

Singapore created a mini-device for diagnosing heart problems – Fainaidea

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One of the most visible and obvious symptoms of chronic heart failure is a high concentration of fluid in the lungs. Thus, in order to get a truly accurate diagnosis, people have to go to medical facilities, which is not always convenient and generally feasible in some cases. Given this moment, a team of specialists from the Singapore Hospital Tan Tok Seng and their colleagues from Nanyang Technological University created a very interesting device with which you can potentially detect this accumulation of fluid by connecting it with the patient's personal smartphone – which allows it to be used at any time.

The prototype is an extension tube with a reinforced acoustic sensor – being connected to a smartphone, the device can be used to record the control sounds created when the air passes through the lungs. Depending on how much liquid has accumulated in them, these sounds will differ in their frequency and characteristics, for which the acoustic sensor works.

When an anomaly is detected during the passage of air, the device is applied to the area for ten seconds, thus enhancing the reception of the acoustic sensor – then the recorded data can be transferred to a special cloud platform using a smartphone. The platform algorithms will analyze the scanned data of the user and drive them through something like artificial intelligence, which was created specifically to compile a cartogram of sound indicators. Next, the finished picture and the results are sent back to the patient's smartphone, thus showing him the final result.

Such a mobile and, in a sense, “personal” approach to diagnosing lung problems can be called really successful – however, specialists need to first deal with some conventions and features of this approach. However, their mobile cloud platform and the device itself work beautifully, thus demonstrating how effective such a method can be.