

Researchers develop bedside cardiac assessment curriculum that encourages patient-centered communication

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Bedside cardiac assessment (BCA) involves gathering a patient's medical history, performing a physical examination, and determining the need

for diagnostic testing. Physicians integrate this information with knowledge of how disease affects body function to update and prioritize differential diagnoses while providing timely and appropriate care.

The knowledge, skills and attitudes needed to perform bedside cardiac assessment well illustrate an ability core to several of the Association of American Medical Colleges' Core Entrustable Professional Activities for Entering Residency. Competence in this ability is deficient across a spectrum of non-cardiology trainees and often their faculty instructors.

To improve BCA training, educational researchers led by a team from Boston University Chobanian & Avedisian School of Medicine have developed a novel model for how it is taught and learned around the world. In a formal thematic analysis, students who participated in this new curriculum found the learning strategies effective, and peer encounters, skills practice, and encounters with educators meaningful.

"We aimed to improve BCA teaching and learning by developing a high-quality, patient-centered curriculum, based upon a diagnostic reasoning framework that could be flexibly implemented and accessible to a wide spectrum of health professions learners," explains lead author James Meisel, MD, associate professor of medicine.

In the first of a two-year pilot, the educators implemented the new curriculum with approximately 268 students who were on a six-to-eight-week inpatient medicine clerkships at four U.S. and international medical schools.

Meisel explains that the curriculum's title, "Listen Before You Auscultate," has double meaning, encouraging the learner to "listen" to the patient as they describe what brought them to medical attention before "auscultating" (listening to the heart with a stethoscope).

The framework helps the student clinician capture the patient's history as context for a six-step, systematic approach. Short videos and practice questions preceded two, one-hour class activities that integrated diagnostic reasoning, pathophysiology, physical diagnosis, and reflection. Activities included case discussions, jugular venous pulse evaluation, and a heart sounds competition along with simulated conversations with patients.

When compared to a group that received standard instruction, the students who experienced the new BCA curriculum were more confident in their abilities to estimate right heart filling pressures accurately; distinguish normal and abnormal points of maximal impulse; identify classic murmurs of mitral regurgitation and [aortic stenosis](#) accurately and identify left-sided gallops on cardiac auscultation accurately.

According to Meisel, who also is associate chief of staff for education at Veterans Affairs (VA) Bedford Healthcare system, a CAMed affiliate, this novel curriculum provides students an opportunity to participate in active learning, representing day-to-day clinical competencies and explicitly incorporating notions of trust.

"It is likely that students who are more confident in their abilities and who experience their learning as meaningful are more likely to transfer their abilities to the bedside, become competent and eventually complete a cycle in which they become instructors who teach BCA abilities well," he added.

These findings appear in *MedEdPORTAL*, an open-access journal.

More information: James L. Meisel et al, Listen Before You Auscultate: An Active-Learning Approach to Bedside Cardiac Assessment, *MedEdPORTAL* (2023). [DOI: 10.15766/mep_2374-8265.11362](#)

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