Frozen Embryo Transfer (FET) Treatment

Information for patients
Welcome

This booklet explains the process of treatment with frozen / thawed embryos at Leeds Fertility. You can find further information at www.leedsfertilityclinic.co.uk or scan the QR code below:

![QR Code]

**How to contact us:**

Please see page 45 for urgent and non-urgent contact details.
When and why are embryos frozen?

- If spare good quality embryos remain after a fresh cycle

Assisted conception through IVF is a long process. Unfortunately there is no guarantee of success and treatment will often involve several attempts at embryo transfer in order to achieve the goal of a live-born baby. For many decades, good quality embryos have been successfully frozen and thawed to go on to produce healthy babies. IVF treatment stimulates the growth of several eggs and can sometimes produce more embryos than can be used in the first treatment cycle. The aim of producing a single pregnancy at a time by the transfer of embryos one at a time means that good quality embryos are sometimes remaining after treatment. These are not wasted but can be stored for future use, either if the fresh embryo does not produce a pregnancy from that cycle, or if there is a wish to have another child some time later.

At Leeds Fertility about 36% of cycles have spare embryos to freeze. You will have given your specific consent to the storage of your embryos during your fresh cycle (both partners must sign agreement).

All of your embryos are scored (graded) to help the selection of the embryo with the best chance of achieving a pregnancy. Over the years we have identified which features signal that an embryo has a good chance of surviving the freezing and thawing process and still going on to produce a pregnancy. We can also identify embryos that will not survive this process. If an embryo is of poor quality before it is frozen, it will not have improved afterwards. Often, poor quality embryos have not survived or are degenerating (dying) upon thaw and we do not transfer these ones.
The score required to attempt freezing is quite high and this helps to maintain good survival upon thawing and also good pregnancy rates upon transfer. The chance of a single embryo surviving the process to reach the transfer stage is currently about 90%. At Leeds Fertility we have been using the modern vitrification technique for freezing embryos since March 2015 which gives a higher rate of survival than the older slow freezing technique (60%) used before this date. It is important to bear this in mind, especially if there is only one embryo available in storage. It is disappointing to prepare for transfer only to find on the day itself that no embryo is, in fact, available for treatment.

• If Leeds Fertility has advised that no transfer should take place due to a significant risk of ovarian hyperstimulation syndrome (OHSS)

Occasionally, if a woman’s ovaries have responded too strongly to the stimulation injections, she becomes at risk of OHSS which can make her very unwell if it is allowed to progress (please see IVF/ICSI information booklet or our website for more information).

One of the ways to prevent severe OHSS is to interrupt the cycle by freezing all the embryos generated after egg collection and fertilisation. If a woman who is at risk of OHSS or with mild-moderate symptoms of OHSS gets pregnant, the condition gets worse and can last for many weeks. Therefore pregnancy is actively avoided by freezing all the embryos produced. Pregnancy rates after frozen-thawed embryo transfers are good and may even be better in women who have recovered from OHSS compared to those having a fresh transfer during the time when the condition is active.
• If transfer can not take place for technical reasons

This is uncommon. Occasionally the passage of the transfer catheter through the neck of the womb (cervix) is blocked and there have been no warning signs of this risk beforehand.

The cervix requires closer examination (usually under anaesthetic) with a fine telescope called a hysteroscope, and can be opened or stretched slightly (cervical dilatation). Occasionally the womb lining does not develop properly (too thin or with an abnormal appearance on ultrasound scan such as a polyp).

In this situation we will discuss the advantages and disadvantages of having an embryo transferred or not, and whether a hysteroscopy examination would be helpful.

• If embryo freezing has been planned in advance for patients storing their fertility before cancer treatment

You will be expecting all of your embryos to be frozen if you are having a rapid IVF cycle before undergoing treatment for a cancer which could significantly affect your natural fertility.
For how long can embryos be frozen?

Embryos can be legally stored for a maximum of 10 years. There are individual circumstances where this period can be extended by special application. The embryos do not change or deteriorate because they have been frozen for a long period but it is important that their fate is determined in a timely way and that they are not left in limbo.

Leeds Fertility keeps them safely frozen and maintains records for the Licensing Authority (HFEA). There is an annual fee to cover storage administration. (Please refer to the current price list). You must keep us updated with any change to your correspondence address. If we lose contact with you, or you do not keep up your storage fees, we have to allow your embryos to perish. Both partners must continue to consent to the on-going storage. If one partner withdraws consent, the embryos will have to be allowed to perish after a period of reflection of one year (cooling off period) if both partners do not agree.

What options are there for our embryos if we no longer wish to use them for our own treatment?

