

### What is embryo freezing?

Freezing good quality embryos offers a chance of conceiving after an unsuccessful fresh embryo transfer, or even several years following a successful transfer and pregnancy. Some MFS patients have had babies more than ten years after their embryos were originally created and frozen.

Under controlled conditions, embryos are cooled and stored at extremely cold temperatures (-196 °C) which suspends their development. Once frozen, embryos can remain in liquid nitrogen for years without deterioration before being thawed and, if they survive and develop well, transferred to the woman's uterus during a frozen embryo transfer (see MFS infosheet, Frozen Embryo Transfer [FET]).

Using thawed frozen embryos gives the possibility of a brother or sister for a patient's baby from a single cycle of IVF or ICSI treatment - known as a conceptual sibling.

**Where other clinics may charge an additional fee for freezing embryos, the cost of embryo freezing and one year's storage at MFS is included in all IVF and ICSI treatment fees at MFS.**

MFS contacts patients every year to make sure they still wish the clinic to continue storing their embryos and so it is vital that the clinic has a correct address while embryos remain in storage. When the consented period of embryo storage ends, MFS is legally obliged to remove the embryos from storage unless the patient has contacted MFS and the storage period has been extended.

### Who may benefit from embryo freezing?

- couples who achieve many good quality 'spare' embryos, following embryo transfer, which can be stored for possible future attempts to conceive
- patients who have had an egg collection for IVF or ICSI treatment, who have been advised not to go ahead with a fresh embryo transfer will have their embryos frozen for use in treatment at a later date

- a woman in a relationship, about to undergo medical treatment that may make her infertile in the future can have embryos created and frozen before the treatment to give her the chance of having children with her current partner, at a later date

### How are embryos frozen?

Suitable embryos are placed in labelled straws in cooling solutions and then stored in tanks of liquid nitrogen at -196 °C.

To be suitable to freeze, embryos must:

- be at the correct developmental stage for the number of days the embryos have been cultured; for example two days after fertilisation an embryo should be four cells
- contain cells which are approximately the same size which indicates regular division
- contain less than 25% fragmentation
- have well-defined membranes indicating that they are not undergoing a delicate cellular division at that precise moment

Embryos may be frozen at various stages of development:

- 2PN, the day after egg collection
- cleavage, four to eight cells, two or three days after egg collection
- blastocyst, when the multi-cellular embryo has hatched, usually five or six days after egg collection

Embryos are stored in cryobanks at MFS which are regularly inspected and linked to a 24 hour alarm system.

### Giving permission to freeze embryos

Before embryos may be frozen, both patients will be asked to give MFS permission to do so, by completing consent forms. This is a legal requirement and allows patients to inform MFS:

- how long the embryos are to be frozen
- whether they would like to donate them to another person
- what should happen to the embryos in the event of either of the patients' deaths or mental incapacity

Consent can be altered or withdrawn at any time if the patients' circumstances change, for example if a couple separates. If one partner decides to withdraw consent to storage or use of embryos, MFS has a legal obligation to take reasonable steps to notify the other partner that consent has been withdrawn. The law allows embryos to be stored for 12 months from the date that the centre receives written withdrawal of consent, or less if the centre receives written signed consent from all intended recipients for the embryos to be destroyed. This 12 month 'cooling off' period must not extend beyond the end of the statutory storage period, at which point the embryos will be removed from storage.

If donor gametes (eggs or sperm) have been used in treatment, the donor will also have completed a similar consent form and so the length of time the embryos will be able to be stored will depend on what they have consented to. The donor may also change or withdraw their consent at any time before the embryos are used, which may prevent the patient from using the embryos. However, this is an extremely rare occurrence.

#### **For how long may embryos be stored?**

Legislation determines the time that MFS, with patients' consent, is allowed to store embryos. Currently embryos may be stored initially for 10 years. Under exceptional circumstances, storage may be extended up to 55 years from the date of freezing (to be reviewed every 10 years), if the patient, partner or someone to whom the embryos are allocated is prematurely infertile or likely to become prematurely infertile.

#### **What happens to stored embryos when treatment is complete?**

Sometimes making a decision can be difficult and so MFS staff will offer much more information on each alternative so patients are fully informed before they give written notification of their choice. Counselling is also available. Patients have three choices for their stored embryos:

- donate the embryos to another couple undergoing fertility treatment
- donate the embryos to a research project
- withdraw consent so the embryos are removed from storage and allowed to perish

#### **Success rates**

Pregnancy rates using frozen embryos compare well with pregnancy rates from fresh embryo transfers. For the most current results at MFS visit: [midlandfertility.com/success-rates](http://midlandfertility.com/success-rates)

#### **What is included in the cost of embryo freezing?**

Where other clinics may charge an additional fee for embryo freezing and storage, the cost of embryo freezing and one year's storage at MFS is included in all IVF and ICSI treatment fees.

#### **What is not included in the cost of embryo freezing?**

- storage costs after the first year
- repeat consultation for frozen embryo transfer
- repeat routine infection screening (after one year)
- frozen embryo transfer treatment and drugs
- the HFEA levy for the transfer of embryos
- the electronic witnessing fee for the transfer of embryos

#### **Costs**

Please refer to the current List of Charges in either the Patient Finance Information leaflet or via [midlandfertility.com/fees](http://midlandfertility.com/fees).

#### **Further information**

Please visit [midlandfertility.com/treatments](http://midlandfertility.com/treatments) or read the following MFS infosheets:

- Frozen Embryo Transfer
  - Blastocyst Transfer
- (downloadable from [midlandfertility.com](http://midlandfertility.com) or in hardcopy from MFS).