

## Key Indicators of IVF Success

While it is obvious that the goal of in-vitro fertilisation (IVF) is to help couples conceive a healthy baby, what is less known are several key indicators for each step in the IVF process. These indicators tell us how well the outcome of treatment is. Here are some brief explanations to help couples better understand the success rates involved in IVF.

### Preparing the ovaries to grow follicles

The IVF cycle begins with hormone injections to get the ovaries to produce multiple follicles. This helps to increase the number of eggs available. Since every woman has different egg counts and responses to stimulation, the final number of eggs retrieved can vary. As “under-stimulation” and “over-stimulation” are discouraged, a total of 15-20 follicles would be ideal.

### Egg maturity after retrieval and suitability for ICSI (intracytoplasmic sperm injection)

Mature eggs are identified in the laboratory, when they extrude a small component called the ‘polar body’, which means that they are suitable for injection. On average, about 70% of eggs retrieved are mature. Most times, the maturity is correlated to the size of the follicles measured during ultrasound scans done by the doctor (the larger the follicle, the more likely to be mature).

### Fertilisation outcomes

Gamete fusion is necessary for fertilisation. In order to achieve that, sperm is injected into the egg cytoplasm during ICSI. Whilst it is almost certain that sperm can be deposited in, fertilisation on the other hand, is not guaranteed. An International Consensus states that the benchmark for fertilisation after ICSI is 65%, meaning out of 10 eggs, 6 to 7 go on to fertilise. Our laboratory achieves higher rates using [pulse-driven ICSI](#).

### Number of usable embryos at the end of culture

Once eggs are fertilised in the laboratory, they now begin to divide. Typically, an embryo goes from 2 cells on Day-1, to 4 cells on Day-2, and reach about 6-8 cells on Day-3. After this stage, the embryo relies on its own genomic activity to further develop into a morula, and subsequently a blastocyst. A good gauge is to expect close to half the number of fertilised eggs to make it to usable blastocysts. Again, this may vary among couples as many factors such as age, gamete quality all play a part in the embryos’ growth. To better provide a stable culture for embryos, the laboratory uses a [time-lapse incubator](#) instead of traditional ones.

### Pregnancy rates after embryo transfer (ET)

The embryos(s) may be transferred in the same cycle (fresh ET) or [frozen](#) for transfer at a later time. Clinical pregnancy is confirmed when the fetus heartbeat is heard. Many factors such as embryo quality, number of embryos transferred, and womb environment influences the chances of pregnancy after transfer. In good prognosis women, you can expect as high as 70% clinical pregnancy rates for frozen blastocyst transfer. When pregnancy reaches to term and the baby is delivered, the indicator here is called livebirth rate, which is ultimately the best statistics to glean from.

### Our latest success rates

The clinical pregnancy rates per frozen embryo transfer for the period between January 2020 to December 2021 at Alpha IVF Centre were calculated and shown in Table 1. The rates were based on frozen cycles where blastocysts (advanced embryos) were warmed and transferred. They are categorised by age groups for easy viewing.

Table 1: Clinical pregnancy rates per frozen embryo transfer for the period of January 2020 to December 2021 at Alpha IVF Centre.

Age Group	Clinical pregnancy rates
≤ 34 years old	70.1%
35 - 39 years old	66.8%
≥ 40 years old	33.3%

### Take-away message

Learning about key indicators of IVF success are helpful for patients to manage their expectations when going through treatment. By understanding and making sense of the 'numbers', patients can be more prepared to accept outcomes, objectively.