You can advise us that you wish to allow the embryos to perish. They will be thawed and humanely discarded.

You can offer to donate them to another couple. This would require at least one counselling session to cover the implications of this for yourselves, your existing child / children and the potential child / children. You will be required to have further assessments to assist the appropriate matching with another couple (at no financial cost to you).
You can donate them to medical research if a suitable project is currently available. Embryo research is carefully monitored by the HFEA and specific consent is required for the specific project from both partners. Detailed explanation would be provided.

**Success rates**

Embryos that survive freezing intact have very similar success rates (pregnancy rates) to fresh embryos. Pregnancy rates decline with female age and for frozen embryos the relevant age is the age of the woman when the egg was harvested.

The chance of a treatment cycle resulting in a baby will depend upon how many embryos have been frozen and at what stage of development the storage happened. The greater the number of available embryos and the more advanced they are (day 5 of age compared with day 2-3), the higher the chance.

When all these variables are taken into account, the overall chance of a clinical pregnancy (heart beat on first scan) from a thawed embryo is 30-40%.
How do I get treatment with my frozen embryos?

Referral, timing and funding

Often you will move into an FET cycle after the follow-up clinic appointment when a fresh cycle has been unsuccessful. The minimum time period is about six weeks, to allow the ovaries to heal and the hormones to return to normal. The consultation with the doctor helps to process the new information obtained from the fresh treatment and to discuss the detailed plans for your frozen embryo(s). There is no pressure of time and you may wish to take a longer break between treatments.

If you have had a pregnancy, your GP will refer you for an NHS out-patient consultation to discuss and plan your FET. Your medical histories will be updated and there will be some investigations for the woman, including a pelvic ultrasound scan.

If you have had a baby, the FET treatment will need to be funded by yourselves. Please ask for our current price list. If neither partner has had a child, most NHS commissioners (fund-holders) will continue to fund FET treatment until all the embryos created from the fresh cycle they funded have been used (up to a maximum of 4 cycles), or a baby has resulted.
What can I do to prepare for healthy pregnancy and boost my chances of success?

General lifestyle issues

• Stop smoking completely.
• Reduce alcohol intake to a minimum for both men and women. No safe limit has been identified so no alcohol consumption is advised.
• Women should have been vaccinated twice against german measles (rubella) or have confirmed immunity.
• Women should have an up to date, normal cervical smear test.
• Women should be taking folic acid (vitamin B) supplement at 400micrograms daily before and during treatment, and for at least the first three months of pregnancy.
• Vitamin D supplements (10micrograms daily) are also recommended throughout pregnancy. Over-the-counter multivitamins for pregnancy will cover both needs.
• Some women need to take high dose folic acid (5mg). Please speak to your GP if you are diabetic, epileptic, overweight, have a gut condition that can cause reduced absorption, or have any history of spina bifida (neural tube defect) in a previous pregnancy.

• Both partners should aim for normal body weight for their height. Women in particular should aim for a body mass index ideally under 25kg/m$^2$, and absolutely under 30kg/m$^2$ to access NHS-funding. Treatment is less successful and more risky at heavier weights. Pregnancy is also less healthy with a higher risk of blood pressure problems and diabetes in heavier mothers. (See separate weight management guidance booklet or online).

• A healthy, varied diet and regular physical exercise are helpful for overall health, weight management and stress reduction.

• Discuss any other medication you take with your GP and specialist(s) to ensure any risks to yourself (from other medical conditions) and to your up-coming pregnancy / baby are minimised.

• Consider carefully the use of complimentary therapies, and please inform us what you are using / doing. Acupuncture is not known to be harmful and many patients find it helpful with managing stress. Other supplements that have not undergone conventional medicine testing will not be recommended.
How is a frozen embryo transfer cycle done?

Out-patient clinic consultation

A meeting is required to discuss any changes since the previous episode of treatment.

Baseline tests are updated (pelvic scan, smear test, infection screen vaginal swabs).

We will discuss your available embryos and plan how many to thaw at once. We will plan whether to transfer them on the day of the thaw, or whether to allow them to grow in culture in the laboratory in order to reach the blastocyst stage of development.

The hope is to select the one (s) with the highest chance of resulting in a pregnancy. The risk is that the embryos may not continue to develop in the laboratory and there may be none suitable for transfer. This is obviously very disappointing but these embryos would not have produced the desired result (a baby) if they had been transferred at the earlier stage. This would have created false hope for a couple of weeks until the negative pregnancy test result.

