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Point-of-care ultrasound in general practice: a literature review

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Background and Aims: Point-of-Care ultrasound (POC-US) is increasingly used in clinical medicine including in general practice. POC-US may improve the success in ultrasound guided procedures, it may lead to more correct diagnoses, and supplement or replace more advanced imaging. However, ultrasound is a user-dependent examination that requires appropriate training and quality assurance to avoid misinterpretations. Furthermore there is a risk of spurious findings or diagnosis of clinically unimportant conditions. To gain the benefits and avoid unnecessary harm by POC-US, a proper evaluation is needed. We set out to review the literature on this topic.

Method: In May 2014 we searched the databases PubMed and Embase using search terms related to ultrasonography and general practice. Additional references were added. In September 2015 an updated search was conducted.

Included were papers describing the training or use of POC-US in a general practice setting and scans performed by general practitioner. The search yielded 4372 hits; 35 papers were included.

The following aspects were evaluated: clinical areas for use, training, frequency of scans, time to scan, quality indicators, the patient perspective, and financial aspects.

Results: There was a large variation in the reported training and use of POC-US by general practitioners. Those using POC-US for a broad area of clinical application scanned 2-3 times a day and typically used ≤ 10 minutes to perform a scan. POC-US seemed to be in agreement with patient preferences and was probably cost-effective. However, a valid assessment of the quality of the performed scans was not possible and the included studies had a high risk of bias, as there were no randomised studies and the participating scanning general practitioners were not representative.

Conclusion: There is a need for further studies on the use of POC-US in general practice in order to secure appropriate implementation and use.