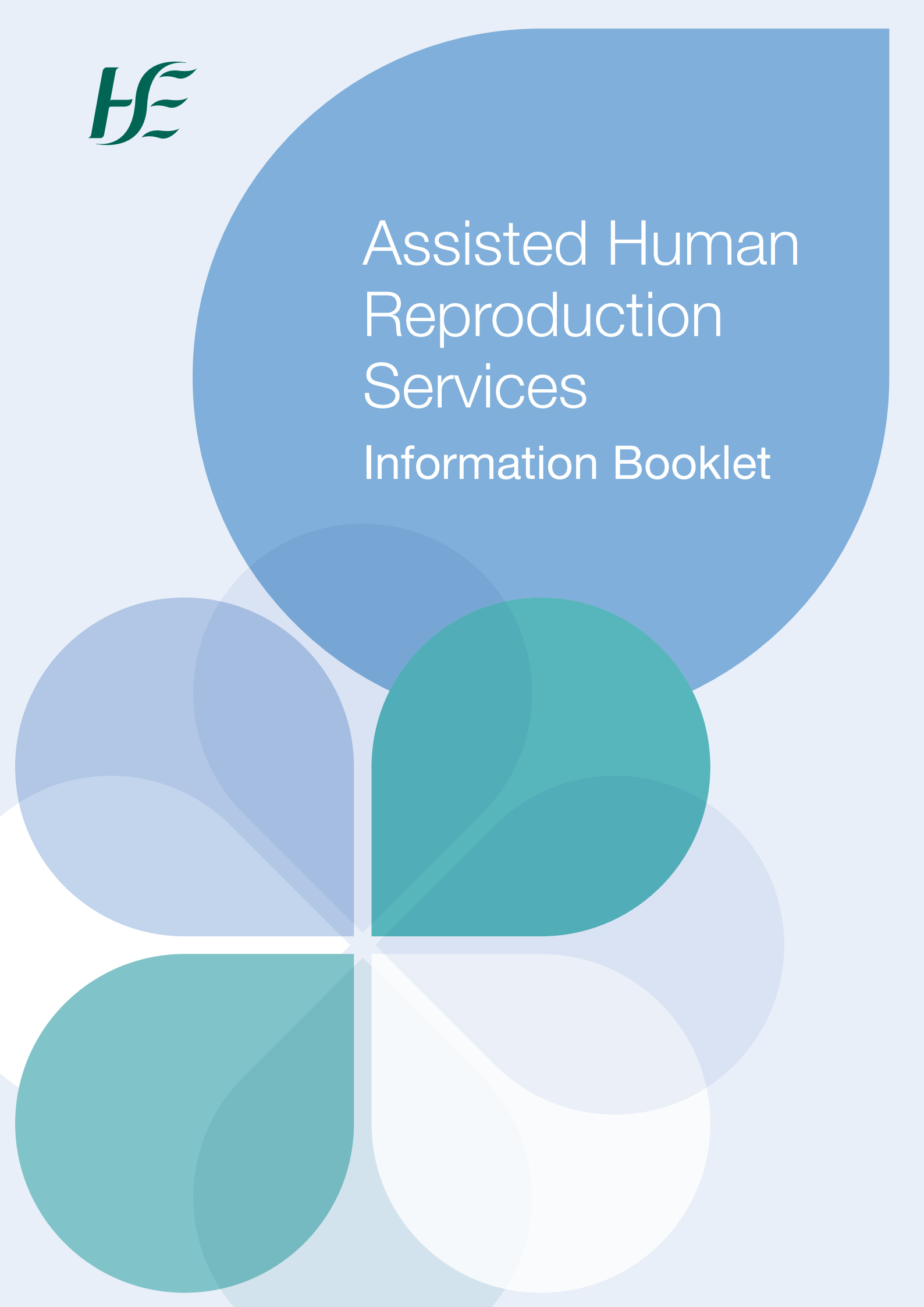




Assisted Human
Reproduction
Services
Information Booklet



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Part 1:

Your guide to Assisted Human Reproduction (AHR) services

Introduction

You are receiving this information booklet as it has been identified that you require advanced fertility treatment.