If your embryos have been frozen early and a fresh transfer was avoided to reduce the risk of OHSS, we would advise thawing a larger number of embryos (possibly even all of them) and observing their development until such time as the leading embryo(s) have become clear from the rest.
Nurse consultation

This 30 minute long appointment with a nurse specialist is the gateway into your treatment cycle. **Both partners must attend.**

1. **Planning**

You will be given a Treatment Diary explaining your individually tailored treatment program and the expected dates when key parts of the process should fall.

Please be aware that our bodies do not always ‘read the textbook’ and sometimes we have to reschedule for minor delays such as a period coming later than expected. This is quite normal and the service will stretch to fit you in.

![Calendar Image]

Please bring your treatment diary to every visit after this.
2. Medication

The woman will be using medicines on a daily basis, some by injection. We will teach you both how to do this properly and safely.

Many patients find this worrying to start with, but get the hang of it very quickly. The medicines are dispensed by a home-delivery pharmacy who will bring them to the address of your choice.

The nurse will show you examples of what will arrive and advise you how to store them. More information is available on our website e.g. injection teaching video.

3. Consents

Consent for treatment is an important and legally binding process. You will be registered with an online service called EngagedMD to guide you through the necessary information and signature process before your nurse consultation.
The nurse will check your forms with you before they are approved for your records. You may have a copy for your own records if you wish.

4. Settlement of Invoice

If you are paying for your treatment, we respectfully ask that the bill is settled by the time of the nurse consultation. This can be done by card over the telephone or in person on the day, with the Business Support Team (0113 206 3157).

Treatment protocols

The principle of FET requires the development of the womb lining (endometrium) and the control of natural ovulation to enable the precise coordination of the embryo thaw and developmental stage of the lining. Most FET cycles at Leeds Fertility are managed with medication because this provides greater control and flexibility.

1. Medicated FET with Prostap / buserelin

The treatment begins with a Prostap injection (on day 1 or day 21 of the cycle) which switches off the natural cycle and prevents a new egg from developing or ovulating. A scan two weeks later will confirm ‘down-regulation’ or shut-down of the natural mechanism. The womb lining will be thin and ready to be stimulated to thicken. This is achieved with oestrogen hormone taken either as tablets or patches (or both) for 10-12 days.

A further scan will confirm adequate endometrial development for the embryo thaw to be planned. There is some flexibility at this stage to minimise inconvenience to the clinic schedule and your own plans.
2. Medicated FET with fyremadel / cetrotide
Ovulation can be suppressed with orgalutran (GnRH antagonist) as an alternative to Prostap. Your consultant will advise if this is more suitable for you.

3. Medicated cycle luteal phase
Medicated cycles involve taking progesterone on top of oestrogen to precisely prepare the womb lining for the age of the embryo at the time of expected transfer. Progesterone can be given as vaginal pessaries (tablets) or by injections. Both oestrogen and progesterone will need to be taken together until the pregnancy test and for the first three months of pregnancy if the test is positive.

4. Natural cycle FET
It is possible to perform FET in time with natural ovulation but this is much less predictable and is not suitable if the menstrual cycle is irregular. There is also a greater risk of cancellation of treatment if ovulation is missed, or if the embryo thaw happens to fall on a weekend day when the clinic is only open in the morning.

We limit the number of embryos thawed per day, for safety reasons, and avoid thawing embryos at the weekends for staffing reasons.

Laboratory phase
The timing of the transfer will depend on the number of embryos chosen to be thawed and the selection of the best available from the survivors. If there is a single or small number of embryos available, it may be clear very early on which one (s) should be transferred.
From 2016 onwards, embryos are almost always frozen on day five. These blastocyst-stage embryos are thawed on the day of intended transfer, one at a time or in pairs. Embryos frozen at earlier stages of development may be thawed and cultured to the blastocyst stage to help improve the selection process and increase the chance of a pregnancy resulting. The same rules of selection apply to good quality frozen - thawed embryos as to fresh embryos in terms of minimising the risks of multiple pregnancies (twins). *(See treatment risks page 24)*

* Images courtesy of The Association of Clinical Embryologists

Day 2: 2-cell embryo*

Day 3: 8-cell embryo*

Day 5: expanded blastocyst*

* Images courtesy of The Association of Clinical Embryologists

19
Leeds Fertility is pleased to be able to offer **Embryoscope** time-lapse imaging incubators. These machines allow the embryos to be cultured in a closed system because they have built-in cameras (microscopes) taking pictures of the embryos every ten minutes.

This means that details of the individual embryo’s development can be monitored throughout the culture period and pieced together in a short video clip. Embryos frozen immediately after fertilisation may gain from this technology when they are thawed and cultured in the laboratory. This may be the case if your treatment took place before May 2016. It does not offer any benefit to more advanced embryos (Day 2 or beyond by the time of thaw). The latest data from our unit indicates that the use of Embryoscope results in a 1.3-fold increase in live birth rate per fresh embryo transfer and that the risk of early preterm birth and very low birth weight.

