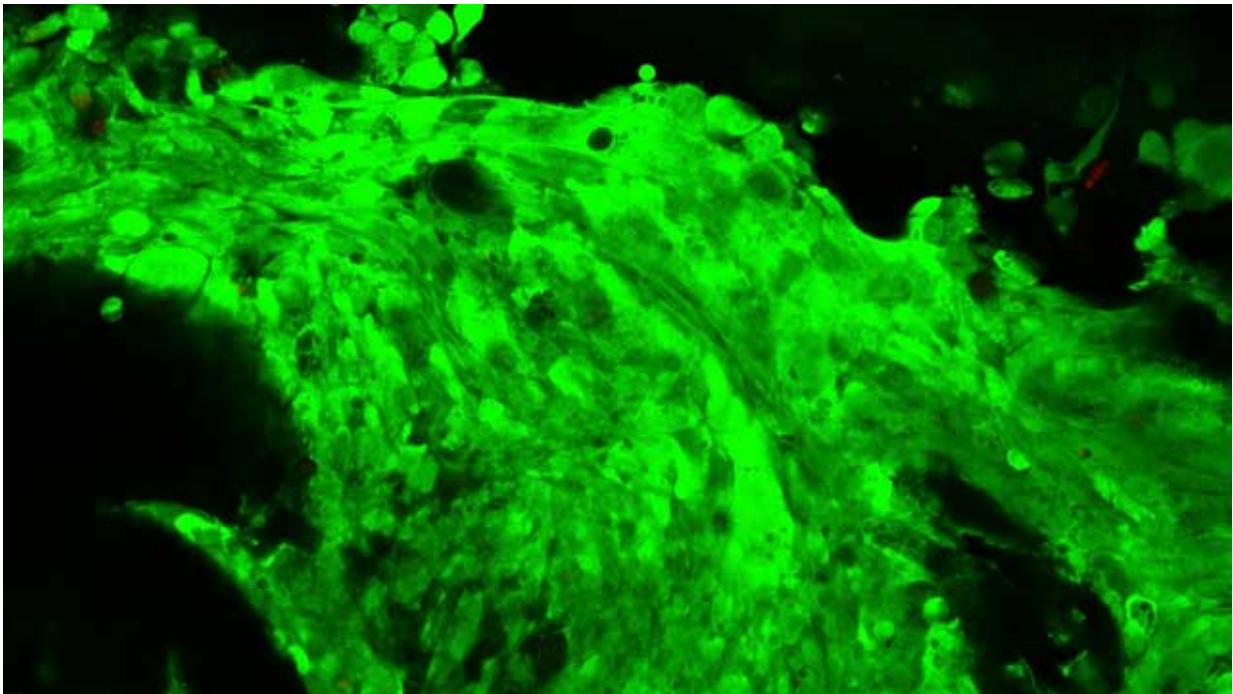


3D printing brain tumours to improve treatment

May 25 2016



The Heriot-Watt team will 3D print brain tumour (glioma) stem cells and other types of cells isolated from patients' brain tumours.

Scientists at a Heriot-Watt University plan to 3D print tumour-like constructs to better understand the biology of malignant brain tumours that kill around 5,000 people each year in the UK.

Dr Nicholas Leslie, a tumour biologist at the University's Institute of

Biological Chemistry, Biophysics and Bioengineering is working with Dr Will Shu, a 3D printing expert to carry out the pioneering work, which has just been funded by The Brain Tumour Charity.

Researchers have already developed several types of "[brain](#) tumour in a laboratory" to study brain tumours and test drugs to treat them, including taking brain tumour stem cells from patients. However, if they are grown in the lab, they behave very differently from the way they do in reality.

Now the Heriot-Watt team will 3D print brain tumour (glioma) stem cells and other types of cells isolated from patients' brain tumours, to recreate tumour-like constructs which should give much closer results to human tumours and reduce the current dependence on animal testing.

Dr Nicholas Leslie said "We have developed a novel 3D printing technique to print brain tumour cells for the first time, [cells](#) that continue to grow rapidly, more closely mimicking the growth of these aggressive tumours in real life.

"Our goal is that this should provide a new way of testing drugs to treat [brain tumours](#), leading to new treatments and speeding up the process by which new drugs become available to [patients](#)."

Provided by Heriot-Watt University

Citation: 3D printing brain tumours to improve treatment (2016, May 25) retrieved 25 April 2024 from <https://medicalxpress.com/news/2016-05-3d-brain-tumours-treatment.html>

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