

## News &amp; Comments

## First Human Ear Reconstruction Using 3D-Bioprinted

*Sharma Kumar*

A living tissue implant made by 3D Bio-Therapeutics and the Microtia-Congenital Ear Deformity Institute has successfully been used for the first time to reconstruct an ear using the latter's novel 3D printed AuriNovo implant.

With AuriNovo, individuals born with microtia, a rare congenital deformity in which one or both outer ears are absent and underdeveloped, can undergo surgical reconstruction of the outer ear using a living tissue implant created using 3D-bioprinting technology. This is the first-of-a-kind, 3D implant.

3D-bioprinted collagen hydrogel scaffolds encapsulate the patient's ear cartilage cells. The print is customized to match the patient's opposite ear, and the implant is shaped and sized according to the opposite ear. In this procedure, the 3D-printed ear is implanted under the patient's skin, and after the skin tightens around it, the shape of an ear emerges.

The company is excited about the prospects of this technology, as it could eventually be used to create other body parts, but not limited to noses and spinal discs.

For now, a clinical trial is underway in 10 other patients with microtia. In the current method of reconstructing ears, surgeons cut cartilage from the ribs and carve it so that it takes on the shape of an ear. With the new technology, there is less invasive surgery required.

### KEYWORDS

Transplant, 3D printing, surgery, science, health, 3D printers, medical research, AuriNovo, ear reconstruction, ear surgery, microtia, microtia reconstruction, 3D bio, regenerative medicine, 3D bioprinting, rare disease.

