A GUIDE TO Infertility
Welcome

Sims IVF has provided IVF treatment to couples in Ireland since 1997. Our aim now, as it was then, is to bring the joy of a family to those who need help with their fertility and to help people in a confidential, professional and caring manner.

We believe in the importance of mind and body in our treatment of infertility and we have established our Mind / Body programme and specialised counselling services to guide our patients.

Responding always to the needs of our patients, we have grown steadily to become the largest and most innovative IVF clinic in Ireland. We now provide advanced testing techniques, some of which are unique to Sims including Reproductive Immunology, Sperm DNA fragmentation testing and Anti-Müllerian Hormone (AMH).

We are leaders in reproductive medicine: First to introduce Donor Gamete (using egg or sperm donors), First to practice Blastocyst Culture and Transfer. First to introduce IMSI into Ireland.

A Guide to Infertility is designed to provide practical information to couples who are considering fertility treatment. It incorporates answers to the questions that our patients regularly ask us. Our aim is to help you to make informed decisions about your particular situation.

A Guide to Infertility was also produced to assist referring doctors and clinics as a supplement to public information on infertility. If you require more copies, please contact us.

If you would like further information, please call our CONFIDENTIAL freephone number: 1800 497 777

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Sims IVF is licensed by Irish Medicines Board as a Tissue Establishment (TE-011)

We are officially recognised by the British Fertility Society as a training institution for reproductive endocrinology.
A commitment to care

The emotional and psychological impact of infertility can be extremely difficult. While one in six couples encounter fertility problems, each person is unique in terms of the support, care and treatments they require.

Choosing the right fertility clinic can be confusing. Valuable time and money can be wasted on treatment centres that don’t have the know-how or expertise to explore all of your options fully.

45% of Sims IVF patients have already received treatment from another provider. As a result, we are experienced in caring for people whose treatment has failed elsewhere. We take pride in being able to offer hope to patients, from Ireland and abroad, with more complex fertility diagnoses.

We moved to our modern, hi-tech clinic in Clonskeagh in 2011. We are at the cutting edge, providing some of the most advanced and successful testing, technology and IVF treatments to our patients. The design of our new clinic is based on aspirations and structured from feedback we received from our patients over the past 15 years.

Sims IVF clinic is a sanctuary - a place where respect, confidentiality and medical excellence reside.

The Sims IVF
Five Core Principles

We have dealt with thousands of patients since we opened in 1997 and it is their needs that govern the care we give, the treatments we offer and the type of environment we provide.

It is not possible for all of our patients to achieve the dream of a child. If you are unsuccessful, we have the resources in place to support you and your partner and to help you come to terms with your disappointment.

The making of a good clinic is how you support the patients that don’t achieve their dreams. We encounter many types of disappointment as we work with patients in our clinic – no eggs to retrieve and fertilise, no embryos to implant, no resolution to an unexplained infertility or a negative pregnancy test.

We believe in the importance of mind and body in our treatment of infertility. We have established our Mind / Body programme to guide our patients through IVF treatment. We also have a full time resident counsellor. We have a bereavement room, so that you can spend time with your partner, coming to terms with results in privacy.

We adhere to Five Core Principles to ensure that you as a patient get the best possible care in order to maximise your chances of becoming pregnant and having a healthy baby.

1. A Commitment to Care
2. Advanced Infertility Testing
3. State of the Art Facilities
4. Leaders in Reproductive Medicine in Ireland
5. Excellent Results

Our commitment is to care for you, so that you can realise your dream of having a baby.

1. A Commitment to Care

“We need someone to listen to our needs, and provide us with insights and advice in a confidential environment.”

Listening to and understanding the nature of an infertility problem is the most important first step at Sims IVF. You are welcomed into a confidential and supportive environment.

Our online resource centre gives our patients step-by-step guidance, information and even video instructions for medication. We also provide a Mind / Body programme in conjunction with our medical care which aims to alleviate some of the stress involved with IVF treatment.

We genuinely believe that the support and care that we give to each of our patients, is absolutely critical. Some people succeed in having a baby, and some do not. Our aim is to help you to achieve peace of mind, no matter what the outcome. We help you in every way we can to maintain a positive focus on your relationship, your general health and your emotional well-being.

Sims IVF does not just treat couples; we also treat single women.