Embryoscope incubation is separately funded so please check with the Team as to your position. If you wish to use Embryoscope you must declare this at the time of Nurse Consultation. Please note that the maximum number of embryo slots available per couple is 12. If you have more than 12 embryos available, you should discuss with the doctor how you would like to manage the thaw of your embryos (one or two batches together or in sequential treatments).

If several good quality blastocysts result from extended laboratory culture by whichever means, and they can not all be used for transfer at that time, they may be re-frozen for later use. On-going storage charges will apply in this case.
Embryo transfer

Please bring your treatment diary with you. You will be called by the embryologist on the day of your transfer with news of your embryo development / quality and a recommendation of the proposed number of embryos to transfer. You will be given a time to attend (usually early afternoon) and advised to be filling your bladder in anticipation of the procedure. A comfortably full bladder helps the passage of the fine tube (catheter) containing the embryo that makes the procedure easier, quicker and safer.

The procedure itself does not require any pain relief or sedation. It is similar to having a smear test. We introduce the embryo through the vagina and cervix, guided by an ultrasound scan through the tummy. Partners are welcome to support the woman and watch from the side. After the transfer, you may empty your bladder immediately if necessary. There is no need to lie down or rest. You will be given information about your pregnancy test timing and technique.
Two week wait
You will continue the medications you have been taking after the transfer up until the pregnancy test. The medication will continue for three full months if the pregnancy test is positive.

After the transfer and before the pregnancy test is often described as the hardest time of an IVF treatment cycle. We will not usually need to see you during this time and generally recommend that you continue with your normal activities, in order to keep your mind off the uncertainty of the result. If you wish to exercise, we recommend low impact activity and not to swim.

Pregnancy test
We will advise when your urine pregnancy test is due, depending on the timing of your transfer. Instructions will be provided after your transfer procedure.

First pregnancy scan
The first scan is done about five weeks after the transfer when the pregnancy sac, fetal pole (baby) and a heart beat should be visible.
If all is well at this stage, we will discharge you back to your GP to make arrangements with the midwife and antenatal clinic. We shall look forward to the news of your new arrival in due course, and will then complete the information on your treatment with the HFEA register.
Treatment risks

Multiple pregnancy and the One at a Time initiative

It is our joint wish to achieve a healthy pregnancy and live birth. This is more likely with a single baby at a time, rather than twins or more. IVF has a poor reputation for producing multiple pregnancies and these can be complicated for both mother and babies, sometimes with tragic outcomes.

It is not wise to take unnecessary risks by transferring more than one embryo at a time in couples with the highest chance of success. Therefore, it is our usual policy to transfer embryos singly in women under the age of 38 years, during the first or second cycle of treatment, where the embryo development has been good overall. This practice is consistent with the HFEA Code of Practice (www.hfea.gov.uk) and the One at a Time initiative (www.oneatatime.org.uk).

The chance of a pregnancy is closely related to female age (and egg quality) at the time the egg was fertilised, and to the performance of the clinic as a whole. Our figures show clearly that if we have two good quality day 5 blastocyst embryos, and we transfer both together, there is a 50% chance that if pregnancy results, it will be a twin implantation. If we only transfer one, the chance of a pregnancy resulting at all is less than 1% lower than if two were transferred. So the price paid for avoiding twins is very small relative to the high risk of seeing a twin pregnancy through to two healthy live births.

The Law permits the transfer of a maximum of two embryos in women under 40 years of age. Over 40 years, the maximum number of embryos permitted is three at any one time.
We will be happy to discuss your embryo development and the context of your chances of pregnancy on the day of embryo transfer, if you have any concerns about the advice proposed.

Miscarriage
The risk of miscarriage after a positive pregnancy test is approximately 20-30%, whether the pregnancy has been assisted through IVF / FET or occurred through natural means. Once the pregnancy sac has been seen and the heart beat identified then the risk of miscarriage falls (<5%). The risk of birth defects in babies born after IVF is no greater than in naturally conceived pregnancies.

Your personal risk is more likely to relate to your age, your family history and whether or not you have a multiple pregnancy.

Ectopic pregnancy
Embryos do not implant immediately upon transfer. There is a small chance that an embryo may wander up and settle in the Fallopian tube. This is an ectopic pregnancy which, if unidentified, may burst and cause serious internal bleeding. Women whose tubes have been identified to be less than perfect are at higher risk of ectopic pregnancy after natural or IVF conception.

