpreted in the context of the overall clinical picture. When discrepancies exist, traditional assessment findings should take precedence.

OH - MEDIC

F. Ultrasound device utilization by Paramedics may be performed only as authorized by the local medical director[1]

KY - MEDIC

G. Ultrasound device utilization by Paramedics is restricted to the following ultrasound examinations: "FAST, lung exam, IV start, cardiac"[2]

IN - MEDIC

H. Ultrasound device utilization by Paramedics is not explicitly stated as part of the Indiana EMS Scope of Practice Guidelines.[3]

1. Kraig Kinney, Indiana State EMS Director, has stated that paramedics may utilize ultrasound when authorized by their medical director, supported by written protocols, and after receiving appropriate training.

MEDIC

II. ADMINISTRATIVE RECOMMENDATIONS

A. It is not the intention of the Protocol Committee to establish indications, contraindications, interpretation of findings, or specific treatment actions associated with individual ultrasound examinations. These determinations remain the responsibility of the individual agency's Medical Director. However, the Protocol Committee offers the following administrative recommendations for agencies seeking to develop and maintain a sustainable prehospital ultrasound program.

B. **Device Selection:** It is recommended that agencies select an ultrasound device capable of recording, transmitting, and securely storing images on a platform that complies with applicable standards for the protection of Protected Health Information (PHI). These features are also necessary for remote clinical oversight while providers are practicing and developing competency.

C. **Training:** It is recommended that agencies carefully consider how personnel will be trained to perform and utilize POCUS. Training should include both didactic instruction and hands-on skill development.

1. Ultrasound education typically involves three phases:
   a. Initial training to develop familiarity with ultrasound equipment and fundamental scanning techniques.
   b. Ongoing clinical practice with monitoring and feedback to develop competency.

c. Maintenance training and continuing education to maintain proficiency and, when appropriate, expand into additional ultrasound applications.

2. Once providers establish a foundational ultrasound skill set, they may more easily build upon that knowledge to learn additional examination types.
3. It is recommended that agencies develop a structured training plan that supports initial skill development, ongoing clinical experience, and long-term skill maintenance. Due to the significant time investment required to develop and maintain competency, agencies should carefully consider which providers they designate to perform ultrasound in order to maintain operational readiness.
4. Clinical ultrasound rotations or structured clinical practice opportunities may be an effective strategy for achieving adequate scan volume and developing competency.

D. **Quality Assurance:** It is recommended that agencies work with their Medical Director to establish a quality assurance process in which ultrasound images and examinations are reviewed for clinical appropriateness, image quality, and performance improvement.

E. **Minimum Competency and Continuing Education**: It is recommended that agencies establish minimum competency standards and continuing education requirements for personnel utilizing POCUS. These standards should be developed in collaboration with the agency's Medical Director and may include minimum numbers of supervised scans, periodic refresher training, and ongoing review of ultrasound images as part of a quality assurance program to ensure continued proficiency.

F. **Documentation:** When ultrasound is utilized during patient care, it is recommended that agencies establish documentation standards to ensure appropriate clinical and quality assurance review. Documentation may include:

1. The type of ultrasound examination performed (e.g., lung, cardiac, FAST).
2. The clinical indication for performing the examination.
3. A brief description of the findings (e.g., lung sliding present/absent, free fluid visualized, pericardial effusion suspected).
4. Whether images or clips were captured and stored.
5. Any clinical decisions influenced or supported by the ultrasound findings.

G. **Operational Guardrails:** It is recommended that agencies establish operational guardrails to ensure that ultrasound utilization does not delay or supersede other EMS interventions. These may include:

1. Ultrasound examinations should be performed when they can reasonably provide clinically useful information that may assist with patient assessment, treatment decisions, or destination determination.
2. Ultrasound should not delay critical interventions, patient transport, or other time-sensitive treatments.
3. Ultrasound may be discontinued at any time if patient condition, operational needs, or environmental factors limit the ability to safely or effectively perform the examination.
4. Agencies should ensure that ultrasound use aligns with existing protocols and clinical guidelines established by their Medical Director.

III. REFERENCES

[1] https://dam.assets.ohio.gov/image/upload/ems.ohio.gov/links/ems_scope_practice.pdf

[2] https://kbems.ky.gov/Medical-Direction/Documents/KBEMS_EMR-to-Paramedic_Scope-of-Practice_2025-01-07_Public.pdf

[3] https://www.in.gov/dhs/files/Indiana-EMS-Scope-of-Practice-2020-Updated-2.18.20.pdf