

Why doctors still rely on stethoscope in the age of artificial intelligence

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Have you wondered why, at every hospital visit, the doctor still reaches for a stethoscope before ordering tests or scans? In the era of artificial intelligence (AI) and precision medicine, this instrument continues to hold its place as the first line of assessment, offering immediacy that no machine can yet replicate.

The stethoscope was invented in 1816 by French physician René Laennec to improve the examination of heart and lung sounds, which were previously heard by applying one's ear directly to the patient's chest. The stethoscope's relevance lies in its ability

to provide detailed clinical information in a non-invasive manner, enabling early diagnosis and monitoring of conditions.

Listening to the body

"Every sound transmitted through the stethoscope has clinical significance," says Jayaraman S., senior consultant, pulmonary medicine, MGM Healthcare, Chennai. "Auscultating the chest can help us understand the risks a patient may be facing in the heart or lungs. Despite advances in imaging and AI, the stethoscope remains the gold standard in bedside examination."

The instrument allows doctors to detect a wide

range of abnormalities. K. Thiruppathi, senior consultant, pulmonology, SIMS Hospital, Chennai, describes it as the doctor's "first set of eyes and ears on the inside of the body." Murmurs, irregular rhythms, extra beats, or reduced breath sounds can all be picked up within seconds. In the lungs, it can reveal wheezing or crackles that point towards asthma, pneumonia or fluid build-up. Even the simple act of measuring blood pressure or listening to bowel sounds depends on it.

Beyond its clinical use, the stethoscope continues to play a cultural role in medicine. "When I place it on a patient's chest, it sig-

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Symbol of trust: The stethoscope is a 200-year-old instrument that still holds its ground as the first line of examination. ISTOCKPHOTO

nals attentiveness. It reassures them," says Elakiya Mathimaran, consultant pulmonologist, VS Hospitals, Chennai. "Many pa-

tients feel the consultation is incomplete if the stethoscope is not used."

Dr. Thiruppathi agrees, calling it a "symbol of care

and trust" that creates a personal connection. For many patients, the act of a doctor listening with a stethoscope is the most visible sign that they have been examined with care.

Digital shift

Technology is reshaping the way auscultation is performed too. Digital and AI-enabled stethoscopes now offer amplification, recording and the ability to share sounds for consultation. Some models are already integrated with algorithms that can identify abnormal heart murmurs or classify lung sounds with high accuracy.

Electronic stethoscopes, research shows,

perform better in patients living with obesity where conventional auscultation can be difficult. They can also reduce variability between clinicians by capturing and standardising sounds. However, they come with challenges: higher cost, the need for training, and dependence on reliable connectivity in some cases.

The World Health Organization has also underlined the enduring value of clinical examination, especially in resource-limited settings. While AI can support screening and diagnosis, auscultation remains indispensable as a first step in patient evaluation.

Portable, affordable and

immediate, the stethoscope continues to bridge medicine's past and future. For doctors, it is both a diagnostic instrument and a symbol of presence. For patients, it is reassurance that someone is listening, literally. As technology advances, both traditional and digital stethoscopes are likely to coexist, one as a timeless tool of care and the other as an adjunct offering new precision.

For now, the familiar sight of a doctor's stethoscope pressed against the chest remains one of medicine's simplest and most enduring ways of paying attention to patients.

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