# Britain Plans World's First Go-Ahead for '3-Parent' Babies

Britain is planning to become the first country in the world to offer controversial "three-parent" fertility treatments to families who want to avoid passing on incurable diseases to their children.

The methods, currently only at the research stage in laboratories in Britain and the United States, would for the first time involve implanting genetically modified embryos into women.

Critics said the technique was ethically suspect and would eventually lead to a eugenic "designer baby" market.

It involves intervening in the fertilization process to remove faulty mitochondrial DNA, which can cause inherited conditions such as fatal heart problems, liver failure, brain disorders, blindness and muscular dystrophy.

The methods are designed to help families with mitochondrial diseases—incurable conditions passed down the maternal line that affect around one in 6,500 children worldwide. Mitochondria act as tiny energy-generating batteries inside cells.

The potential treatment is known as three-parent in vitro fertilization (IVF) because the offspring would have genes from a mother, a father and from a female donor.

After a national public consultation showed Britons broadly favor the idea, the government's chief physician said on Friday it should be allowed to go ahead under strict regulation.

“Scientists have developed groundbreaking new procedures that could stop these diseases being passed on, bringing hope to many families seeking to prevent their children inheriting them,” Sally Davies, chief medical officer, told reporters.

“It’s only right that we look to introduce this life-saving treatment as soon as we can.”

But David King, director of the Human Genetics Alert campaign group said “the techniques are unnecessary and their use is ethically unsound” and criticized the government for failing to conduct a more comprehensive public consultation.

“They cross the ethical line that has been agreed by government around the world that we should not genetically alter human beings,” he said in an emailed statement.

**DNA Swap**

Davies said the government’s health department is drafting regulations to cover the new treatments and plans to publish them later this year. The move would make Britain the first country in the world to give patients an option of mitochondrial DNA transfer to avoid passing the diseases on to their children.

Scientists are researching several three-parent IVF techniques.

One being developed at Britain’s Newcastle University, known as pronuclear transfer, swaps DNA between two fertilized human eggs. Another, called maternal spindle transfer, swaps material between the mother’s egg and a donor egg before fertilization.

A British medical ethics panel which reviewed the potential treatments for mitochondrial diseases decided last year they were ethical and should go ahead as long as research shows they are likely to be safe and effective.

Because Britain is in the vanguard of this research, ethical concerns, political decisions and scientific advances here are closely watched around the world—particularly in the United States where scientists are also working on DNA swap techniques.

Pro-life campaigners have already criticized the scientific research, saying that creating embryonic children in a lab abuses them by subjecting them to unnatural processes.

Critics like King also worry that modifying embryos to avoid disease is the first step towards the creation of "designer babies", whose genetic makeup could be modified as embryos to ensure certain traits such as height or hair color.

Asked whether she was "comfortable" with taking such a major step along the way to allowing human genetic modification, Davies said she had debated and considered the ethical implications with many experts over many years and had come to the conclusion the techniques should be allowed.

Any final decision on putting the regulations in place to allow the new treatments to be offered will be subject to a vote in parliament, but Davies said she hoped the first patients may be able to get the new treatments within two years.

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