

Single embryo implants work better: study

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Implanting single embryos into the wombs of women seeking to boost fertility is more effective and less costly than placing two embryos at a time, a pair of studies released Wednesday found.

The research contradicts the widely-held view that implanting multiple [embryos](#) during in-vitro fertilisation (IVF) is more cost-effective, and improves a woman's chances of becoming pregnant.

"At a time when there is an intense debate in many countries about how to reduce multiple [pregnancy rates](#) and provide affordable [fertility treatment](#), policy makers should be made aware of our results," said the study's lead researcher Hannu Martikainen of the University of Oulu in Finland.

"These data should also encourage clinics to evaluate their [embryo transfer](#) policy and adopt elective single embryo transfer as their everyday practice for women younger than 40," she said in a statement.

The issue grabbed headlines earlier this year when a 33-year-old woman in California who underwent IVF gave birth to octuplets.

All of the infants survived, but multiple pregnancies are notoriously linked to premature births, low birthweight and neurological damage.

Some medical associations and governments have moved to tighten guidelines or regulations restricting the number of embryos that can be implanted during in-vitro fertilisation (IVF).

In Britain the [Human Fertilisation and Embryology Authority \(HFEA\)](#) controls IVF practices, limiting implanted embryos to two at a time. Just a single embryo will be allowed from 2011.

There are no national regulations in the United States. Professional guidelines suggest that a women under 35 should have no more than two implanted embryos. This can be increased to three

from 35 to 37 years, to four embryos for ages 37-40, and five for a woman aged over 40.

In the new study, Martikainen and colleagues compared the outcomes of more than 3,600 assisted reproduction cycles at a major Finnish clinic across two time periods, 1995 to 1999, and 2000-2004. More than 1,500 women under 40 were treated.

During the first period, double embryo transfer was the norm, with single embryos being implanted in only four percent of women. During the second period, that percentage went up to 46.

The study, published by the reproductive medicine journal *Human Reproduction*, found that the live birth rate was five percent higher for women who had only one embryo implanted at a time.

The single embryo procedure was also cheaper, especially when health complications due to multiple births were taken into account.

"We found that a baby born alive at term using single embryo transfer was, on average, 19,899 euros (26,825 dollars) less expensive than babies born as a result of double embryo transfer," Martikainen said.

A second study, also in *Human Reproduction*, used a mathematical model to compare the cost effectiveness of three triple-cycle strategies: single embryo transfer for all patients, double embryo transfer only, or a choice between the two tailored to likelihood of pregnancy.

"The choice of which policy to implement depends on society's willingness to pay," said lead researcher Audrey Fiddlers at the Academic Hospital Maastricht in The Netherlands.

A strategy of implanting two embryos every time would result in more live births. But many of them would be multiple, and the average cost per child would be more than twice that of a single-embryo

approach, the study concludes.

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