



European Animal  
Research Association

## EARA News Digest 2022 - Week 3

Welcome to your Monday morning update, [from EARA](#), on the latest news in biomedical science, policy and openness on animal research.

### Research



## Using mice to predict changes in Alzheimer's disease

A group at the [Norwegian University of Science and Technology](#) (NTNU), Norway, have demonstrated how mice can be used to answer questions about the progression of Alzheimer's disease in humans.

Using genetically modified mice, the researchers took samples of [spinal fluid](#) and compared them to samples from patients with Alzheimer's to look for similarities.

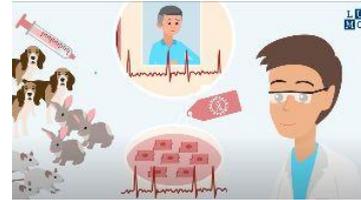
The team found that substances in the fluid, known as biomarkers, could be seen in both mice and humans, indicating that these mice are a good model for [predicting changes](#) involved with the disease.

“Animal experiments can provide us with good answers to important questions in the field” said Christiana Bjørkli, of NTNU.

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## Research

# Finding ways to study heart disease by using fewer animals



Dutch scientists have found a way to improve the study of heart disease by growing human heart cells on a massive scale (see [video](#)).

The [findings](#), published in *Nature Biomedical Engineering*, will allow research into new drugs for cardiovascular disorders that can be tested on real human cells, thereby reducing the numbers of animals used, commonly mice.

Researchers at the [Leiden University Medical Center](#) (LUMC), Netherlands, inserted a cancer gene, that can be switched on and off, into human heart muscle cells.

When the gene is switched on, the heart muscle cells lose their specific properties and start to multiply. Then when the gene is turned off the cells stop multiplying and start to behave like heart cells again.

“The use of laboratory animals is socially charged, animal care is expensive and the heart muscle cells of animals behave differently from human heart muscle cells in many respects,” said Twan de Vries, of LUMC.

## Media

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## Pig-to-human heart transplants – media reaction

News about the first pig-to-human [heart transplant](#) has made headlines across the world, including a discussion about the ethics of such a procedure.

In the first successful operation of its kind, surgeons at the [University of Maryland Medical Centre](#) (UMMC), Baltimore, USA, transplanted a genetically-modified pig heart into a patient with a life-threatening heart disease,

The surgery drew praise ([BBC](#), [New York Times](#)) from the international medical community, hailing its success ([New Scientist](#)) and the potential ([Guardian](#)) for future animal-to-human organ transplants (xenotransplantation) which will offer new hope to the thousands of patients waiting on hospital waiting lists.

“This is the culmination of years of highly complicated research to hone this technique in animals with survival times that have reached beyond nine months,” said Dr Muhammed Mohiuddin, director of the Cardiac Xenotransplantation Program, at the University of Maryland School of Medicine.

“This unprecedented and historic procedure highlights the importance of translational research which lays the groundwork for patients to benefit in the future,” added his colleague Dr E. Albert Reece.

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However, some coverage questioned the [ethical and moral considerations](#), particularly considering the potential for the transfer of viruses between species.

Animal activist groups have been cautious about the medical breakthrough ([Plant Based News](#)) as the research would have involved 'rigorous animal testing to ensure human safety', while PETA openly condemned the surgery as "unethical, dangerous, and a tremendous waste of resources."

## Media



## Reducing the severity of testing in animals – free event

An [online free event](#) next week will discuss ways to reduce or avoid animal suffering in biomedical research.

The webinar, organised by the European Federation of Pharmaceutical Industries and Associations ([EFPIA](#)) and the Royal Society for the Prevention of Cruelty to Animals ([RSPCA](#)), is on Wednesday, 26 January 14:30 - 16.00 CET.

*How the pharmaceutical industry is tackling 'severe' suffering in animals used in science*, will showcase practical steps taken by industry to avoid or reduce severe suffering in animals used in research and testing.

Among the speakers are John Kendrick, Labcorp,

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Germany and Emmanuelle Coppens, Sanofi,  
France, both EARA members, and Thomas  
Bertelsen, Novo Nordisk, Denmark.

[Registration](#) ends on Monday, 24 January.

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