US panel greenlights ‘3-parent embryos’ for IVF, but boys only

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The US Food and Drug Administration (FDA) should approve clinical trials to transfer DNA from healthy human eggs to diseased embryos, the U.S. National Academy of Medicine said on January 3.

The controversial gene-therapy technique involves replacing an embryo’s energy-producing mitochondria with healthy mitochondria from the egg of a second woman. The aim is to prevent the transmission of diseases caused by mutations in mitochondrial DNA. But concerns about the safety of mitochondrial replacement, and the psychological and social implications of children with three genetic parents, have given U.S. regulators pause. And a federal law approved late last year prevents the FDA from allowing any such trials in humans.

In its report, the academy panel suggests limiting the tests of mitochondrial replacement to male embryos as a safety precaution. Male offspring would not be able to pass their modified mitochondria to future generations, because a child inherits its mitochondria from its mother.

For Shoukhrat Mitalopov, a reproductive-biology specialist at the Oregon Health Sciences University in Portland, the advisory panel’s recommendation is a hollow victory. The FDA commissioned the US$1.1 million National Academy of Medicine review in 2014 after Mitalipov applied to perform a clinical trial of mitochondrial replacement therapy with human embryos. But the fiscal year 2016 government spending bill enacted last month includes language preventing the FDA from approving any applications to implant modified human embryos into women.

Read full, original post: US panel greenlights creation of male ‘three-person’ embryos