We will perform your first pregnancy scan early (6+ weeks) if you are at risk. The standard first pregnancy scan is done at 7 weeks (3 weeks after your pregnancy test).
Please note:

It is important to perform a pregnancy test even if you have bled, and attend for the scan after a positive test. If a pregnancy sac is not seen on scan, a blood test is taken to measure the pregnancy hormone (hCG) level in your blood. You may be asked to attend for more tests after a few days’ interval.

If this hormone level is steady or slowly rising, then we may need to perform further investigations that may include a laparoscopy (surgery).

Risk of equipment failure

Leeds Fertility maintains service contracts for all our equipment. There are also many safety checks in the laboratory to give early warning of any possible problems. Despite all our efforts, and very uncommonly, equipment failure may sometimes lead to loss of eggs or embryos.

This is a ‘Category A’ incident that will be immediately notified to our licensing body (HFEA), the Leeds Teaching Hospitals Trust and to you. There would usually be a thorough investigation and steps taken to prevent a recurrence of similar problems.

The HFEA also operates an Alert system which all clinics use to learn from incidents elsewhere and can then reduce risks locally.
Treatment failure

Possible reasons

Failure of the embryos to survive the freeze-thaw process. More than 80% of embryos that were apparently good quality before they were frozen will survive the vitrification process. The majority will maintain their good quality features. Some will survive but have deteriorated. Good quality embryos can occasionally ‘repair’ themselves and still result in healthy pregnancies even if they do not score top grades at the time of the transfer. The chance of a cycle not resulting in a pregnancy is clearly higher if there are only one or two embryos available in storage and they do not survive the thaw intact.

It is more common for a pregnancy not to result, even when everything has apparently gone well. Sometimes we may not have an explanation for why a pregnancy fails to occur. We suspect that in most of these cases, the embryos were, in fact, faulty in their genetic make-up and were never destined to produce a baby. Unfortunately, the time that the embryos spend under observation in the laboratory is short and we can not identify everything about their (genetic) chances of continuing to develop normally, and as far as a baby.

When IVF embryos do undergo genetic testing, they are found to carry the same rate of genetic faults as naturally conceived miscarriages. This can be as high as 50%, and gets more common in women over the age of 40 years. There are often no signs of these faults at the early stages of development that we are able to observe (such as in the Embryoscope).
There is still much work to do to try to overcome what can often feel like a lottery. You may rest assured that we will not stop trying. We welcome feedback on the various aspects of our service. We use it to ensure that we are maintaining a high standard of patient experience and to try to improve the service that we provide. We would be grateful if you would spend a few moments to complete our questionnaire once your cycle is over.

**Counselling and patient-to-patient support**

We recognise that struggling to conceive can be upsetting. We aim to provide supportive care for both partners through this process, regardless of the outcome.

We have a highly-skilled team of counsellors who are all professionally registered ([British Infertility Counsellors Association: www.bica.net](http://www.bica.net)). They provide support in dealing with the social and emotional aspects of fertility problems and help to find ways to cope with the on-going situation.

Counselling is free and usually delivered on Leeds Fertility premises. Some counsellors offer evening appointments. Please call **0113 206 3124** to leave a message if you would like to make an appointment, or request a referral from the doctor or nurse attending to you.
Some patients choose to support each other through social media and there is a private FaceBook page for patients from Leeds Fertility (formerly LCRM).

**Infertility Network UK (www.infertilitynetworkuk.com)** is the leading national charity for people having difficulty conceiving. They also offer emotional and practical support with a wealth of personal experience.

The unit counsellors are also occasionally asked to meet with couples or individuals when a circumstance has given us cause to seek assurance, as far as we can do, as to the welfare of the child who may result from our treatment, within the intended family unit. Again, this is a legal requirement of our Licence, to consider the wellbeing of the child who does not yet have a voice, and do all that we can to ensure that child will not be at risk of harm. The clinic does have the right to refuse treatment, having considered evidence from a wide variety of sources if necessary. Please speak to your consultant if you have any concerns in this area. Our Standard Operating Procedure is available on request.
Legal aspects of treatment: HFEA, confidentiality, consent, welfare of the child

The Human Fertilisation and Embryology (HFE) Act (1990, amended 2008) and the HFE Authority (HFEA) regulate all treatments involving human eggs, sperm and embryos.

The HFEA issues the Code of Practice that we work by and it inspects us regularly to ensure standards are maintained.

All UK clinic results are reported to them and are publically available (www.hfea.gov.uk).

HFEA register

The Authority keeps a confidential register of identifying information on all patients, their treatments, donors, recipients and children born after HFEA licensed treatments.

Since 2008, adults may request information from the HFEA as to whether they were conceived with donor material and the HFEA may disclose such identifying information as was available at the time of the treatment.

