



Midland Fertility Services

Elective Egg Freezing



'Building futures,
transforming lives'

What is elective egg freezing?

Elective egg freezing is a form of fertility preservation chosen by some women, for either non-emergency or non-medical reasons. It uses IVF procedures to stimulate a woman's ovaries and then retrieve, freeze and store some of her eggs for possible future attempts to conceive, at a time when her own fertility may have been reduced and the quality of her fresh eggs may have diminished.

Eggs are the largest single cell in the human body and until recently, freezing and thawing them without damage was a scientific challenge. Now following the birth of hundreds of healthy 'frozen egg' babies around the world, new techniques to successfully freeze and thaw eggs offer the chance of genetic motherhood to some women which was previously not available.

MFS has held a license for egg freezing from the Human Fertilisation and Embryology Authority (HFEA), the UK government body that regulates fertility treatment, since 2000.

Who may benefit from elective egg freezing?

As with IVF using 'fresh' eggs, success rates are significantly influenced by a woman's age. Therefore MFS strongly recommends that a woman considering elective egg freezing begins treatment before her 38th birthday.

A woman may elect to have egg freezing treatment for reasons including:

- she has a non-emergency medical condition which may either shorten her 'fertility life' or which will prevent her trying to conceive until treatment for that condition is complete, such as:
 - severe endometriosis
 - recurrent ovarian cysts
 - any condition which, in the opinion of her doctor, may result in premature

ovarian failure or the removal of her ovaries

- a history of early menopause in her family, through her mother, or aunts or maternal grandmother
- depression or a temporary mental condition for which she is currently receiving treatment
- she is a single woman who is not currently in a relationship but who would like the option of genetic motherhood in the future. This is sometimes referred to as 'social' egg freezing

The MFS three-stage elective egg freezing service

MFS has provided an egg freezing service since 2000 and the clinic understands that women who elect to freeze their eggs for non-emergency or non-medical reasons require a specific approach to their treatment and care to:

- satisfactorily address the reasons and possible emotional issues which have made them consider elective egg freezing
- maximise the success of the egg collection

This leaflet details the unique three-stage elective egg freezing service at MFS. More information about all MFS fertility investigation, treatment and preservation services, and success rates is available via www.midlandfertility.com.

Egg freezing at MFS is handled by a dedicated team whose experience delivers a total care package addressing the clinical, scientific and emotional requirements of elective egg freezing. The service is the result of MFS being one of the first UK clinics to offer egg freezing and of being the first and only clinic (as of October 2009) to have had livebirths following the freezing and the subsequent

thaw, fertilisation and transfer of the mothers' own eggs.

Through thorough investigations, scanning, consultations, follow-up appointments and counselling, the three-stage elective egg freezing service ensures that the woman understands both the potential and limitations of egg freezing and feels fully informed of the chances of possible success before any treatment begins.

What does elective egg freezing treatment involve?

The elective egg freezing service includes three stages of investigations, consultations and treatment.

Stage one: ovarian reserve testing

MFS measures a woman's anti-Müllerian hormone (AMH) to give an accurate indication of her fertility potential and her possible response to fertility drugs. The blood test should be taken on day two to five of the woman's cycle and may be taken either at MFS, or MFS can mail a pack to the woman for the blood to be taken by her GP practice nurse. The woman must then send the blood tubes to MFS for analysis and, within four weeks on day six of her cycle, return to MFS for a consultation, an ultrasound scan and the results of the AMH and other hormone tests

If the results of the ovarian reserve test are suitable, the woman may proceed to 'stage two: the elective egg freezing preparation service'.

Stage two: elective egg freezing preparation service (EEFPS)

The MFS unique EEFPS includes treatment assessment, a counselling session and guidance on:

- success rates of egg freezing
- risks of treatment
- the impact of the woman's age on the quality of eggs and the chance of a healthy pregnancy
- the assessments necessary to move on to any future treatment
- the consent the woman must give before any treatment may begin

If the egg freezing team is satisfied that the woman meets the clinical and scientific criteria and she has met with the counsellor to consider her ability to deal with the emotional implications of elective egg freezing, she may progress to 'stage three: egg recovery and freezing'.

Stage three: egg recovery and freezing

Treatment is tailor-made for each woman, depending on the results of the 'stage one: ovarian reserve test' and the 'stage two: EEFPS', and includes:

- daily injections or a nasal spray to 'down regulate' the woman's monthly cycle to a temporary menopausal state in preparation for the stimulation phase of the cycle
- gonadotrophin drugs given by daily injections to stimulate the ovaries to produce more eggs than occur in a natural cycle. An MFS doctor or fertility nurse specialist will advise on the most suitable method and dose for each woman to optimise the number of follicles and mature eggs
- the woman will need to attend the clinic for ultrasound scans during the stimulation phase to monitor the number and size of the growing follicles. When the follicles have grown sufficiently she will be advised of the day of her egg collection (usually

about two to five weeks after she first starts taking the fertility drugs)

- egg collection is performed with ultrasound guidance under conscious sedation and local anaesthetic. A nurse will be with the patient constantly throughout the procedure and a member of the woman's family, a friend or a partner may also be present
- the collected eggs are washed and placed in labelled dishes before being put into an incubator where the environment mimics the inside of the body
- the eggs are prepared for freezing using either the slow-freeze or vitrification processes, or a combination of both, as agreed with the laboratory team:
 - using the slow-freeze method: the embryologist puts the eggs through a series of solutions to remove and replace their water content with a cryoprotectant to help preserve the cell structures and avoid crystallisation during the freezing and thawing processes. They are then loaded into plastic straws and put into liquid nitrogen where they will remain at -196°C until possible future use
 - using vitrification: the embryologist places the egg on a film-like 'leaf' within a tiny droplet of cryoprotectant and then quickly inserts it into liquid nitrogen to rapidly cool the eggs at a rate of $-20,000^{\circ}\text{C}$ per minute. The flash-freezing technique changes the liquid cryoprotectant to a glass-like solid in which the egg is preserved and then immediately stored in liquid nitrogen at -196°C for possible future use
- eggs may remain in storage until the woman wishes to use them to try to conceive or until her consent to store

them expires (usually up to 10 years - see below)

For how long can eggs be stored?

