

# Point-of-care ultrasound training for non-physician emergency care practitioners in rural Uganda



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## Abstract

**Background** In 2009, a novel task-shifting programme was started in rural Uganda to create access to quality acute and emergency care. Collaborative partners on the project are the Global Emergency Care Collaborative and Karoli Lwanga “Nyakibale” Hospital, Rukungiri, Uganda. One element of this training programme for non-physician emergency-care practitioners (ECPs) is the use point-of-care ultrasound for common emergency applications. As in much of sub-Saharan Africa, radiological diagnostic testing is insufficient in the district hospital’s emergency department in which the ECP programme is conducted. X-ray and comprehensive ultrasound is potentially accessible during daytime hours only; however, it is sometimes limited by insufficient availability of materials and trained staff.

**Methods** The use of point-of-care ultrasound has been taught to ECPs through didactic and bedside teaching. As part of the basic curriculum, lectures are given on the use of emergency ultrasound; basic ultrasound physics and safety; extended focused assessment with sonography for trauma (E-FAST); ultrasound-guided nerve blocks; echocardiography; hepatobiliary ultrasound; lung, skin, and soft tissue ultrasound; and obstetric ultrasound. As the programme and skills of the ECPs have advanced, additional ultrasound applications have been added to the curriculum including aorta, renal, Deep vein thrombosis, inferior vena cava, and appendiceal ultrasound. In addition to the lecture component, bedside teaching is a major component. Visiting board-eligible or certified emergency physicians with advanced ultrasound training intermittently proctor exams at scheduled intervals with each emergency care practitioner throughout the course of their training.

**Findings** Through the course of this training programme, non-physician practitioners have integrated the use of bedside ultrasound into their clinical practice of emergency care.

**Interpretation** In a rural resource-limited setting where other diagnostic imaging is insufficient, bedside ultrasound can be taught to non-physician emergency practitioners to diagnose a myriad of emergency disorders.

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### Contributors

LS, KH, and IN wrote the Abstract with input from BD, MB, SN, SC, HH, SS, and KM. SN, MB, HH, BD, and SC develop and manage the educational curriculum. SS, KM, and LS develop and implement the ultrasound curriculum. All authors have seen approved the final version of the Abstract for publication.

### Declaration of interests

We declare that we have no competing interests.

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