Confidentiality of fertility treatment

All information regarding your FERTILITY treatment is strictly confidential under our HFEA License and is subject to both the HFE Act and the general Data Protection Act.

We may only communicate with your general practitioner, referring consultant and other carers with your written consent.
Once we have disclosed treatment information to individuals who are not subject to the HFEA Licence (e.g. your GP) that information can no longer be controlled by us in its onward travel. It will still be regulated by the Data Protection Act and General Law of Confidentiality, as for all private medical information. In general practice, information will be accessible to other GPs and staff working within the practice even if your consent specifically named only one of the several GPs in your practice. When changing GPs, your medical records will be transferred to your new GP practice without any regard for any specific named consent you gave us in the past. The General Law of Confidentiality will apply.

From time to time your notes may be inspected at Leeds Fertility for audit (standards checking) by other officials e.g. HFEA members, Care Quality Commission, Patient Safety Agency and National Care Standards Commission.

You have the right to decline consent to share your fertility information but we need to consider your reasons for declining consent in our assessments. Generally, it is advisable for us to keep your G.P. informed of the progress of your treatment in case you need them in an emergency.

**Welfare of future children**

The Law states that ‘a woman shall not be provided with treatment services unless account has been taken of the welfare of any child who may be born as a result of the treatment (including the need of that child for a father), and of any other child (other children in the household or the family) who may be affected by the birth’.
It is therefore our legal responsibility to have a written procedure for assessing the Welfare of the Future Child and that of any other existing child who may be affected by our treatment.

**Factors considered in assessment include:**

1) The couple’s commitment to having and bringing up a child.

2) The couple’s ability to provide a stable and supportive environment for the child/children.

3) The couple’s medical history and that of their families, considering factors that may risk the child’s wellbeing.

4) Both partner’s health (including their ages) and their ability to provide maternal and paternal nurturing to the child.

5) The couple’s ability to meet the needs of the children in the event of a multiple birth.

6) Any risk of harm e.g. that of inherited disorders, transmissible disease, neglect or abuse.

7) Any risk a new born may put on the welfare of the existing child within the family.

Our protocol has been approved by our local ethics committee. Under specific circumstances, we may also need to contact your general practitioner, other medical specialists, authorities and agencies e.g. social workers, police etc for information.

This is to enable the members of the team at Leeds Fertility or the Clinical Ethics Committee in The Leeds Teaching Hospitals Trust to formally consider the welfare of the future child when appropriate.
**Consents**

Fully informed consent to the different aspects of fertility treatment takes quite a long time but it is critical to ensuring you and we understand our respective responsibilities in all possible circumstances. Further relevant information will be provided through the process in written and spoken forms. Please do not sign until you are completely clear and satisfied with your stated position. Both partners must sign all of the consent forms before we can proceed with your treatment.

Your consent advises us of your informed choice but does not commit you to undergo any form of treatment. You have the right to change your mind until, but not after the event. It is vital that all the issues are thoroughly considered beforehand and that snap decisions are not regretted afterwards.

You will have considered the following issues at the start of your fresh IVF treatment:

- The creation of the embryos that are now in storage and being considered for use in the near future.
- The on-going storage of your embryos.
- Research on eggs / sperm / embryos.
- Use of eggs / sperm / embryos after death.

**FET treatment**

Both partners must consent to the use of their frozen embryos for the treatment of their current partner.

The legal storage limit for embryos is 10 years from the date of freezing.
The period of storage can be extended under exceptional clinical circumstances, with the agreement of a fertility specialist doctor.

You also have to decide the fate of the embryos in the event of death or mental incapacitation. We strongly advise you to maintain current contact details with us and recommend that you consider replacement of your frozen embryos at the earliest opportunity.

**Embryo donation**

You can consider donating your embryos to help another couple. Before we can accept them for this purpose, you would both be required to have counselling to ensure all the implications have been considered, and the necessary screening tests would need to be completed. You might opt to do this if / when you have completed your family, or decided not to pursue treatment further yourselves.

**Embryo research**

All human embryo research requires specific permission (License) from the HFEA for the project in question. All research is experimental and embryos used or created during the project cannot be transferred for treatment after the project has finished. They must be allowed to perish.

You may be offered the option to donate embryos for research, only if there is an active project running during the remaining time period available for your embryos to be in storage.
Once the legal storage period is up, the embryos will have to be discarded. Embryos destined for research are anonymised which means that there will be no feedback to you of the outcome of the experiments.

Occasionally, embryos may be specifically used in genetic projects. If the results could have implications for your or your family’s future, you will receive more information and counselling before you agree to your embryos taking part.