Eggs may be stored until the woman wishes to try to conceive with them. Currently eggs may be stored for a maximum of 10 years, although this period may be extended if the woman is rendered prematurely infertile, in which case they can be stored for 55 years from the date they were frozen.

How are the eggs used to try to conceive?

In the future, if the woman wants to try to conceive using the thawed frozen eggs, she will return to MFS for a repeat consultation, including a Welfare of the Child assessment and possible further counselling. At a later date, an MFS embryologist will take the eggs from the liquid nitrogen, remove the cryoprotectant, and warm them before fertilising them with donor or partner sperm using the ICSI technique.

With this method, a single sperm is injected into the centre of the egg using a glass needle 1/10th the width of a human hair. Fertilisation rates are the same as those for 'fresh' eggs at 60%-80%. One or two of the resulting embryos may be transferred back to her uterus three to six days after the ICSI procedure and any surplus, good quality embryos may be frozen for future use. The woman will know if she is pregnant within 14 days.

The ICSI for thawed frozen eggs and embryo transfer procedure is not guaranteed as part of the emergency egg freezing treatment and is subject to the usual pre-treatment assessments, including Welfare of the Child. Should it go ahead, this treatment incurs an additional cost.

How successful is egg freezing?

Egg freezing, using either the slow-freeze method or vitrification, is a comparatively recent development in fertility treatment and fertility preservation. Hundreds of babies have been born worldwide using both methods of egg freezing but as with all fertility treatments, no clinic can guarantee that the procedure will result in a successful pregnancy or livebirth. Centres experienced in egg freezing report similar success rates with frozen eggs as with frozen embryos (approximately 20-60% per embryo transfer). Current research suggests that the chance of conceiving with ICSI using vitrified frozen eggs may be comparable with 'fresh' eggs although, as with conventional ICSI, the age of the woman when the eggs are retrieved is the biggest determinant of a successful outcome.

What are the risks?

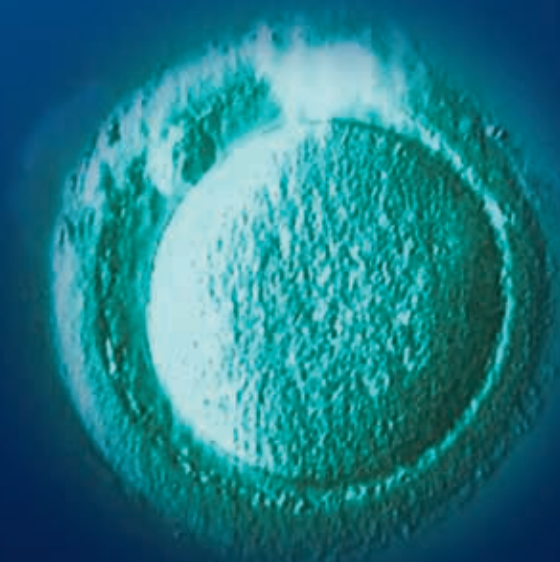
As with any medical procedure, egg freezing treatment carries some risks which will be explained fully during a consultation. The egg collection procedure is carried out without general anaesthetic and so is classed as a low-

risk procedure. However, egg freezing treatment requires a woman to use the ovary stimulation drugs used in standard IVF treatment, which carry a small risk of developing ovarian hyperstimulation syndrome (OHSS). There is also a very small risk that none of the eggs will survive the freeze/thaw process, although published survival rates range from 65% for the slow-freeze method to 95% for vitrification.

Hundreds of healthy babies have been born safely after egg freezing, but this is an emerging technology and the long-term outcomes of the technique are still under review. Research to date suggests that the risk of miscarriage, fetal abnormality or birth defect is no higher than in conventional IVF or ICSI.

Getting more information

Call MFS on 01922 455911 to request an ovarian reserve test appointment or pack, or email eggfreezing@midlandfertility.com for more information about the elective egg freezing service.



Services at MFS

- Fertility Investigation Package
- Ovarian Reserve Testing
- Recurrent Miscarriage Monitoring
- Sperm Analysis
- Intrauterine Insemination (IUI)
- In Vitro Fertilisation (IVF)
- Intra Cytoplasmic Sperm Injection (ICSI)
- Surgical Sperm Retrieval
- Egg Sharing
- Egg/Embryo Donation
- Surrogacy
- Sperm Freezing
- Vasectomy Reversal Back-Up Plan
- Egg Freezing (including Vitrification)
- Embryo Freezing
- Blastocyst Culture and Transfer
- Assisted Hatching
- Genetic Screening

How to get to Midland Fertility Services

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f: 01922 459020

e: mfs@midlandfertility.com

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