

Transfer of thawed frozen embryo versus fresh embryo to improve the healthy baby rate in women undergoing IVF: the E-Freeze RCT

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Plain English summary

The E-Freeze RCT

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During in vitro fertilisation, eggs and sperm are mixed in a laboratory to create embryos. An embryo is placed in the womb 2–5 days later (fresh-embryo transfer) and the remaining embryos are frozen for future use. Initial research suggested that freezing all embryos followed by thawing and replacing them a few weeks later could improve treatment safety and success. Although these data were promising, the data came from small studies and were not enough to change practice and policy.

We conducted a large, multicentre, clinical trial to evaluate the two strategies: fresh-embryo transfer compared with later transfer of frozen embryos. We also compared the costs of both strategies during in vitro fertilisation treatment, pregnancy and delivery.

This study was conducted across 18 clinics in the UK from 2016 to 2019, and 619 couples participated. Couples were allocated to one of two strategies: immediate fresh-embryo transfer or freezing of all embryos followed later by transfer of frozen embryo. The study's aim was to find out which type of embryo transfer gave participants a higher chance of having a healthy baby.

We found that freezing all embryos followed by frozen-embryo transfer did not lead to a higher chance of having a healthy baby. There were no differences between strategies in the number of live births, the miscarriage rate or the number of pregnancy complications. Fresh-embryo transfer was less costly from both a health-care and a patient perspective.

A routine strategy of freezing all embryos is not justified given that there was no increase in success rates but there were extra costs and delays to embryo transfer.

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