These advanced fertility treatments are referred to as Assisted Human Reproduction (AHR) services and can include the below treatments;

- ▶ Intrauterine insemination (IUI)
- ▶ In vitro fertilisation (IVF)
- ▶ Intracytoplasmic sperm injection (ICSI)
- ▶ Frozen embryo transfer

This information booklet gives an overview of each of the AHR treatments that are currently publicly funded. It aims to support your understanding of the fertility treatment that has been recommended for you by the Reproductive Medicine Consultant.

Consent form

You will have received a separate Consent Booklet for your treatment with this pack. This Consent Booklet will;

1. Provide you both with a description of the AHR service and what is included, what is not included and some requirements of this publicly funded service.
2. Provide you with a list of clinics which are HSE-approved private AHR Clinics and their locations. You will be asked to pick your top three preferred options.
3. Seek written confirmation from you both that you have read and understood how the service will work. It also confirms that you both consent to a referral being made to one of your preferred AHR Clinics and to your clinical notes and history being shared with that Clinic.

When you have reviewed and completed your consent form, return it to your Regional Fertility Hub.

What happens next

Once we receive your signed consent form, your treating Regional Fertility Hub will proceed to make a referral to your number one listed preferred private Clinic.

If that AHR Clinic is unable to see public patients as quickly as the HSE would like, we will refer you to your number two listed preferred private AHR Clinic. We will contact you to let you know if we have to use your number two preference or your number three preference.

As part of this referral, we will provide the AHR Clinic with both of your relevant medical and clinical notes to ensure they have your full medical history and can make informed decisions about your care.

When should I hear from my chosen AHR Clinic?

Each Private AHR Clinic used in this service has been approved by the HSE.

As part of the arrangements in place with Private AHR Clinics, once a referral has been made by your Regional Fertility Hub team, your initial consultation should take place within six weeks. Your active treatment must start within six weeks of that consultation unless there are clinical reasons for a delay, for example, the timing of the women's monthly cycle.

If you do not hear from your selected AHR Clinic within eight weeks, you should contact them directly.

Who is responsible for my care?

Once you have been referred to a private AHR Clinic, that AHR Clinic will be responsible for the next part of your fertility journey and treatment.

When that treatment comes to an end, will you be referred back to your Regional Fertility Hub team for a follow-up consultation. The Regional Fertility Hub team will receive a complete discharge summary of the medical care provided to you by the AHR Clinic.

It is important to note that while the HSE provides you with information regarding your recommended AHR treatment, once your selected AHR Clinic starts managing your care, they will provide you with more detailed information about your individual treatment.

They will also require you both to sign consent forms for any treatment they provide. The AHR Clinic can answer any questions you have about the treatment or information they provide.

How can I prepare for my first appointment with the private AHR Clinic?

It is natural to feel nervous before attending your first clinic appointment.

The clinic will have all your relevant clinical and medical notes including your medical history and the outcome of any tests or investigations done in the Regional Fertility Hub.

At your appointments, ask as many questions as you need to. It is important that you understand and are comfortable with everything that is happening.

You should also take your time to think through any decisions that need to be made. Never feel pressured to rush into a decision that you are not 100% happy with.

Assisted Human Reproduction medication

You will be prescribed medicine by your Private AHR Clinic as part of your fertility treatment.

If you hold a Medical Card, the cost of your prescribed medicines will be covered on that.

The medicines prescribed for fertility treatments are covered by the Drugs Payment Scheme. You can apply for the Drugs Payment Scheme Card if you do not already hold one.

More information about the Drug Payment Scheme is available on the HSE website at <https://www2.hse.ie/services/drugs-payment-scheme/drugs-payment-scheme-card.html>.



Part 2:

Overview of AHR Treatments

Intrauterine Insemination (IUI)

What is IUI?

IUI is a fertility treatment that involves inserting the man's sperm directly into the woman's uterus (womb) at the most fertile point in her cycle – when she is about to ovulate. The woman is usually prescribed fertility medicines to boost and time ovulation. The sperm is specially prepared in a laboratory to increase the number of active sperm that are able to reach and fertilise the egg.

