



EMURMUR UNIVERSITY CASE STUDY

Innovative apps for modern-day cardiac auscultation teaching

THE CHALLENGE

Teaching and learning heart murmurs can be difficult for healthcare providers at any level. It is a highly subjective skill that requires expert-level training. Instructors across disciplines frequently report that trainees struggle to learn this challenging skill, because good-quality, real patient heart sounds are difficult to find both in the classroom and during clinical rotations.

Auditory repetition with visual integration of heart sounds, testing, and continued learning are considered the three keys to becoming proficient in cardiac auscultation and understanding the nuances of heart sounds.

WHAT IS EMURMUR UNIVERSITY & EMURMUR PRIMER? CAN THEY HELP MY PROGRAM?

eMurmur University and eMurmur Primer are interactive apps for instructors to use in teaching, and for trainees to use in building their confidence with cardiac auscultation. eMurmur University engages students in learning by enabling instructors to stream real patient heart sound recordings through virtual classrooms directly to their students' devices. An exhaustive heart sound library contains many examples of pathologic and innocent murmurs, healthy heart sounds, and more. Instructors can perform group testing with students and receive immediate summaries of the answers submitted.

eMurmur Primer reinforces learning by offering self-directed learning modules directly on the student's phone. Learners can read background cardiology material as it relates to heart murmurs, progress through a series of interactive listening modules, and test their skills at various proficiency levels.

BOOK A DEMO

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Learners are more and more tech savvy. Using an app to understand what to look for in a patient reinforces learning at the bedside, and offers other benefits that were just not available before.

Peace Madueme, MD

*Director, Echocardiography
Nemours Children's Health System*

Prior to using eMurmur University, user Dr. Peace Madueme, a pediatric cardiologist at Nemours Children's Hospital, relied exclusively on bedside teaching for cardiac auscultation. Even with the high volume of patients coming through his clinic, quality heart murmurs for teaching purposes were quite rare.

"It is extremely difficult to find quality, clinical heart sounds for learners to understand S1, S2, frequencies and different pitches."

"With my access to eMurmur University's vast heart sound library, I can be selective and stream heart sounds from the app on my smartphone, directly onto a trainee's mobile device. They can then reinforce their learning on their own time through the volume and repetition of sounds available in the eMurmur Primer app. This ultimately helps prepare them for clinical practice,".

Modern-day cardiac auscultation teaching and its benefits:

Dr. Madueme believes his students enjoyed using eMurmur University and Primer to build their cardiac auscultation skills.

"Learners would often remark that they wish that eMurmur was available during previous rotations at the hospital because it was so easy to use and was applicable in a variety of clinical rotations."