# History of hearing aids

The first **hearing aids** were made in the 17th century. Since the **13th** century people had been making similar devices by hollowing out the horns of animals. Hearing aids did not improve very much until electricity and the telephone were created in 1898. This is when the first electric hearing aid was created, but it was not given out to the public to use until later in the 20th century. Over the past century however, the fast development of technology has changed and improved the hearing aid greatly, making new designs and adding new functions to be able to help even more hearing problems.

# Ear trumpets

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The first hearing aids were called <u>ear trumpets</u> and were large <u>funnelshaped</u> devices that were mostly made out of <u>metal</u>, animal horns, <u>wood</u> and even <u>snail shells</u>. People would hold them to their ear when they needed to use it to hear. These hearing aids did not make sound louder but collected sound and directed it into the ear which made the sound energy stronger when it hits the <u>ear drum</u>. Ear trumpets worked by capturing more sound for users, so the best way to make them work was for others to speak into the opening of the trumpet. When used in more public places such as concerts, the ear trumpet would not be as effective. <u>Background noise</u> could not be blocked and would enter the trumpet along with the sounds that the user is trying to focus on.

### **Electronic**

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Late in the 19th century, after the invention of telephones and microphones, the electric hearing aids were created. Though they were made during the 1870s - 1890s, they did not become popular until the early 20th century.

The first electronic hearing aid was called an Akouphone, and was invented by Miller Reese Hutchinson. It used a carbon transmitter created by Thomas Edison which could increase sound by about 15 decibels by using an electric current to make the sound signal stronger. These first electronic hearing aids were portable but still a little large and were not easily carried around. They sometimes had a scratchy noise and could not pick up all sounds so were not ideal.

### Vacuum tube

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In 1920, the <u>vacuum-tube</u> hearing aid was created by <u>Earl Hanson</u> who was a <u>naval engineer</u>. These devices used the transmitter found in telephones to make sounds louder. It would do this by turn sound into electronic current and making it louder and moving it to the ear. Vacuum tubes could increase sound by up to 70 decibels, and worked better because they could control electricity better than carbon could. These were first the size of a <u>cabinet</u>, but between the 1920s - 1930s, they were made small enough to fit into a small box. The hearing aids were continued to be made even smaller and in the late 1940s, a device that could fit in the <u>pocket</u> was made. This device still connected to the ears through wires so they were not very popular.

### **Transistor**

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Vacuum tubes were replaced by smaller and better <u>transistors</u>. The transistor was smaller, needed less power and sounded better than the vacuum tubes. With the small transistors, hearing aids were finally able to be worn inside or behind the ear, making hearing aids much more popular.

# Digital hearing aids

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Later in the 20th century, transistors were beginning to be made out of silicon and hearing aids could be made even smaller. Microprocessors were created and also added into hearing aids and sound signals were made to be processed digitally. Eventually, this allowed for hearing aids to be programmed, and customised to the needs of users. The technology inside the hearing aids is similar to the technology in mobile phones, computers and televisions.

## Other websites

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• History of Hearing Aid Solutions - Infographic Archived 2019-08-05 at the Wayback Machine

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