IUI treatment is often recommended as a first line treatment when a couple's fertility difficulties are unexplained (this might be when the results of all tests are normal).

What is the difference between IVF and IUI?

IUI is a less invasive procedure, which involves fewer medicines than IVF. But it is not suitable for everyone. For IUI to work, the sperm and egg must fertilise naturally in the woman's fallopian tubes. The woman's pelvis must have no known cause that would cause challenges to fertilisation, for example, blocked fallopian tube, and the man's sperm must be of good quality.

In IVF, the eggs are removed from the woman's body and fertilised with the man's sperm in the laboratory.

What is involved in IUI?

Oral medicine or hormone injections are used to stimulate the ovaries. Vaginal ultrasound scans are used to monitor this process. A hormone injection is used to trigger ovulation and the procedure to place the sperm in the uterus is timed to take place 36-40 hours after this injection.

Placing the sperm in the uterus involves an examination similar to having a cervical screening. The sperm preparation is introduced using a soft, flexible plastic catheter (fine tube). The IUI procedure is short, it should not be too uncomfortable.

Benefits of IUI

- ▶ IUI is the least invasive type of assisted human reproduction treatment
- ▶ IUI is a good option for couples with unexplained fertility
- ▶ There is no egg collection involved in IUI, meaning that there is no invasive procedure and sedation is not required

Is IUI successful?

Yes, for some couples, IUI is a very effective form of treatment provided that the man's sperm and the woman's fallopian tubes are healthy. The success rates for IUI are generally around 10-15% per cycle.

In Vitro Fertilisation (IVF)

What is IVF?

IVF is a fertility treatment where sperm and eggs are collected and carefully combined in a laboratory. Some of the eggs will be fertilised by the sperm and over about 3-5 days will form embryos. An embryo will then be placed in the woman's uterus where it will hopefully implant and lead to a pregnancy.

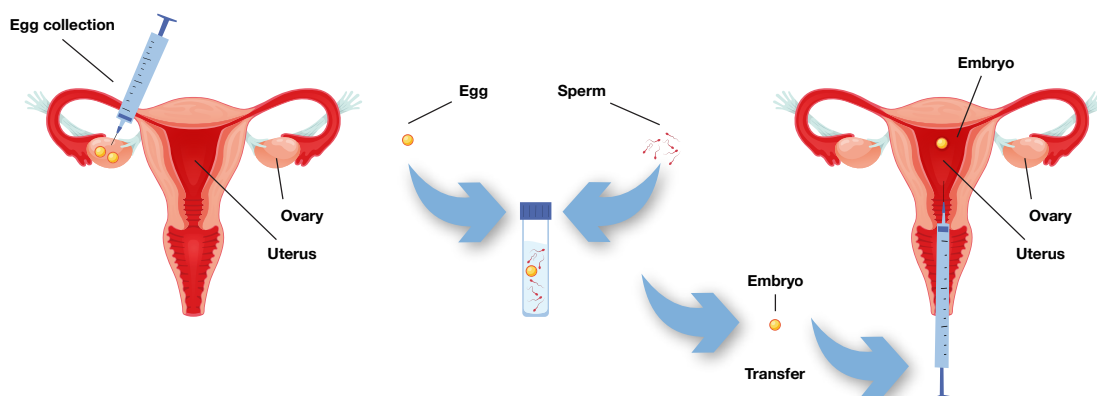
What is involved?

There are many steps involved in an IVF cycle:

