

## Ecografia Point-of-Care (POCUS): Devíamos estar a Ensinar os nossos Internos desde o Início?

### O Ponto de Vista dum Internista de Medicina Interna

#### *Point-of-Care Ultrasound (POCUS): Should we be Training our Residents from the Beginning?*

#### *An Internal Medicine's Resident Point-of-View*

Ana Cochicho Ramalho<sup>1</sup> (<https://orcid.org/0000-0002-7490-2176>), Carolina Midões<sup>2</sup> (<https://orcid.org/0000-0003-1960-5838>), Ricardo Silva Veiga<sup>3</sup> (<https://orcid.org/0000-0002-7571-1566>), José Mariz<sup>4</sup> (<https://orcid.org/0000-0002-3315-3228>)

**Palavras-chave:** Internato e Residência; Sistemas Automatizados de Assistência Junto ao Leito; Medicina Interna; Ultrassonografia.

**Keywords:** *Internal Medicine; Internship and Residency; Point-of-Care Systems; Ultrasonography.*

Dear editor,

Point-of-care Ultrasound (POCUS) is defined as diagnostic or procedural guidance ultrasound that is performed by a clinician during a patient encounter to help guiding the evaluation and management of the patient.<sup>1</sup> It is often referred to as the fifth pillar of physical examination.<sup>2</sup>

The use of POCUS has been increasing these last few years since it is much more accessible, but most of all because it increases diagnostic accuracy, gives prognostic information, and allows monitoring of patients during follow-up. It should not be seen as a replacement for comprehensive examinations made by radiologists or cardiologists. It is however useful in many scenarios such as hospital wards and emergency rooms.<sup>3</sup>

This technique gained popularity in emergency medicine because of its utility in the primary assessment of acutely ill patients enhancing diagnostics and resuscitation.

Consequently, some questions arise – **is it a useful technic in the field of internal medicine (IM)? Should we be integrating POCUS teaching in our residency?**

The answer is yes.

POCUS can be split into procedural and diagnostic. Ultrasound guided procedures are becoming the mainstay when considering invasive techniques.<sup>4</sup> Placement of central venous lines, thoracocentesis and paracentesis are some of the many procedures that are now performed with more accuracy and safety. Diagnostic POCUS has a wide variety of applications, it can help diagnosing a diffuse interstitial syndrome in decompensated heart failure, a pulmonary embolism with right ventricular dysfunction or a deep venous thrombosis. It can identify an acute myocardial infarction or determine the etiology of shock. It can abbreviate the classifications of acute kidney injury. We can assess venous congestion and minimize the challenges the physical examination alone poses in determining volume status. Who is the internist who never had trouble deciding at what point to stop fluid resuscitation?

Also of great importance is the fact that the exam is performed by the same clinician who generates the question and integrates the findings with the patient's care. To be used successfully and safely adherence to several stewardship elements is essential, namely appropriate patient selection, clinical indication, consideration of pre-test probability and the spectrum of the disease.

Many IM program directors feel that formal POCUS education should be included in IM residency training, and many learners desire training, however several barriers exist: lack of ultrasound equipment; lack of standardized curriculum and of POCUS-trained faculty.<sup>5</sup>

Portable ultrasound devices have decreased in both size and cost, making this barrier the easiest to overcome.

**So, what do we need to start learning? And what do we need to start teaching?**

POCUS has already been included as a mandatory competence in the European curriculum of IM.

The training model continues, however, to be an obstacle. Even though more and more papers are being written with the purpose of developing ultrasound programs with the methods

<sup>1</sup>Serviço de Medicina Interna, Hospital Lusíadas, Lisboa, Portugal

<sup>2</sup>Serviço de Medicina Interna, Centro Hospitalar Universitário de Lisboa Central, Hospital de São José Lisboa, Lisboa, Portugal

<sup>3</sup>Serviço de Medicina Interna, Hospital de São Teotónio- Viseu, Viseu, Portugal

<sup>4</sup>Serviço de Urgência e Unidade de Cuidados Intermédios, Hospital de Braga, Braga, Portugal

<https://doi.org/10.24950/rspm.672>

for training and practice, the IM curriculum is already extremely dense, not to mention the time limitations imposed by this residency.

We need to revise the way we are setting our priorities when it comes to the learning tools being given to our residents and the “theory” versus “practice” components, weighted in the same balance.

The evidence of the utility of POCUS is being proven by the hour. It’s up to us, internists, to claim the regular use of another tool that can bring so many advantages in treating our patients.

The internal medicine community needs to continue to develop POCUS curriculum and move towards standardization of its training to ensure safe and high-quality use in the years to come.<sup>5</sup> ■

### **Declaração de Contribuição**

ACR, CM, RSV - Redacção

JM - Revisão

Todos os autores aprovaram a versão final a ser submetida.

### **Contributorship Statement**

ACR, CM, RSV - Drafting

JM - Review

All authors approved the final draft.

### **Responsabilidades Éticas**

Conflitos de Interesse: Os autores declaram não possuir conflitos de interesse.

Suporte Financeiro: O presente trabalho não foi suportado por nenhum subsídio o bolsa ou bolsa.

Proveniência e Revisão por Pares: Não comissionado; revisão externa por pares.

### **Ethical Disclosures**

Conflicts of Interest: The authors have no conflicts of interest to declare.

Financial Support: This work has not received any contribution grant or scholarship.

Provenance and Peer Review: Not commissioned; externally peer reviewed.

© Autor (es) (ou seu (s) empregador (es)) e Revista SPMI 2022. Reutilização permitida de acordo com CC BY-NC. Nenhuma reutilização comercial.

© Author(s) (or their employer(s)) and SPMI Journal 2022. Re-use permitted under CC BY-NC. No commercial re-use.

### **Correspondence / Correspondência:**

Ana Cochicho Ramalho - ana.cochicho@gmail.com

Serviço de Medicina Interna, Hospital Lusíadas, Lisboa, Portugal.

Rua Abílio Mendes, 1500-458 Lisboa

Recebido / Received: 2022/06/09

Aceite / Accepted: 2022/08/01

Publicado / Published: 2022/12/19

### **REFERENCES**

1. Atkinson P, Bowra J, Lambert M, Lamprecht H, Noble V, et al. International Federation for Emergency Medicine Point of Care Ultrasound Curriculum. *CJEM*. 2015; 17(2): 161–70. doi: 10.1017/cem.2015.8.
2. Mariz J, Silva R, Romano M, Gaspar A, Gonçalves AP, et al. Ecografia à Cabeceira do Doente na Medicina Interna: uma Mudança de Paradigma na Avaliação do Doente Agudo. *Med Interna*. 2018; 25: 309-19.
3. Torres-Macho J, Aro T, Bruckner I, Cogliati C, Gilja OH, et al. Point-of-care ultrasound in internal medicine: A position paper by the ultrasound working group of the European federation of internal medicine. *Eur J Intern Med*. 2020; 73: 67-71. doi: 10.1016/j.ejim.2019.11.016.
4. Soni NJ, Schnobrich D, Mathews BK, Tierney DM, Jensen TP et al. Point-of-Care Ultrasound for Hospitalists: A Position Statement of the Society of Hospital Medicine. *J Hosp Med*. 2019; 14: E1-E6. doi: 10.12788/jhm.3079.
5. LoPresti CM, Jensen TP, Dversdal RK, Astiz DJ. Point-of-Care Ultrasound for Internal Medicine Residency Training: A Position Statement from the Alliance of Academic Internal Medicine. *Am J Med*. 2019; 132: 1356-60. doi: 10.1016/j.amjmed.2019.07.019.