Title: Use of Portable Ultrasound Devices in Emergency Department Patients

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Research questions:

1. a. What is the evidence of effectiveness (improved technical outcomes, improved clinical decision making, improved patient-relevant outcomes, and reduced harm) when non-radiologists use portable ultrasound (p U/S) devices for assessing abdominal trauma, abdominal aortic aneurysm (AAA), and ectopic pregnancy?

   b. What is the evidence regarding the effect of diagnostic accuracy on the effectiveness of these interventions?

   c. What is the evidence regarding the effect of user-dependent variables on the effectiveness of the intervention, specifically for the user (general practitioners, EPs, and other nonradiologists), the type of training, the length of training, and previous experience in emergency U/S examinations?

2. a. What guidelines exist regarding the use of these devices for the indications?

   b. What is the level of evidence supporting these guidelines?

   c. Are the recommendations in the guidelines consistent with the evidence?

3. What are the ethical and legal implications of using and reporting information from pU/S and other ultrasound imaging technologies?

4. What is the economic evidence of effectiveness (e.g., cost effectiveness) of non-radiologists using pU/S devices for assessing abdominal trauma, abdominal aortic aneurysm (AAA), and ectopic pregnancy?
Methods:

A limited literature search was conducted on key health technology assessment resources, including PubMed, The Cochrane Library (Issue 3, 2007), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI’s HTAIS, EuroScan, international HTA agencies, and a focused Internet search. Results include clinical articles published between 2005 and the present and economic articles published between 2002 and the present. All results were limited to English language publications only. Abstracts and Internet links are provided, where available.

Results:

Health technology assessments

None found

Systematic reviews


General guidelines and recommendations

None found

Economic evaluations

None found

Randomized controlled trials


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The Use of Portable Ultrasound on Patients in the ER
Appendix – Further information:

Clinical studies


Reviews


Additional references