1. Stimulation of the ovaries to encourage development and maturation of the eggs
The woman is given fertility medicines to stimulate her ovaries to produce multiple eggs (oocytes). The eggs grow in follicles which are small fluid-filled sacs. The number and size of the developing follicles is measured by transvaginal ultrasound scans. The final preparation of the eggs involves a hormone injection which mimics the natural trigger for ovulation.
2. Retrieval of the Eggs
Once the follicles are an appropriate size, the eggs are removed via a procedure called egg collection or oocyte retrieval. This is a minor procedure which is carried out in the clinic under light sedation. A transvaginal ultrasound probe is used to visualise the ovaries and a needle attached to the probe is passed through the vagina into the follicles. The fluid within each follicle is removed and then examined in the IVF laboratory to check if there's an egg. If eggs are found, they are washed and transferred into special Petri dishes in an incubator.
3. Collection of sperm
On the day of egg collection, the man is required to provide a sperm sample. In some cases, previously frozen sperm is used. The sperm is prepared in the laboratory to select the best sperm. Several hundred thousand sperm are then placed around each egg (unless ICSI is being performed – see next section).
4. Fertilisation of the eggs and culture of the embryos
24 hours after the eggs and sperm have been placed together, the laboratory team will be able to see how many of the eggs have been fertilised. These fertilised eggs are then grown and monitored in the IVF laboratory for 3-5 days. At this stage they are called embryos, and after 5 days they are called blastocysts.
5. Embryo Transfer
Embryo transfer is the final stage of an IVF cycle. An embryo is selected and placed into the uterus by a fine catheter inserted through the cervix. The correct positioning of the embryo is usually confirmed by abdominal ultrasound. The embryo transfer procedure involves an examination similar to having a cervical screening but it takes longer because great care has to be taken of the embryos. This procedure does not usually require sedation.

It is HSE policy that only one embryo be transferred at a time, unless there are very clear clinical reasons why two embryos may be the preferred clinical approach. If more than one embryo is transferred to your uterus, the IVF treatment can lead to multiple pregnancies which are high-risk pregnancies.

When the embryo is transferred back into the uterus at the end of an IVF cycle, this is referred to as a fresh embryo transfer. Any embryos remaining that are not transferred and that are of suitable quality can be frozen and used in future frozen embryo transfer cycles.

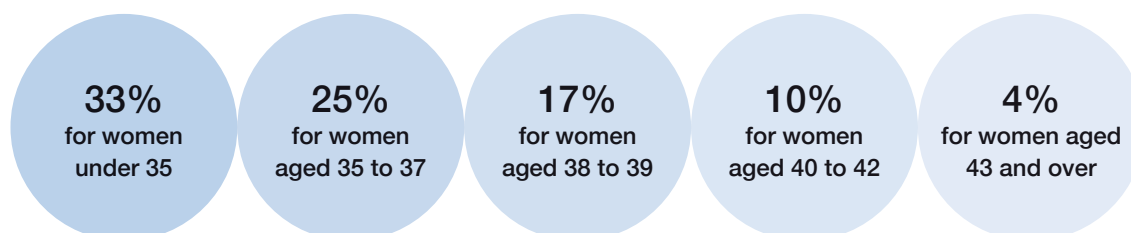


Is IVF successful?

IVF can never be fully guaranteed to work. A major factor which influences the success of treatment is the age of the woman having treatment as well as the cause of fertility problems (if it is known).

Whilst chances of success vary between patients, younger women are more likely to have a successful pregnancy. On average about 28% of couples will have a baby after the transfer of one embryo in IVF.

Data from the UK (2021, preliminary data) shows that the percentage of IVF treatments that resulted in a live birth were:



These figures related to women who are using their own eggs and their partner's sperm, using the per embryo transferred measure (the number of live births per embryo transferred). Figures for the rest of Europe are similar.

Intra-cytoplasmic sperm injection (ICSI)

What is ICSI?

ICSI is a type of IVF. The procedures of stimulating the ovaries, egg collection, culturing embryos and embryo transfer are the same as in IVF. However, the way the eggs are fertilised in the laboratory is different. In standard IVF, the eggs are placed in a dish with thousands of sperm and one sperm fertilises the egg. With ICSI, a single sperm is chosen and injected directly into the centre of the egg. The procedure bypasses the natural process of the sperm getting into the egg on its own. ICSI is recommended for certain types of fertility problem mainly male-related clinical indications including low sperm count, sperm with abnormal shape or sperm with poor swimming ability. ICSI allows the use of sperm that may not otherwise have been able to fertilise an egg.

Are there any risks associated with ICSI?

The risks of ICSI include the potential for damage to a small number of eggs as they are prepared for the procedure, and also through the process of injection.

Is ICSI successful?

The chances of having a baby using ICSI are similar to those for IVF. As with most fertility treatment and as set out above, success depends on many factors, with a key factor being female age.

