Britain first country to approve 'three-parent' babies (Update 2)

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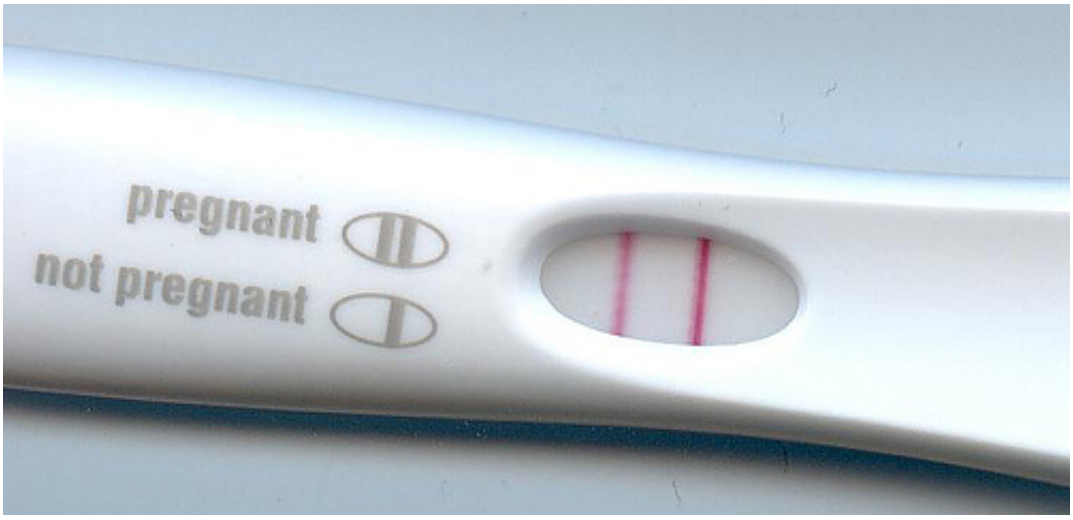

Pregnancy test. Credit: public domain

Britain is set to become the first country in the world to legally offer "three-parent baby" fertility treatments after regulators gave the green light.

The technique, which uses DNA from two women and a man, would allow mothers who carry disease-causing mutations in their mitochondrial genes to give birth to children free of the illness.

British lawmakers had voted in February to allow the treatment, which uses in-vitro fertilisation (IVF), but clinics needed to obtain licences from the Human Fertilisation and Embryology Authority (HFEA).

HFEA chair Sally Cheshire hailed the "historic and important" decision to license the treatment, calling it "a world first".

"I'm sure patients who might be in line for this treatment will be really pleased by what we've decided today," she said, but added: "We will proceed with caution."

HFEA member Andrew Greenfield said the board took the decision because the "evidence suggests we should move forward".

An independent panel of experts last month said the practice should be "cautiously adopted" to prevent certain genetic diseases from being passed on to future generations.

Mitochondria are structures in cells which generate vital energy and contain their own set of genes called mDNA which is passed through the mother.

Mitochondrial diseases cause symptoms ranging from poor vision to diabetes and muscle wasting, and health officials estimate around 125 babies are born with the mutations in Britain every year.

'New hope'

The first baby conceived using mitochondrial donation was born earlier this year in Mexico, where there are no rules on its use, but Britain is the first to officially authorise it.

Greenfield said the Mexico birth was "encouraging but only a single case, so let's not get carried away".

Opponents have warned that the move paves the way for "designer babies".

Cheshire told AFP that the ruling did not put the ethics of genetics on a "slippery slope".

"We relied on an expert panel of international scientists," she said. "This is five years...with an extensive pubic dialogue, and a very heavy debate in parliament."

The treatment involves the embryo receiving the usual "nuclear" DNA from the mother and father, as well as a small amount of healthy mitochondrial DNA (mDNA) from a female donor.

The British review panel recommended its clinical use "in specific circumstances... where inheritance of the disease is likely to cause death or serious disease and where there are no acceptable alternatives."

The first women could receive the treatment as early as March or April, with a pioneering research centre in Newcastle, northeast England, expected to kickstart the programme.

"We are delighted by today's decision," said Doug Turnbull, director of the Wellcome Centre for Mitochondrial Research at Newcastle University.

"In Newcastle, we will be aiming to treat up to 25 carefully selected patients a year with the mitochondrial donation technique."

Robert Meadowcroft, CEO of charity Muscular Dystrophy, said the decision gave affected parents "new hope and choice for the first time", but urged caution.

"We recognise this approach is not without some uncertainty, and, in any trial, success cannot be guaranteed," he said.

Around 3,000 British families could benefit from the therapy, but Cheshire said she expected that "many won't come forward".

The treatment remains controversial in Britain and elsewhere, with religious leaders among its detractors.

The Roman Catholic Church opposes the move, pointing out that it would involve the destruction of human embryos as part of the process, while the Church of England has said ethical concerns "have not been sufficiently explored".