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# The Utility of Point-Of-Care-Ultrasound in Primary Care

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## Abstract

The antecedent of ultrasound goes back to the 1940s after World War II when the prospect of ultrasound in medical practices was developed. In 1951 (1), the workshop of Douglas Howry, a radiologist, and his collaborators, Bliss and Posakony make possible the creation of a two-dimensional ultrasound scanner. Since also, ultrasound has elaborated over the occasions to approach a really useful tool in clinical radiology (2). The denomination of ultrasound at the point of care(Point of Care Ultrasound, POCUS) remodeled the paradigm of the ultrasound test carried out by imaging specialists or cardiologists defined by the descriptive pattern of the organs and carried out in certain time and places, to turn an extension of the physical examination (examination, palpation, percussion, auscultation and insonation) (3). Multiorgan clinical ultrasound must be achieved by the attending physician in any care setting(from home to an intensive care unit or operating room).

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*Index terms*— general practice, family medicine, primary care, point-of-care testing, ultrasonography, echography.

## 1 Introduction

he antecedent of ultrasound goes back to the 1940s after World War II when the prospect of ultrasound in medical practices was developed. In 1951 (1), the workshop of Douglas Howry, a radiologist, and his collaborators, Bliss and Posakony make possible the creation of a two-dimensional ultrasound scanner. Since also, ultrasound has elaborated over the occasions to approach a really useful tool in clinical radiology (2). The denomination of ultrasound at the point of care(Point of Care Ultrasound, POCUS) remodeled the paradigm of the ultrasound test carried out by imaging specialists or cardiologists defined by the descriptive pattern of the organs and carried out in certain time and places, to turn an extension of the physical examination (examination, palpation, percussion, auscultation and insonation) (3). Multi-organ clinical ultrasound must be achieved by the attending physician in any care setting(from home to an intensive care unit or operating room).

## 2 II.

What is Pocus?

The study, further than descriptive, has to respond clinical questions with binary answers(yes or not), it can be reiterated to valuate actions and ease the performance of invasive procedures like as venous catheterizations, pleurocentesis, pericardiocentesis, and others. POCUS is defined by the American College of Emergency Physicians(ACEP) as the use of ultrasound, at the patient bedside, for help in opinion, reanimation, procedural guidance or monitoring (2). POCUS is a secure and efficient form of imaging that benefit judgment and companion medical proceedings. During the coronavirus complaint 2019(COVID-19) epidemic, POCUS was applied to predict the clinical resultants and antedate ICU admission or the need for supplemental oxygen administration (4).

Nowadays, ultrasound equipment has approach more compact, advanced quality, and more affordable, facilitating the growth of POCUS which can readily be accomplished and interpreted by the clinician at the

### 3 CONCLUSION

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44 case's bedside. POCUS can be huggd as a substantial tool by a General Practitioner (GP) in medical practice  
45 and helps reduce health care expenses. Point-of-care ultrasound (POCUS), or bedside ultrasound, has been called  
46 the "visual stethoscope" of the 21st Century (5).

47 Primary Care is the base of health care in medical practice; it represents the first contact with GPs for cases  
48 asking for medical care. Using POCUS in primary health care settings has downgraded costs and transcended  
49 the quality of care gave by trained GPs who can efficiently apply it as a hasty bedside peculiar tool (6).

50 The use of ultrasound is quickly growing fashion ability in all areas including Emergency Department, Surgical  
51 or Intensive Care Units (ICU). Not only, it's fast, non-invasive and reasonable but also transportable facilities  
52 can be freely performed bedside without exposure to radiations, therefore, framing it ideal to use in unstable  
53 patient (7).

54 POCUS is an ultrasound exam that's accomplished at the bedside, and it's interpreted directly by the clinician,  
55 thus, POCUS is a potent adjunct to clinical appraisalment. The certitude of the believable opinion that's judged  
56 from the medical history, and physical examination can be attested by the data supplied using POCUS, also  
57 POCUS can be an effective tool for attending patients and for proceeding guidance (8). Although the main  
58 goal of POCUS is slightly distinct between intensivists and GPs, the qualification to recognize and resuscitate  
59 critically ill cases is a tracing particularity in both specialties.

60 Point of care ultrasound (POCUS) has grown an acquainted practice in prehospital care over the latest 10 years  
61 (9). Point of care ultrasound (PoCUS) is a fruitful, reasonable, secure, and mobile imaging modality that can be  
62 particularly applicable in resourcelimited settings. For critically ill cases, similar as those with thoracoabdominal  
63 trauma, cardiac arrest, respiratory distress, chestpain, or shock.

64 Bedside multi-organ POCUS is now really applied as an adjunct that provides data to guide clinical decision-  
65 making during all phases of diagnostic exercises.