Frozen Embryo Transfer Cycle

What happens if I produce a number of good quality embryos?

After you have a fresh embryo transfer as part of your IVF / ICSI treatment, any remaining and 'spare' embryos of good quality can be frozen and stored for you to use in the future. In some cases, it may be recommended that you don't have a fresh embryo transfer and that all your embryos are frozen for later use. This is called a 'freeze all' cycle.

It is important to note that only embryos of a certain quality are able to withstand the freezing and thawing process. Embryos which are not of sufficient quality will not be frozen and stored. The number of good quality embryos that any couple get varies a lot between couples and is one of the markers of IVF success. In general, around 50% of couples will have at least one embryo to freeze.

How are embryos frozen?

Embryo freezing (cryopreservation) cools the embryos to a low temperature (-196°C) using a rapid freezing process called vitrification. This helps to preserve the viability of the embryos. This is carried out in the laboratory using specialised freezing equipment and the embryos can then be safely stored in liquid nitrogen for extended periods.

What are the benefits of embryo freezing?

The benefit of embryo freezing is that a good quality embryo is kept for use in a future frozen embryo transfer cycle. This means that if your initial fresh embryo transfer is unsuccessful, you can use your frozen embryos and do not have to undergo a full cycle of IVF process (ovarian stimulation and egg collection) again.

Some couples will have several embryos frozen, which will allow for more than one frozen embryo transfer. If a couple have a baby from a HSE-funded IVF/ICSI cycle and wish to have another baby, they can commence their next treatment using any remaining embryos they have frozen.

What does a frozen embryo transfer cycle involve?

Frozen embryo transfer cycles are relatively simple. In some cases, the woman's natural cycle will be monitored by ultrasound to assess the development of the lining of the uterus and to determine the timing of ovulation and embryo transfer. In other cases, depending on the woman's history, a more hormonally controlled cycle may be needed to prepare the endometrium (lining of the womb). This is usually done with hormone tablets and pessaries but sometimes injections may also be used. The doctor at the AHR Clinic will discuss the most appropriate treatment with you. The process is monitored by transvaginal ultrasound scans to decide when the embryo transfer should take place.

On the day of embryo transfer, the embryo is carefully thawed and reassessed for its quality. The process of transferring the embryo is similar to that in a fresh cycle (see above under IVF).

How successful is frozen embryo transfer?

Overall, the success of a frozen embryo transfer versus a fresh embryo transfer are roughly equivalent. Data from the UK indicates that, as freezing techniques have improved, there has been an increase in the levels of frozen embryo transfers and their success rates in the UK over the last 10 to 15 years. Pregnancy and birth rates using frozen embryo transfer are largely dependent on the age of the woman at the time of embryo freezing, rather than age at embryo transfer.

The average IVF birth rate using frozen embryo transfers was 27% in 2021 in the UK.

Complications of Fertility Treatment

Fertility treatments are generally very safe. Most women are no more likely to experience problems with their health or pregnancy than women who have conceived naturally. However, there are some risks and complications to be aware of, which range from mild discomfort to more serious conditions. It is important that you understand all the risks and what you need to look out for to have a safe and healthy pregnancy.

Your chosen private AHR Clinic will provide you with more information as to the risks and side-effects of AHR treatment as part of their consenting process. However, the HSE would like to draw your attention to some of the risks, which you need to be aware of. These include:

- ▶ Multiple pregnancy;
- ▶ Ovarian hyperstimulation syndrome;
- ▶ Ectopic pregnancy;
- ▶ Adverse side-effects of medication;
- ▶ Pelvic infection;
- ▶ Possible birth defects (these are rare, and research is still ongoing); and
- ▶ Increased stress and anxiety.

Multiple pregnancy

Having more than one in one pregnancy significantly increases the risk of health problems for patients and their babies. This includes late miscarriage, premature delivery, gestational diabetes, still birth and neonatal and maternal death.

The risk of multiple births has been commonly higher in IVF patients due to the clinical practice of transferring more than one embryo back into the womb of the intending birth mother.

