



## HEALTH & LIFESTYLE

# Cancer Patients' Own Cells Used to Test Treatments

August 31, 2021

Researchers used a brain cancer patient's cells to make a model of a **tumor** to test treatments before using them on the body. The tumor model was created with **3D printing** materials.

The scientists removed a piece of the tumor from a patient with glioblastoma and used it to print a model of the tumor. That explanation comes from Professor Ronit Satchi-Fainaro, who led the research at Tel Aviv University in Israel.

Glioblastoma is an aggressive form of brain cancer.

The patient's blood is pumped through the printed tumor and then a drug or **therapeutic** treatment is pumped in.

Earlier studies have used similar "bioprinting" methods to reproduce cancer environments. But the Tel Aviv University researchers say they are the first to print a "**viable**" tumor.

Satchi-Fainaro said they have about two weeks to test the different therapies on a tumor and find a fitting treatment for the patient.

A treatment is considered promising if the printed tumor shrinks or if it lowers **metabolic** activity.

The research was released on Wednesday in the publication Science Advances.

Glioblastoma is the most common form of brain cancer in adults. It spreads quickly to other parts of the brain, making it difficult to treat. Survival is around 40 percent in the first year and 17 percent in the second. That information is from the American Association of Neurological Surgeons.

Researchers have often printed 3D tumor models to plan for **surgery**. But more recent developments have used live cells as a kind of printing substance to build up the parts of a tumor.

Ofra Benny leads similar research at the Hebrew University of Jerusalem. She said using a patient's own cells to make 3D tumor models could be "a game changer in the field of personalized medicine."

The more these 3D models are made, the better the prediction for how a treatment will work on the patient's tumor, she said.

I'm Alice Bryant.

*Reuters news reported this story. Alice Bryant adapted it for Learning English. Susan Shand was the editor.*

---

## Words in This Story

**Tumor** - n. a mass of tissue found in or on the body that is made up of abnormal cells

**3D printing** - n. the construction of a three-dimensional object from a computer model or a digital 3D model

**Viable** - adj. capable of being done or used

**Metabolic** - adj. of or relating to metabolism

**Surgery** - n. medical treatment in which a doctor cuts into someone's body in order to repair or remove damaged or diseased parts

