Embryo Freezing and Thawing Patient Information

When are embryos frozen?

Embryos are grown to the blastocyst stage (when possible) to assess the quality of the embryos over several days. Blastocyst transfer takes place on day 5. Any 'spare' embryos are checked for freezing suitability after your embryo transfer has taken place. Good quality embryos are frozen and stored for later use. Any remaining embryos on day 6 are assessed and then frozen if they are suitable. If you are having a freeze all (you are not having a fresh embryo transfer), we will assess your embryos throughout days 5 and 6 and freeze any suitable embryos.

Can you freeze all my spare embryos?

We know that only very good quality embryos are able to withstand the freezing and thawing process. We do not freeze embryos that do not have a good chance of surviving the freezing and thawing processes. Embryo quality is a clinical judgement made by a Clinical Embryologist. Embryo quality will be discussed with you before your embryo transfer. If you are having a freeze all, embryo quality will be discussed with you on the final day of freezing (day 6 after egg collection).

How will you freeze my embryos?

We use a technique called vitrification to freeze your embryos. This process uses protective chemicals to freeze the embryos safely. Individual embryos are frozen inside labelled plastic straws that are sealed and stored in liquid nitrogen (-196°C).

How do you thaw my embryos?

We simply take your embryo(s) out of liquid nitrogen and warm the embryo(s) up quickly to body temperature. We remove the protective chemicals from the embryos that enabled them to be frozen safely.

Do all embryos survive the freezing and thawing process?

We expect the majority of embryos to survive, however some do not survive. The survival rates for good quality blastocysts are approximately 90-95%. Blastocyst survival rates are known to be poorer when the blastocyst grade is borderline or poor quality. It is important to understand that as well as survival, blastocysts need to show 'signs of life' to be suitable for embryo transfer. 'Signs of life' are recorded by a Clinical Embryologist when the embryo starts to re-expand. Blastocysts can often contract into a tight ball of cells during the freezing/warming process and need time to re-expand. Re-expansion can take between 1-2 hours to observe, this may delay your embryo thaw results on the day of your embryo transfer. If your embryo does not survive

the thawing process and you have another embryo in storage, we will ask your permission to take the second embryo out of storage for thawing.

How do you choose the best frozen embryo(s) to transfer?

The quality of your embryo(s) is recorded before freezing. Embryos are frozen separately on labelled straws to ensure their identity and grade is identifiable. The embryos will be thawed in order of 'best' quality first to give you the best chance of achieving a clinical pregnancy.

Can you re-freeze embryos?

Yes, we can re-freeze embryos if needed. As far as we can tell, if the embryo has survived the freezing and thawing process, it can be re-frozen. The chances of the embryo not surviving the second thawing process may be slightly increased.

How long can my embryos remain in storage?

The law now permits you to store embryos for use in treatment for any period up to a maximum of 55 years from the date that the embryos are first placed in storage. However, crucially for storage to lawfully continue you will need to renew your consent every 10 years. Please note that extension of storage incurs a cost for private patients and may also incur a cost for NHS patients (this is CCG dependent). Please be aware that it is unlawful to store embryos and gametes beyond the storage consent period. Our clinic has a legal obligation to dispose of gametes and embryos once storage consent has expired.

Are there are risks in freezing or re-freezing embryos?

There is no evidence that freezing embryos is harmful to the baby in any way (but remember that some of your embryos may not survive the freezing and thawing process). Frozen embryos are stored in liquid nitrogen and this presents a theoretical risk of potential cross-contamination between samples in storage. To reduce this theoretical risk, all patients are screened for viral diseases (Hepatitis B, Hepatitis C and HIV) and stored appropriately according to viral status.

This leaflet can be made available in different formats on request. If you would like to make any suggestions or comments about the content of this leaflet, then please contact the Patient Experience Team on 0151 702 4353 or by email at pals@lwh.nhs.uk

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