In the context of the above, the HSE in publicly funding AHR treatment, has required that AHR Clinics implant one embryo per transfer. The transfer of two embryos (double embryo transfer) is to be avoided unless there is a clear, clinical rationale for it, and this is clearly documented in your notes. The transfer of three embryos is not permitted under any circumstances.

Ovarian hyperstimulation syndrome

Ovarian hyperstimulation syndrome (OHSS) can occur after taking medicines that stimulate your ovaries, such as clomiphene and gonadotrophins. OHSS causes your ovaries to swell and produce too many follicles (small fluid-filled sacs in which an egg develops). The dose of medicine is tailored for each woman but, nevertheless, some women may unexpectedly over respond. This is more likely in women with polycystic ovaries. Thankfully, OHSS is becoming rare due to improvements in the way treatment is managed. Suspected OHSS is one reason why it may be safer to freeze all embryos and there is no fresh embryo transfer. A frozen embryo can be transferred when the woman's ovaries have settled down again.

Around one-third of women will experience mild OHSS after one cycle of IVF. Less than 5% will develop moderate or severe OHSS after one cycle of IVF. Mild symptoms may include:

- ▶ Nausea and vomiting
- ▶ Bloating or abdominal pain
- ▶ Constipation or diarrhoea
- ▶ Dark, concentrated urine

Severe OHSS is a rare but potentially life-threatening condition and can lead to:

- ▶ Thrombosis (a blood clot in an artery or vein)
- ▶ Liver and kidney dysfunction
- ▶ Respiratory distress (difficulty breathing)

Your chosen AHR Clinic will supply you with further information regarding OHSS and provide advice on how, where and when to seek medical attention if you experience any of the symptoms of OHSS.

Ectopic pregnancy

“Ectopic” means in the wrong place. An ectopic pregnancy is when a pregnancy develops outside of the womb, usually in the fallopian tube. When this happens, the pregnancy cannot survive so it will be lost.

In these cases, it is important to get medical help as quickly as possible. Ectopic pregnancies that are left for too long can cause rupture of the fallopian tubes leading to internal bleeding.

All pregnant women are at risk of having an ectopic pregnancy but women having IVF may be more at risk. This is due to the possibility that there may be some damage to the tubes, contributing to fertility problems, or that while the embryo is being transferred to the womb, it could travel to the fallopian tube instead.

Symptoms of an ectopic pregnancy include:

- ▶ A one-sided low abdominal pain
- ▶ Vaginal bleeding or dark brown or red vaginal discharge
- ▶ Diarrhoea or pain when you go to the toilet.

If you experience any of these symptoms a week or more after your embryo transfer you should contact your AHR Clinic immediately. Never feel you are wasting the AHR Clinic’s time.

Adverse side-effects of medication

Some medications used to treat fertility problems can cause adverse side-effects. These are usually mild and may include:

- ▶ Nausea
- ▶ Vomiting
- ▶ Diarrhoea
- ▶ Stomach pains
- ▶ Headaches
- ▶ Hot flushes
- ▶ Skin sensitivity reactions and bruising around the injection sites
- ▶ Hormonal related mood changes

For a full list of possible side-effects, please see the patient information leaflet that comes with your medicine. Further information on this will also be provided by your chosen AHR Clinic.

Pelvic infection

The procedure to extract an egg from an ovary may result in an infection developing in your pelvis. However, the risk of serious infection is very low.

Damage to bowel or blood vessels

During egg collection, ultrasound is used to help the doctor see the needle and also major structures such as blood vessels, the bowel and the bladder. This makes the procedure very safe. However, all medical procedures have risks and there is a very small chance that a blood vessel or the bowel can be accidentally punctured. This can sometimes require surgery or a haematoma (bruising) may develop.

What do I need to know about birth defects?

Some research has suggested that fertility treatment may be associated with an increased chance of birth defects. It's not yet clear whether the birth defects are a result of the fertility treatment itself or fertility problems in the parents. An increase in birth defects has also been found in couples with fertility problems who eventually conceived naturally without having treatment.

The main thing to know is that birth defects in the general population are low. If fertility treatment is associated with an increased chance of birth defects, the risk is still very low.

Research in this area is ongoing and is continually reviewed and updated.

