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Cell hope: Alan Faulkner-Jones who is working on the research with Dr Will Shu

## This could lead to the end of animal testing

by KIRSTEEN PATERSON

ARTIFICIAL 'livers-on-a-chip' made by printing human cells could help end animal testing, it is claimed.

Scottish scientists are working on technology to print human cells in 3D to help drug development.

The move would take testing away from animals and could lead to faster, better treatments.

Micro-engineer Dr Will Shu, of Heriot-Watt University, said: 'If we are able to advance this technique, the medical benefits could be enormous.'

'New blockbuster drugs take ten to 15 years and more than \$1 billion of investment to get them to market.'

'Human organs on a chip could reduce the time to below ten years and, critically, the cost could be halved.'

'Cheaper and better drug testing would enable more drugs to be developed at the same time and by smaller companies.'

The man-made tissue is created using stem cells and is less than 1mm in size,

any larger and it would require blood cells. Said to resemble tiny eggs, the material could be used to check the liver toxicity of medicines, a requirement for all new drugs.

Large numbers of animals are used to test new medications. However, the work is often inconclusive as drugs that pass animal testing usually fail during clinical trials on humans.

Dr Shu said: 'Artificial human liver tissues could potentially be very valuable to drug development because it mimics more closely the response of drugs on humans.'

'The hope is more drug failures would be identified at this early stage and drugs which proceed past that stage would be more likely to show success in trials.'

The work is being carried out with Roslin Cellab and it is hoped the tissue will be ready within two to three years.

**'Artificial liver tissues could be valuable'**

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