Offering to take part in a research project is always voluntary and will never affect your own treatment. You can change your mind and pull out at any time before your embryos are used.

*Training of embryologist scientists*

Leeds Fertility is part of the Leeds Teaching Hospitals Trust and as such, is involved in the training of junior scientists.

As part of training in techniques such as embryo handling, freezing and thawing, it is necessary to use real embryos.

These will only ever be those that are not required for your treatment and would be otherwise discarded (e.g. poorly developed embryos).
Your consent will be requested for this, in order to train junior staff, improve our service and develop new techniques.

**Humane discarding of spare embryos**

Only good quality embryos can be successfully frozen, donated to another couple or used for research. If you do not wish prolonged culture with a view to freezing then you must instruct us to humanely discard your spare embryos.

**Use of embryos after death**

Men can opt to permit their female partner to use their sperm or embryos created with them after their death. There are ethical and legal concerns that you must consider very carefully before making this choice.

We will require you to have a discussion with the counsellor to consider the implications to all parties fully, if you are considering this.
Glossary

- **Biochemical pregnancy**: This is a pregnancy where the embryo has tried to implant but has not continued to develop. Pregnancy hormone reaches the bloodstream and urine to make a pregnancy test positive but the level is invariably low / weak and falls to zero within days.

- **Blastocyst**: This is a particular stage of development of an embryo which should be reached by day 5-6 after egg collection. A blastocyst has 50-60 cells and they have begun to separate into those that will form the baby and those that will form the placenta (afterbirth). A small area of fluid separates the two types of cells. Shortly after this stage the embryo will hatch and should implant into the lining of the womb.

- **Cleavage**: Cleavage is the term used to describe the multiplication of the cells of the embryo.

- **Down-regulation**: This is the first phase of treatment in a long cycle where the natural cycle is switched off. Most medicated frozen cycles also start with down-regulation.

- **Ectopic pregnancy**: This is when the pregnancy implants somewhere other than the heart of the womb where it should be. The commonest location is in one of the fallopian tubes but ectopics can also occur in the cervix and the top corners of the womb where the tube comes into the main cavity (Cornual ectopic).

- **Eggs**: A woman’s lifetime supply of eggs is present in the ovary at birth. They reduce in number and quality with time. They pass on the woman’s half of the genetic instructions to the embryo / baby.
• **Embryo:** Once the fertilised egg begins to cleave (multiply its cells) it is called an embryo.

• **Fertilisation:** Fertilisation is when the genetic material from the egg and sperm combine to create a new and unique cell which may go on to develop into an embryo and then a baby.

• **Follicles:** These are the sacs in the ovary that contain the egg. One follicle develops in every natural monthly cycle. The IVF process should cause several to develop at the same time which makes the ovaries larger for a short time (several weeks).

• **GnRH Agonist:** A hormonal drug that first stimulates and then inactivates the pituitary gland e.g. Prostap, Buserelin, Naferelin. These can be used to block ovulation during long IVF and frozen cycles and cause ovulation in short IVF cycles.

• **GnRH Antagonist:** A hormonal drug that inactivates the pituitary gland e.g. Fyremadel, Cetrotide, only used to prevent ovulation in short IVF cycles and occasionally in frozen cycles.

• **Gonadotrophins:** Hormones produced naturally by the pituitary gland to stimulate the ovary to produce and release eggs e.g. FSH, LH. These drugs are produced as medicines to over-stimulate the ovary during IVF to get lots of eggs ready at once e.g. Merional, Menopur, Gonal F, Puregon.

There are 2 types of gonadotrophins produced by the pituitary gland: **FSH** and **LH**.

- **FSH:** follicle stimulating hormone causes the eggs to mature in the ovary.

- **LH:** luteinising hormone causes the release of the egg at ovulation and prepares it for fertilisation by the sperm.
• **HCG**: Human chorionic gonadotrophin is also a gonadotrophin but it is not produced in the pituitary. Normally, it is only produced by the placenta (afterbirth) during pregnancy. It is able to act like LH, but is stronger. We often use it in injection form to begin the ovulation process (trigger) before the egg collection. It can also help to prepare the womb lining for implantation.

• **Luteal phase**: This is the phase after egg collection, including the embryo transfer, up until the pregnancy test.

• **Miscarriage**: any positive pregnancy test which does not reach 24 weeks of pregnancy and the potential for a live-born child is a miscarriage. Miscarriage is as common after IVF as it is after natural conception. Bleeding in early pregnancy is not always bad news, especially if there is no cramping pain. Unfortunately some pregnancies miscarry without any outward signs (bleeding) and are not identified until a scan is done.