Stress and anxiety

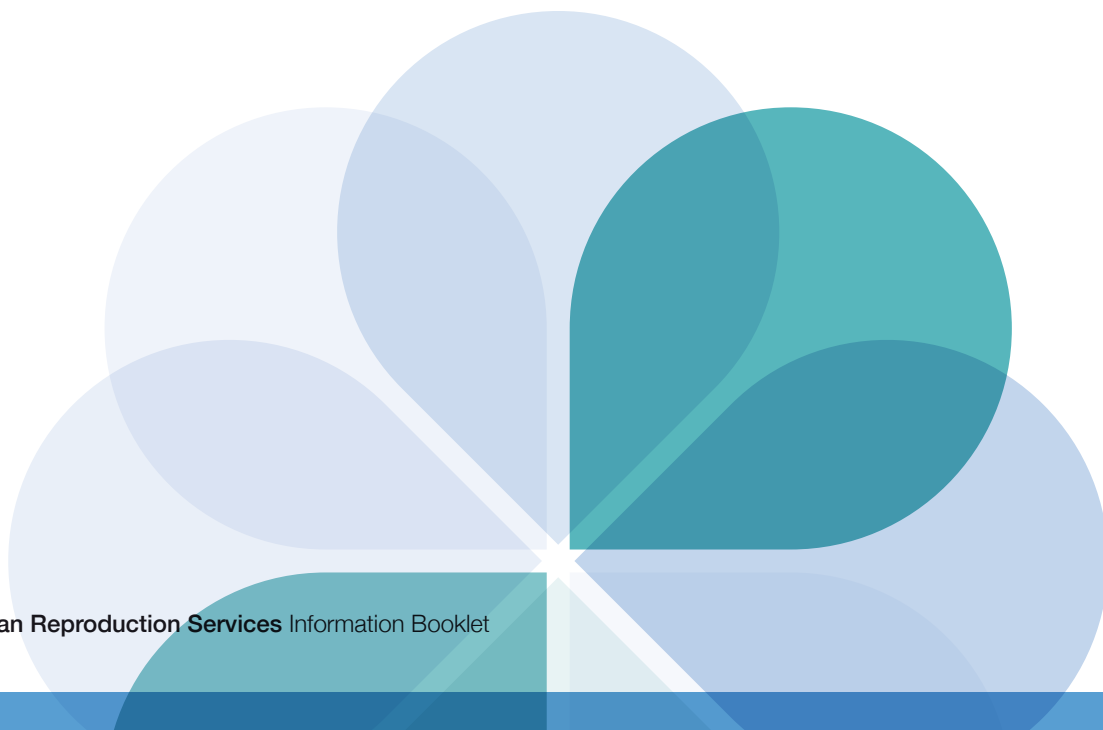
Infertility or difficulty conceiving is one of the most stressful experiences that men and women can go through. There can be a lot of uncertainty that affects your emotions and appointments and tests can be tiring.

There are studies showing that many women and men who face fertility problems find themselves dealing with complex emotions, including feelings of loss, grief and guilt, as well as isolation in their relationships or changes in their self-worth or confidence. It is often not easy to discuss fertility with your friends and relatives who may have children. But it can help to talk about it with others – you may find it comforting to know you are not alone.

Every single person has a unique set of circumstances, and their path to parenthood will take different forms. Make sure you're getting as much support as possible from family, friends, a support group, charity or a qualified counsellor.

Try to take things one step at a time. Make time and space for the things you enjoy doing, both as a couple and on your own.

The National Fertility Support and Information Group (NISIG) is an Irish charity that provides help and support for individuals and couples on their fertility journey. Find out more information at www.nisig.com



Part 3:

General information and advice

General information and advice

How common is it to need fertility treatment?

It is far more common to need fertility treatment than anyone would think. 1 in 6 couples will experience fertility challenges and may require fertility treatment in some form – ranging from very simple treatments to more advanced treatment.

How long treatment takes

There is no easy answer as to how long treatment will take, as there are many factors that can affect the process. This includes which treatment is most appropriate for you, how well your body responds to treatment and how many embryos of sufficient quality are available for transfer and how many transfers you may need.

