Egg Freezing

Egg freezing is a method of storing a woman's unfertilised eggs, with a view to them being used in the future. It may be seen as a way of preserving the potential for fertility, in women who are not in a position to become pregnant, or whose fertility is at risk.

While embryo and sperm freezing are well-recognised infertility treatments, with many babies born as result, Egg freezing is a relatively new option for fertility preservation. Frozen eggs may be stored for many years. When the woman is ready to use her eggs, they are thawed, and then fertilised with sperm. A healthy fertilised egg will develop into an embryo, which may then be transferred to the woman's uterus, with a subsequent chance of pregnancy.

The first baby born using frozen eggs was in 1986 but success rates were so low at that time that egg freezing was largely abandoned. Advances in cryoprotectants, the introduction of intracytoplasmic sperm injection (ICSI) and freezing methods such as vitrification have transformed that picture.

Who might benefit from egg freezing?

• Medical egg freezing relates to women whose fertility is affected or likely to be affected by conditions such as tumors of the ovary, chemotherapy, radiotherapy and/or other medical indications.

• Social egg freezing generally relates to women who wish to have a child or children in the future, but who do not have the opportunity (due to a lack of a committed partner or other lifestyle issues) to do so during their most fertile years. It may be seen as a form of insurance against future infertility.

While women with a family history of premature ovarian failure, repetitive ovarian cysts, living in an area with high exposure to pesticides or heavy metals or undergoing exposure to chemical or biological warfare due to military service may also consider egg freezing.

DR. K. D. NAYAR
MD, DGO, Dip. Obst. (Ireland) FICOG
Chief Consultant Infertility and IVF
Akanksha IVF Centre, Mata Chanan Devi Hospital
Mob: +91-9810398765

Success Rates of Egg Freezing:

There are limited good studies looking at live birth rates from frozen eggs. What information is available shows that approximately 90% of eggs survive the vitrification (freezing) and thawing process.

Of those eggs that survive, approximately 70% will fertilise to produce embryos. Clinical pregnancy rates are approximately 35% (dependent on the age of the women at the time of freezing. This will be lower for women more than 35years old).

American Society of Reproductive Medicine(ASRM) in their committee opinion state that studies provide good evidence that fertilization and pregnancy rates using vitrified oocytes are similar to fresh IVF cycles or fresh ICSI cycles and are consistent with clinical experience with respect to the effect of the age of the oocyte when frozen or vitrified.

Potential Risks of Egg Freezing:

Some eggs are inevitably killed during freezing; freezing also causes some damage to the eggs which survive. Some eggs freeze better than others. Unfortunately we cannot predict which eggs will survive well and which will not.

There are no reported increased risks in chromosomal abnormalities, birth defects and developmental problems in children born as a result of egg freezing compared to the general population.

The Egg Freezing Process:

An egg freezing treatment cycle starts exactly the same way as an IVF treatment cycle. It requires the woman to take daily injections to stimulate the ovaries to produce a 'good number' of eggs. The number of eggs produced will depend upon the age of the woman and her ovarian reserve and the dose of drugs used for stimulation will be adjusted accordingly. The stimulation process usually takes 10 to 12 days during which time 2 to 3 ultrasounds are required to assess the ovaries. An egg collection is performed on approximately days 12 to14 of the treatment and is performed under short general anaesthesia/sedation and takes approximately 20 minutes to perform. The eggs are assessed in the laboratory and those eggs of correct maturity are frozen using a technique known as vitrification.

Side Effects of Egg stimulation: The treatment can cause mild bloating but this usually settles within 5 days of the egg collection. Risks such as ovarian hyperstimulation syndrome seen in women undertaking IVF treatment is extremely low as embryos are not being replaced.

Pre-treatment Requirements:

A pelvic ultrasound is required to view the ovaries and check the antral follicle count which is used as an indicator of ovarian reserve. The accessibility of the ovaries to the egg collection process is also assessed. Ovarian reserve is also assessed by an AMH test which is a blood test and can be taken at any time in the menstrual cycle. Blood is also taken for screening for Hepatitis B surface antigen, Hepatitis B core antibody, HIV and Hepatitis C. Informed consent is required before starting the entire process.

Oocyte cryopreservation represents an appealing option for those women who wish to defer childbearing until later in life. At Akanksha IVF centre, our embryology team is well trained and experienced to perform oocyte cryopreservation. Egg freezing , with appropriate counselling, is recommended for patients facing infertility due to chemotherapy or other gonadotoxic therapies. It is recommended that patients be thoroughly counselled about the current lack of data on efficacy, as well as the risks, costs, and alternatives to elective egg freezing for the sole purpose of circumventing reproductive aging in healthy women.