


3D printed brain-like tissue made from stem cells offers hope to address neurological disorders

Scientists in Australia have used a 3D printer to create nerve cells found in the brain using a special bio-ink made from stem cells.

The research takes us a step closer to making replacement brain tissue derived from a patient's own skin or blood cells to help treat conditions such as brain injury, Parkinson's disease, epilepsy and schizophrenia.

The bio-ink is made of human induced pluripotent stem cells (iPSC), which have the same power as embryonic stem cells to turn into any cell in the body, and possibly form replacement body tissues and even whole organs.

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3D printing with bio-ink (ABC News)

[Jeremy Crook from the University of Wollongong stated] many neuropsychiatric disorders result from an imbalance of key chemicals called neurotransmitters...For example, he said, defective serotonin and GABA-producing nerve cells are implicated in schizophrenia and epilepsy...[Thus] the team used 3D printing to make neurones involved in producing GABA and serotonin....

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Apart from providing customized transplants, 3D printed tissue could be useful for medical research.

For example, tissue from a patient with epilepsy or schizophrenia could be created, specifically to study their particular version of the condition.

"You can compare how neuronal networks form differently compared to healthy patient," said Dr Crook.

[Read the full study [here](#)]

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Scientists create 3D-printed brain-like tissue from stem cells](#)