

# First 'three-parent' babies could be born by end of next year

ANGUS HOWARTH

MPS yesterday approved the creation of IVF babies using DNA from three different people in order to prevent inherited diseases.

The historic decision was taken in a free vote after a debate on the controversial issue of mitochondrial donation in the House of Commons.

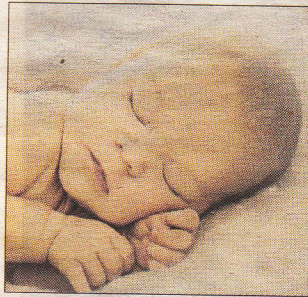
It means the UK is now set to be the first country in the world to permit the treatment, which according to critics crosses an unacceptable ethical line.

If the House of Lords ratifies the move – which is likely – then the first baby conceived using the procedure could be born by the end of next year.

The child would have nuclear DNA determining individual traits such as facial features and personality from its two parents, plus a tiny amount of mitochondrial DNA (mDNA) from an anonymous woman donor.

Research has shown mitochondrial donation could potentially help almost 2,500 women of reproductive age in the UK who are at risk of transmitting harmful DNA mutations in the mitochondria – tiny rod-like “power plants” in cells – to their children.

Mitochondrial DNA is only involved in metabolism and



Critics say that the technique heralds 'designer babies'

makes up just 0.1 per cent of a person's genetic code. But faults in mDNA can lead to a wide range of devastating and sometimes life-threatening inherited diseases responsible for conditions including blindness, deafness, muscle wasting, diabetes, heart failure and dementia.

The MPs voted through an amendment to the 2008 Human Fertilisation and Embryology Act making mitochondrial donation procedures legal for the first time anywhere in the world.

Supporters of the move argued that it would be immoral not to take advantage of technology that can save families from the misery of serious inherited diseases.

Opponents, including church leaders and pro-life groups, warned that the change was being brought about too hast-

ily and marked the start of a slippery slope towards designer babies and eugenics.

Scientists led by Professor Doug Turnbull at the Wellcome Trust Centre for Mitochondrial Research at Newcastle University have pioneered the techniques and hope to be the first group to offer the treatment.

But first their application must be approved by the fertility regulator, the Human Fertilisation and Embryology Authority (HFEA) which has to be satisfied that the procedure is sufficiently safe.

The legal change means the HFEA is now empowered to grant licences for the treatment, and will carefully consider each application on its merits.

A Wellcome Trust spokesman said: “If its approved by the House of Lords, probably in a couple of weeks, the HFEA and Doug will get together to determine precisely what the application terms should be.

“We're still awaiting the results of a couple more experiments from Doug's lab. Then Doug will apply for the first licence which will be looked at on its individual merits. We might be talking about tens of families that could be eligible for the treatment.”

COMMENT, PAGE 28

## 'Form of genetic cleansing amounts to discrimination'

I HAVE a lot of sympathy and compassion for persons affected by very serious mitochondrial genetic diseases. Society should do all it can to find a treatment for such disorders.

But what was being proposed in parliament yesterday is not a treatment.

Instead, it is making sure that such persons are not even brought into existence.

In other words, it is a kind of genetic cleansing procedure in which persons with disability and sickness are seen as being unworthy of life.

And this is a form of discrimination, based on the quality of life of persons, which is completely unacceptable in a compassionate and equal



ANALYSIS

Calum MacKellar

society. But I am also very concerned about the promises that are being made to the persons with mitochondrial disorders.

They are, unfortunately, being misled when told that these procedures would enable them to have children “of their own”.

● Dr Calum MacKellar is director of research at the Scottish Council on Bioethics

## OPINION

“THIS technique could give women an invaluable choice, the choice to become a mother without fear of passing on a lifetime under the shadow of mitochondrial disease to their child.

“We have no means to treat mitochondrial diseases, affecting 6,000 people across the UK. These conditions can cause muscle wasting, loss of vision, stroke-like episodes and premature death.

“Preventing inheritance remains our only option, and that is why we have funded and supported this technique.”

● Robert Meadowcroft is chief executive of Muscular Dystrophy Campaign