• **Oestrogen**: This hormone is naturally produced by the follicle in the ovary as the egg is growing. Its main job is to thicken the lining of the womb for the pregnancy to implant. It can also be given in tablet or skin patch form e.g. progynova, Elleste during frozen cycles.

• **OHSS**: Ovarian hyperstimulation syndrome is a risk of IVF treatment which can be serious if not recognised and treated. It happens when the ovaries are over-sensitive to the stimulation (FSH) injections and produce too many follicles. It can cause pain, abdominal bloating, sickness, diarrhoea, dehydration and rarely, serious blood clots. You will be warned if you are at risk, for the symptoms and signs to look out for and report to us for further advice.
• **Ovary:** Stores all the woman’s eggs for her whole life and produces hormones.

• **Pituitary gland:** In the head, behind the nose, produces many hormones including those that control the ovary and testis.

• **Progesterone:** This hormone is naturally produced by the follicle after ovulation and is also responsible for preparing the lining of the womb for implantation. It can also be given as a vaginal pessary e.g. Cyclogest or as an injection e.g. Gestone, Prontogest, Lubion.

• **Slow freezing:** This reliable technique has been used to freeze embryos and sperm for decades. It involves gradually dehydrating the biological specimen to remove water and remove the risk of ice crystal formation in the cooling process. This was used until March 2015 to store the majority of embryos at LCRM.

• **Sperm:** The sperm develop in the man’s testis and continue to do so throughout adult life. They do not suffer the same deterioration with age as the woman’s eggs, as they are constantly being replaced. They pass on the man’s half of the genetic instructions to the embryo / baby.

• **Stimulation:** This is the phase where the daily injections stimulate the ovaries to produce multiple eggs. In a frozen cycle this is the oestrogen tablet / patch phase.

• **Trigger shot:** This is usually hCG (5000-10,000 units) but can also be buserelin (1ml). This injection begins the release of the egg 35h before the egg collection. The timing is specific to you and you should follow your personalised instruction.
• **Vitrification:** This modern technique is fast and freezes the embryo without it passing through the stage of forming ice crystals which would lead to expansion and damage. All embryos have been frozen in this way at LCRM since March 2015.
Useful resources

Human Fertilisation and Embryology Authority, HFEA
- www.hfea.gov.uk
  The regulatory body website has lots of information for patients.

Fertility Network UK
- www.fertilitynetworkuk.org
  The UK’s leading infertility support network offering extensive information and support through treatment.
  They provide advice regarding funding and a variety of factsheets.

British Fertility Society
- www.britishfertilitysociety.org.uk
  The UK professional society promoting high quality practice and research.

British Infertility Counselling Association
- www.bica.net
  The professional association of infertility counsellors in the UK.
Multiple birth matters
• www.oneatatime.org.uk
  This site provides information behind the drive to reduce multiple pregnancies during assisted conception treatments.
• www.multiplebirths.org.uk
• www.tamba.org.uk
  These two sites offer a wealth of information on twins and multiple births / pregnancies.

Health information for before and during pregnancy
• www.nhs.uk/conditions/pregnancy-and-baby-care.aspx
  This is a comprehensive NHS resource on preparing for and achieving a healthy pregnancy.

The Miscarriage Association
• www.miscarriageassociation.org.uk
  If you have been affected by miscarriage, ectopic pregnancy or molar pregnancy you will find information and support here.

The Daisy Network
• www.daisynetwork.org.uk
  This charity provides support and information for women who are facing premature ovarian insufficiency (premature menopause) and its consequences.
Endometriosis UK
• www.endometriosis-uk.org
  Leading UK charity providing information and support for those with endometriosis.

Polycystic Ovary Syndrome (PCOS)
• www.nhs.uk/conditions/polycystic-ovarian…/Pages/Introduction.aspx
• www.verity-pcos.org.uk
Contact us

By post

- Leeds Fertility, Leeds Teaching Hospitals NHS Trust, Seacroft Hospital, York Road, Leeds, LS14 6UH

By Email

- leedsth-tr.leedsrmenquiries@nhs.net

Online

- Web: www.leedsfertilityclinic.co.uk

By telephone

**Mon-Fri 08.00-17.00**

- For all NHS appointments: 0113 206 3100
- For clinical queries: 0113 206 3102

**Sat-Sun 08.00-12.00**

- Clinical queries only: 0113 206 3102

In an Emergency

**During working hours**

- Please call appointments or clinical queries as needed on the above numbers

**Outside working hours**

- Please call Leeds Teaching Hospitals Switchboard on 0113 243 3144 and request to be put through to the Duty Nurse / Dr for Leeds Fertility
- If necessary, attend your local Accident & Emergency department