

# Increased chances of successful IVF if 18 to 20 eggs are retrieved

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Credit: AI-generated image ([disclaimer](#))

The likelihood of childbirth after in vitro fertilization (IVF) treatment increases if 18 to 20 eggs are stimulated to mature in a woman's ovaries, a dissertation at Sahlgrenska Academy, Sweden, shows. That is more eggs than the number aimed at in today's IVF treatments.

"The results can serve as the basis for how hormone stimulation before IVF treatment is designed in the future with the intention of achieving a good balance between effective and medically safe treatment," says Åsa Magnusson, MD/PgD at Sahlgrenska University Hospital and Sahlgrenska Academy.

To an increasing extent both in Sweden and internationally, only one fertilized egg, or embryo, is retrieved per treatment occasion. If the treatment results in more high-quality [embryos](#), these can be frozen and used in later attempts.

Previous research on the total number of eggs that should be retrieved have indicated that the chance of birth after IVF is optimal after about 10 eggs. It has been believed that a greater number of eggs leads not to a better chance of birth but rather to an increased risk of serious side effects.

## **No demonstrated risk for children**

However, the studies carried out have mainly examined the delivery rate after the first implantation, called the fresh IVF cycle, which takes place just days after the egg retrieval. Later implants of thawed embryos have not been included.

"It's more relevant to study the cumulative chance of children per IVF attempt when all embryo transfers that are generated from an egg retrieval are included," Åsa Magnusson says. "However, it's also important to study the risks in relation to the number of retrieved eggs and serious side effects, both during the stimulation and also neonatal pregnancy and childbirth complications."

The study does not show any connection between egg retrieval and complications for the children. On the other hand, there is a weak but

statistically valid correlation between the number of retrieved eggs and placenta previa, a condition that can cause bleeding during pregnancy or childbirth.

## Optimal chances – a reasonable risk level

The transfer of thawed embryos accounts for about one-third of all IVF cycles in Sweden, and the chance of birth is now comparable with the transfer of fresh embryos. It can thus be beneficial to design hormone stimulation before egg retrieval so that extra embryos can be produced and frozen to avoid additional hormone treatment.

To study the relationship between the number of collected eggs, cumulative delivery rate and serious complications associated with the stimulation, such as ovarian hyperstimulation syndrome and blood clots, treatment data from the Swedish National Quality Registry of Assisted Reproduction (Q-IVF) has been matched with data from the Swedish Patient Register and the Swedish Medical Birth Register for the 2002–2015 period.

"Previously about 10 eggs has been considered optimal for the chance of childbirth after the fresh cycle. We observed that the cumulative chance rose with an increased number of eggs, up to 18–20, and then leveled off. At the same time, the risk of complications remained at a reasonable level up to 18–20 eggs. At a higher number of [eggs](#), the risks increased," Åsa Magnusson says.

**More information:** Ovarian stimulation for IVF-a balance between efficacy and safety. [gupea.ub.gu.se/handle/2077/55398](http://gupea.ub.gu.se/handle/2077/55398)

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