



# Stethoscope



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Before the invention of the stethoscope, doctors had to put their ears (across a piece of cloth) close to the diseased part of patients, for direct auscultation. Although this method could achieve a certain diagnostic effect, it was unhygienic and inconvenient, since it was particularly difficult to accurately identify the effect of listening. If the patient was thin, this method worked well; oppositely, it was impossible for even the most caring doctor to listen to any sound if the patient was fat. Other than these, there were certain parts of the human body which could not agree this method of auscultation.

In 1816, French physician, Rene Theophile Hyacinthe Laennec (1781 – 1826) was consulted by a female patient who had heart disease. As the patient was fat, he found the diagnostic methods of percussion and touch of hand to be ineffective. He was terribly disturbed that he could not verify his diagnosis.



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One day, Laennec witnessed some children playing a game when he was having a usual walk at a mall. One of the children placed his ear close to an end of a long, hollow stick, and heard clearly the scratching sound created by another child using a pin at the other end of the wooden stick. Since the children had made an agreement in advance regarding the meanings of different sounds, the child in charge of listening could easily guess the words put forward by the child who produced the sound.

Laennec was greatly inspired by the children's game. When he got back to the hospital, he rolled a thin book into a kind of cylinder with one bigger end and one smaller end. He applied the bigger end to the heart region of his patient, and the smaller end to his own ear. He could then hear the sound of the heart much better, a few folds clearer than he did by direct auscultation.



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Hence, the world's first stethoscope was produced. After a few attempts using metal, paper, and wood, Laennec built a hollow wooden cylinder with a length of 25cm, the inner diameter of 3cm and the outer diameter of 5cm, as his stethoscope.

With the assistance of the stethoscope, Laennec successfully diagnosed a lot more chest diseases and later earned the name "Father of Chest Medicine". In 1840, British physician, Golding Bird, modified Laennec's stethoscope, which he deemed inconvenient, into a flexible but still single-ear stethoscope.

In 1851, an American, George Philip Cammann, invented a stethoscope that used both ears. His version of the stethoscope has since become the standard in the medical field.



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## Food for Thought:

- With careful observation and a rich imagination, every bit of daily life could become the lead to solving problems.
- Strong analytical and reasoning skills are required in innovation or invention. Laennec was filled with inspiration upon seeing the children playing a game and invented the stethoscope soon after.



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