66 Clinical ultrasound is a skillfulness which requires frequent execution in order to preserve mastership. An  
67 ultrasound workout program must thus contain a network which allows for the sustainment of axes beyond  
68 introductory training and proctoring (10). Once qualified, there's no minimal number of ultrasound examinations  
69 that can warrant sustained mastership, thus GPs should attempt to regularly carry out every procedure. Skill  
70 sustainment requires all the operations the provider is able to carry out, be a habitual part of the clinician's  
71 practice, with trainings assessed semiannually (11).

72 The GPs consider POCUS to be kindly ready to use, not too time consuming, and of great value to the  
73 practice. In fact, POCUS can help diminish the charges of health care. Main indications of POCUS in Primary  
74 Care ( ???

### 3 Conclusion

76 Pont-of-Care-Ultrasound is an invaluable instrument for the medical care in Pre-hospital settings through which  
77 diagnoses of medical problems afflicting patients are made expeditiously.

78 It makes it easier to carry out differential diagnoses bedside the patient and therefore carry out a personalized  
79 medicine.

80 It favors the safe performance of invasive procedures and lowers the expenses of medical care.

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- 81 [Kiritharan et al. (2022)] ‘A cost-minimisation analysis of performing point-of-care ultrasonography on patients  
82 with vaginal bleeding in early pregnancy in general practice: a decision analytical model’. S Kiritharan , Mille  
83 Vang , J Jensen , M B Laust , J N Aakjaer , C Elgaard , C . *BMC Health Serv Res* 2022 Jan 11. 22 (1) p. 55.
- 84 [American College of Emergency Physicians. Emergency ultrasound guidelines Ann Emerg Med ()] ‘American  
85 College of Emergency Physicians. Emergency ultrasound guidelines’. *Ann Emerg Med* 2009. 53 p. 550.
- 86 [Hendriks et al. (2020)] ‘Ectopic pregnancy: Diagnosis and management’. E Hendriks , R Rosenberg , L Prine .  
87 *Am Fam Physician* 2020 May 15. 101 (10) p. .
- 88 [Guidelines for Point of Care Ultrasound utilization in Clinical Practice] *Guidelines for Point of*  
89 *Care Ultrasound utilization in Clinical Practice*, [https://spocus.org/admin-resources/](https://spocus.org/admin-resources/practice-guidelines/)  
90 [practice-guidelines/](https://spocus.org/admin-resources/practice-guidelines/) (SPOCUS (The Society of Point of Care Ultrasound))
- 91 [Reynolds et al. (2018)] ‘Impact of point-of-care ultrasound on clinical decision-making at an urban emergency  
92 department in Tanzania’. T A Reynolds , S Amato , I Kulola , C-Jj Chen , J Mfinanga , H R Sawe .  
93 *PLoS ONE* 2018. (13) p. e0194774.
- 94 [Nagdev and Stone (2011)] ‘Point-of-care ultrasound evaluation of pericardial effusions: does this patient have cardiac  
95 tamponade?’. A Nagdev , M Stone . *Resuscitation* 2011. 82 p. .
- 96 [Sorensen and Hunskaars (2019)] ‘Point-of-care ultrasound in primary care: a systematic review of generalist  
97 performed point-of-care ultrasound in unselected populations’. B Sorensen , Hunskaars . *Ultrasound J* 2019  
98 Dec. 11 p. 31.
- 99 [Gillman and Kirkpatrick (2012)] ‘Portable bedside ultrasound: the visual stethoscope of the 21st century’. L Gillman  
100 , A Kirkpatrick . *Scand J Trauma Resusc Emerg Med* 2012. 20 p. 18.
- 101 [Newman and Rozycki (1998)] ‘The history of ultrasound’. P G Newman , G S Rozycki . *Surg Clin North Am*  
102 1998 Apr. 78 (2) p. .
- 103 [Karp et al. (2022)] ‘The role of PoCUS in the assessment of COVID-19 patients’. J Karp , B Karina , S M  
104 Daubaras , C Mcdermott . *J Ultrasound* 2022 Jun. 25 (2) p. .
- 105 [Hashim et al. (2021)] ‘The utility of point of care ultrasonography (POCUS)’. A Hashim , M Junaid , I Ullah , M  
106 Sohaib , H Siddiqi , Z Yousaf . *Annals of Medicine and Surgery* 2021. 71 p. 102982.
- 107 [Narula et al. (2018)] ‘Time to Add a Fifth Pillar to Bedside Physical Examination: Inspection, Palpation,  
108 Percussion, Auscultation, and Insonation’. J Narula , Y Chandrashekar , E Braunwald . *JAMA Cardiol*  
109 2018 Apr 1. 3 (4) p. .