

Replacement ears for children grown from their own cells in Chinese lab

Chinese scientists say they've accomplished something that's long been a goal in the world of regenerative medicine—giving someone a new, perfectly compatible ear, freshly grown in the lab. What makes the feat a world-first is that the ear was made using that person's very own cells.

The experimental procedure was performed on five children, ages six to ten years, with an underdeveloped ear, a condition known as microtia.

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The researchers created a 3D-printed replica of each child's normal ear (obtained via a CT scan), but with the dimensions reversed. This replica was then used to create a mold littered with tiny holes and made out of biodegradable material. The mold was filled in with cartilage cells taken from the children's deformed ear that were further grown in the lab. Over 12 weeks, the cells started to grow into the shape of the mold, replacing bits of it that had already disintegrated. This part-ear/part-mold was then grafted onto the children.

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So far, the ears have stayed put, with no signs of the body inadvertently absorbing or rejecting the material. Cartilage has also continued to gradually replace the mold, resulting in a more natural-looking ear over time. The team's results were published in the journal [EBioMedicine](#).

Read full, original post: [Five Chinese Children Get Lab-Made Ears Grown From Their Own Cells](#)