



Mihai Iacob. MD  
dr\_iacob@yahoo.com

## **79 – Evidence at the Point of Care Ultrasonography in Family Medicine.**

Dr. Mihai Iacob. MD  
National Coordinator and  
Founding Member of the  
Ultrasound Working Group for  
Family Medicine (UWG) - The  
Romanian National Society of  
Family Medicine.  
EGPRN, EURACT and WONCA  
member.

### ***Introduction***

The Point of Care Ultrasonography - performed by the clinician at the site of patient care, both in the medical office or at home, is an important tool to guide the case management for the early diagnosis with targeted purpose. It represents basically, an extension and complement, to the clinical examination of physicians, to achieve an accurate positive and differential diagnosis. In the last 20 years, ultrasonography became a very interesting tool for the diagnosis of many diseases encountered in the general practitioner's office.

### ***Expanding on Clinical Tools***

The clinical ultrasonography is now an investigation in development, which can improve the physical examination of the family doctors, and can guide the case management to the bedridden patients. We need training with quality standards and practice guidelines, for the implementation of the PoC-US applications to the primary care level, and to ensure us that this will be done in a way with positive benefits for our patients. It involves personal contact between doctor and patient at "bedside", it is a fast in real time method, repetitive, cheap and harmless but dependent on the experience and expertise of the examiner. Some important characteristics made ultrasound very useful in acute diseases: portability, easy to handle, versatility, the large number of diseases accessible for the visual diagnosis. New portable machines - some of them being connected by wireless transmission - are more and more accessible.

The Educational needs of GPs on the new methods and technologies are increasing, but the resources and infrastructure are limited now. It is thus necessary, collaboration among family physician's trainers or academics, on the one hand, and to the other, of specialty physicians or experts for the preparation and continuing medical education in family medicine. Early diagnosis can help to save many patients in primary care, based on notions of good clinical practice. Therefore, we will involve, to inform family physicians about the latest diagnostic and treatment protocols in clinical ultrasound.

The project called: "The Point of Care Ultrasonography (PoC-US) in Family Medicine", is a new concept for family medicine, which was not included in any curricula at the European level of Primary Care, up to this moment, and this will be a great challenge

for us. Basically, we want to be, the initiators for the recommendation to use the PoC-US applications in primary care. Of course, these applications will be recommended to a Basic Level. The Ultrasound Working Group (UWG) for family physicians launched a European Survey on this subject, through the European General Practice Research Network (EGPRN). The main aim of our group was development and promotion of the clinical ultrasonography in primary care practice. We sent the survey: „The Point of Care Ultrasonography in Family Medicine”, as a questionnaire, to which we received over 400 responses from the Europeans family doctors, which shows us a great interest in promoting of the clinical ultrasound in primary care at the European level and finally we will present you few different applications of the PoC-US, who obtained the highest number of votes in the poll released earlier.

The main indications of the clinical ultrasonography diagnoses are the detection of stones, pathologic fluid accumulation, enlarged organs, digestive tube paresis, obstruction of vessels, enlarged heart, thyroid and breast pathology etc. Grey scale ultrasonography is in several situations good enough for making an accurate diagnosis. The acute cholecystitis or pancreatitis, renal colic, ascites, aneurysms of the aorta, liver or spleen lacerations, cardiac diseases, pleural effusions had presented a typical ultrasound pattern, and simple diagnostic criteria can be used. In connection with the clinical picture, the diagnosis could be very accurate and enough start the treatment. However, correlation with a clinical picture is mandatory in many situations.

We did a brainstorming and conducted an online survey, about what we can apply in primary care. We designed a questionnaire with PoC-US applications that were contained in the various curricula of other medical specialties, which we distributed to family physicians. We did a descriptive and comparative analysis of their answers. We designed the following areas of clinical ultrasound, each with multiple PoC-US applications useful for the Family Medicine: 1. PoC – US applications at non-cardiologists for the heart diseases, 2. PoC – US applications in vascular pathology, 3. PoC – US applications to the chest pathology, 4. PoC – US applications for the abdominal pathology, 5. PoC – US applications in the pelvic pathology, 6. PoC – US applications to the endocrine pathology, musculoskeletal and soft tissue disorders, 7. PoC – US applications in paediatrics. We wanted to find out which applications are of great interest to the family physicians from Europe countries.

Then we made an experimental PoC-US Screening to a number of 2400 patients with acute and emergency pathology, who were examined first time by the family physician with vast experience in the clinical ultrasound. The accuracy of the method was very high: 94,54% with sensitivity: 96,43% and specificity: 91,16%,  $p < 0,001$ .

Certainly, after this stage of recommendations, the experts will have to establish protocols and guidelines for possible applications which we think will be beneficial to all. But we want to start now, with this new topic of clinical general ultrasound daily used for the family doctors practice.

A new opportunity for PoC-US represents the application in primary care of the medical projects related to „telemedicine” connections among specialists and family doctors related to applying of the PoC-US for enhanced patient management to critical situations, especially in remote areas. We want to give you some information and practical advice regarding of the new PoC-US applications in the primary care practice. Tele-ultrasound is frequently performed at the point-of-care (PoC-US) by primary care doctors, with a profound impact on patients located in remote destinations. The aim is to provide patient-centred care, with a certain enhancement in the clinical decision making for individual cases. The results of the procedures are however enhanced by the involvement of specialists as remote experts. This generates an effective strategy for the evaluation of patients, followed by high patient satisfaction and high-quality healthcare services.

## **Conclusion**

In conclusion, because of a significant number of advantages, ultrasonography should be a diagnosis tool beside to the stethoscope in the general practitioner office. In our opinion, the two instruments should be considered as complementary. Medical research and interdisciplinary collaboration must continue and improve in order to increase the quality of care in Family Medicine and to achieve patient-centred care and thereby indirectly to can have lower costs in the healthcare system.

You can access the questionnaire, on-line directly, from the address below:

<https://www.surveymonkey.com/r/X5T8CGR>

### Take Home Message

- Tele Ultrasound is a future feature coming closer
- POC-US – Point of Care Ultrasonography is feasible in General Practice
- Emergency Ultrasound in Primary Care is superior to manual clinical investigation
- Clinician-Performed Ultrasound should be a daily practice

### Original Abstract

<http://www.woncaeurope.org/content/ab837%C2%A0-%C2%A0-%C2%A0-%C2%A0-evidence-point-care>

### References

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