KK Women's and Children's Hospital
SingHealth

Should You Be Doing Elective Egg Freezing (EEF)?

What is Elective Egg Freezing (EEF)?
The term "elective egg freezing" is used to describe the process of storing eggs for women who wish to delay childbearing, due to non-medical factors such as career commitment, financial instability and relationship status.

What is the current governance on EEF?
Women aged between 21 and below 38 years of age will be eligible for the service, regardless of marital status.

What does EEF involve?
Patients will first have to see a doctor in the clinic who will assess the patient's suitability for EEF. The doctor will also order the necessary investigations which include blood tests and an ultrasound.

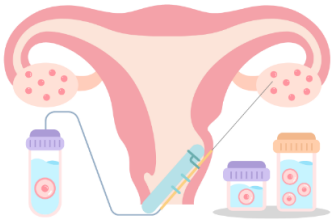
Patients undergoing EEF will need to go through daily hormonal self-injections to produce multiple eggs, similar to the initial stage of In-Vitro Fertilisation (IVF). During this phase, patients will have to make a few visits to KKIVF Center for vaginal or abdominal ultrasound scans to monitor the growth of the follicles (the sac containing an egg) in their ovaries.

When the follicles have reached an optimal size, a final injection to mature eggs will be given. The patient will be scheduled for the egg retrieval procedure. This is done as a day surgery procedure under sedation. The eggs will be retrieved using an ultrasound-guided needle through the vagina. A vaginal ultrasound will lead to hymen tear.

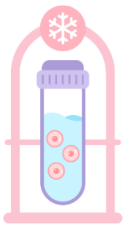
The eggs collected will be handed over to the embryologist for evaluation and processing. Suitable eggs will undergo vitrification (freezing) and will be stored securely in the laboratory storage facility. The EEF process will be considered complete at this point.

The EEF Process

Controlled ovarian stimulation with daily hormonal self-injections (~9-12 days)



Egg retrieval process. The patient will be sedated and the eggs are retrieved using a needle.



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What are the risks and limitations of EEF?
The risks of EEF are associated with hormonal stimulation and the egg retrieval procedure. Complications such as Ovarian Hyperstimulation Syndrome (OHSS), insufficient or no growth of follicles and adverse drug reaction may occur as a result of the hormonal stimulation.

Possible risks related to the egg retrieval procedure, which is an invasive procedure, can include internal bleeding, infection and injury to the surrounding organs or blood vessels.

Other risks include risks associated with freezing of eggs such as egg damage or failure of the eggs to survive the thawing process.

Will undergoing EEF guarantee a pregnancy in future?
EFF does not guarantee a pregnancy in future. Successful pregnancies and deliveries will still be dependent on many factors such as egg quality, male factor and the woman's health condition at the time of using the eggs.

Furthermore, utilisation rates of the frozen eggs have been shown to be low. Experience from various countries show that, over a period of 10 years, less than 10% of the women who underwent EEF return to use their frozen eggs. This low utilisation rate could be due to reasons such as patients conceiving naturally, preference to use fresh eggs for IVF or patients not wanting to conceive eventually.

When you wish to use your frozen eggs in the future, Intracytoplasmic Sperm Injection (ICSI) which involves the injection of a sperm directly into an egg will have to be performed to create an embryo. The embryo will then be transferred into your uterus. The present law in Singapore requires you to be married to undergo this treatment.

Why would I want to freeze my eggs?
As a woman gets older, she may find it harder to get pregnant with a healthy baby. This is because the number and quality of eggs will diminish over time and when she finally menopauses, there will be no more eggs left in her ovaries. Additionally, the decreasing quality of eggs will not only lead to difficulty in conceiving but also, an increase risk of miscarriages and abnormal pregnancies.

Therefore, biologically, it may be easier to conceive a healthy pregnancy when a woman is younger. However, due to professional, social, or health reasons, a woman may not be ready to get pregnant at that time and she may want to defer having a child until the time is right for her. Therefore, EEF gives women the option of preserving her fertility until she is ready to conceive.

If I have eggs frozen, does this mean I can delay starting a family until I am much older?
It is important to understand that frozen eggs do not guarantee a future baby. Even with frozen eggs, a woman should still try to conceive as soon as she is ready. While a woman's frozen eggs do not age, she is still ageing and therefore, she is still at risk of developing medical conditions such as fibroids, endometriosis, high blood pressure, diabetes. These conditions may complicate the pregnancy.

Pregnancy at an older age may be associated with a higher risk of miscarriage, preterm delivery, gestational diabetes, pre-eclampsia, cesarean section, birth injuries, cerebral palsy, thromboembolism and maternal mortality.

The issue of psychosocial concerns of parenting at an advanced age for both parents and child will surface as well. For example, if a woman gives birth to a child at 50 years old, when the child is 20 years old, the child will have to shoulder the burden of taking care of a 70-year-old elderly parent even before financial independence. Therefore, while it is theoretically possible to conceive at an older age using frozen eggs, the risks may outweigh the benefits of doing so.

How many eggs should we target?
The number of eggs required for freezing varies widely between published studies. On average, a range of 10 to 15 mature eggs is recommended for women who are less than 35 years to have a 70-80% chance of having a baby.

Currently, we expect the success rates for egg freezing to be described as follows:
- Approximately 80-90% of eggs would survive thawing in future
- Approximately 50-80% of surviving eggs would be fertilized
- Approximately 50-90% of fertilised eggs would develop into embryos
- A single embryo would have a 20-35% chance of developing into a pregnancy

These numbers are not meant to be exact but are intended to give an indication of what can be expected.

Depending on the patient's egg reserves, multiple cycles of stimulation may be required to obtain a sufficient number of eggs for a possible live-birth. Also, if a woman wants to have a second child, the first batch of frozen eggs are typically insufficient.

What is the cost of EEF?
Presently, the estimated cost of one egg freezing cycle for a Singaporean at KKIVF Centre is between S$8,000 to S$10,000 excluding the yearly storage cost of the frozen eggs which is about S$500. As EEF is an elective procedure without any medical indication, there is no subsidy for this service.