The team in your chosen AHR Clinic will guide and explain to you the likely timeline for your treatment.

Other medications while taking fertility medications

If you need to take over-the-counter medicines, we recommend you tell the pharmacist that you are receiving fertility treatment. The pharmacist can then guide you as to the best medicine to take, and which to avoid, while you are undergoing treatment.

If you have concerns, please speak to one of the fertility team in your chosen AHR Clinic.

Sex while undergoing fertility treatment

Although you are trying to get pregnant, it is important not to have unprotected sex during an IVF cycle. This is because you are taking lots of medicine and you are stimulating your ovaries to produce multiple follicles – which could lead to a serious high order multiple pregnancy (quintuplets or higher) if you ovulated. Protected sex (using a condom) won't have any impact on your treatment, but keep in mind that superovulation can be uncomfortable for some women. It is better to avoid sex completely in the week following egg collection.

Fear of needles

Fear of needles is a common fear. The needles that are used for the injections are quite small and short and shouldn't cause anything other than some mild initial discomfort. Many drugs are now delivered in easy to use pens. Consider having someone with you for the first or second injection for support.

Doing the injection for yourself is much more comfortable than having someone else administer it, and it will give you the independence to continue your regular routine.

The team in your chosen AHR Clinic will provide further advice and guidance regarding managing any injections needed and will provide you and your partner with training as needed.

Alcohol and caffeine during AHR treatment

We suggest that you avoid alcohol completely during treatment. Although a lot of women choose to stop caffeine, it isn't a requirement.

Exercise during fertility treatment

If you enjoy exercise, it is important to keep it up. However, while you are on your stimulation medicines and, especially in the week or so following egg collection and even until your pregnancy test, it is recommended that you only do light exercise such as moderate brisk walking.

Some terms explained

Anti-mullerian hormone (AMH)

A hormone that gives an indication of the number of eggs in the ovaries (the ovarian reserve).

Cancelled cycle

When a treatment cycle is stopped before egg collection.

Clinical pregnancy

A pregnancy that can be seen on ultrasound or an ectopic pregnancy

Cryopreservation

The freezing of eggs, sperm or embryos and their storage in liquid nitrogen.

Ectopic pregnancy

A pregnancy that occurs outside the womb.

Egg collection

The procedure to remove eggs from the ovaries, usually performed under sedation.

Embryo

An embryo in IVF is the early stage of human development from the time of fertilisation of the egg up until 5 or 6 days.

Embryo transfer

The transfer of one or more embryos to the womb.

Embryologist

A scientist who cultures and studies embryos in a clinical or research laboratory.

Female factor

This term covers any reason why a woman may not be able to become pregnant, such as ovulation failure or damage to the fallopian tubes

Follicle

A fluid-filled sac in the ovary, which contains an egg.

Frozen embryo transfer (FET)

A treatment involving the transfer to the womb of embryos that have been frozen and then thawed to the womb.

FSH

Follicle stimulating hormone – one of the hormones that controls the menstrual cycle and is used as a fertility drug to stimulate the ovaries.

Gamete

A reproductive cell such as an egg or a sperm.

Gynaecologist

A doctor who specialises in treating women, and their reproductive health.

Intra cytoplasmic sperm injection (ICSI)

A variation of IVF treatment where a single sperm is injected into the inner cellular structure of the egg.

Intrauterine insemination (IUI)

The insertion of specially prepared sperm into the womb.

In Vitro Fertilisation (IVF)

Sperm and eggs are collected and put together in a laboratory to achieve fertilisation outside the body.

LH

Luteinizing hormone – one of the hormones that controls the menstrual cycle.

Male Factor

This term covers any factor that affects male fertility by interfering with the production, number or quality of sperm.

Miscarriage

The loss of a pregnancy before it is viable (capable of surviving).

Multiple Birth

Birth of more than one baby from a pregnancy.

OHSS

Ovarian Hyperstimulation Syndrome – a condition in which the ovaries over-respond to fertility drugs.

Oocyte

Another name for an egg.

Stimulated cycle

A treatment cycle in which the woman's ovaries are stimulated with medicines to produce more than one egg.

Uterus

The womb.



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