We value your time, as much as you do and our waiting rooms are as fast and efficient as possible. We have a large car park, internet access and refreshment areas. We continuously seek feedback from patients to help us to improve our service.

2. Advanced Infertility Testing

“Time is not on our side, so we want know that we can go to one clinic that has the capability and expertise to identify the root cause of our infertility problem and act fast.”

At Sims IVF we are at the forefront in providing advanced infertility testing. We have a number of tests that other clinics in Ireland do not perform – tests that could mean the difference between having a baby or not succeeding.
We provide testing for Female Fertility problems:
- Ovulatory
- Polycystic ovaries
- Endometriosis
- Tubal blockage
- Ovarian reserve

We also provide testing for Male fertility problems:
- Abnormalities in semen production

Advanced testing provided by Sims IVF
We also implement advanced testing techniques, some of which were first introduced to Ireland by Sims IVF including:
- Reproductive Immunology
- Sperm DNA Fragmentation Testing.

Tests and treatments are covered in more detail in this booklet in Part 4 - Treatments and Supports.

3. State of the Art Facilities
“Want to know that we will get the best resources and facilities for our treatment – technology, testing and no big waiting list.”

We have invested significantly in state of the art facilities for our new clinic. For those who go on to testing and treatment, our facilities are excellent. We have 3 operating theatres and a 5 bed ultra-sound suite to minimise waiting times. There are 10 private recovery rooms. Our staff are warmly encouraging, every step of the way.

At our new clinic, we have installed 3D ultrasound facilities – colour Dopplers that provides 3D evaluation of uterine and vaginal anomalies.

Fertility Laboratory Ireland, our onsite testing partner provides the most up to date testing expertise and facilities for our patients.

Our website contains unrivalled guidance for patients whether that is explanations about treatments or step by step videoed instructions to help with medication.

4. Leaders in Reproductive Medicine in Ireland

“Having already tried a number of treatments and failed, we now need to be sure that we are getting the best treatment available in Ireland.”

We are leaders in reproductive medicine in Ireland and are responsible for the first Donor Gamete (using egg or sperm donors) programme, in the country. We are also the first practitioners of Blastocyst Culture and Transfer.

New from 2011, we are the first clinic in Ireland to provide IMSI (Intracytoplasmic Morphologically-Selected Sperm Injection).

Sims IVF provides the following infertility treatments:
- Reproductive Immunology
- Ovulation induction and cycle monitoring
- Intra-uterine Insemination (IUI) – using partner’s sperm or donor sperm
- In Vitro Fertilisation (IVF)
- Treatment of male infertility
- Intracytoplasmic Sperm injection (ICSI)
- Intracytoplasmic Morphologically-Selected Sperm Injection (IMSI)
- Surgical sperm retrieval (TESE)
- Assisted Hatching
- Blastocyst Culture and Transfer
- Semen freezing
- Embryo Freezing and replacement
- European Donor Egg (EDE) Programme

There is more information about the types of treatments available in Part 4 - Tests, Treatments and Supports.

5. Excellent Results

“The clinic we go to should have good reputation in terms of results, service excellence and expertise.”

As Ireland’s number one clinic for IVF, we are proud of our results. Many of our patients come to us, because they failed to become pregnant elsewhere and then discover that Sims IVF offers a superior and more advanced solution to their problems.

Our success rates reflect our high standards and our expertise.

Our doctors remain at the forefront of IVF technology. We enjoy a close association with Boston IVF / Harvard Medical School. Learning from our experience and that of our international associates, we strive for excellence in the provision of reproductive medical care to those who need it.

Professor Michael Alper has joined our team as Advisory Consultant in Research and Development. Professor Alper is Medical Director at Boston IVF, one of the largest reproductive medical units in the United States.

We also provide training for medical students from the Royal College of Surgeons.

Thousands of babies have been born to Sims Clinic patients since our inception in DCU in 1997.

Let us listen to your concerns and offer our expertise.

Call the Sims IVF team for a confidential consultation on freephone 1800 497 777.

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Infertility Explained

Getting pregnant is not always straightforward for those who want to. One in six couples experience difficulties conceiving a child. What causes infertility? There are a number of factors that could inhibit conception. It is important to clearly understand those possible factors, so that you take appropriate action.

Do not be discouraged, even if you have tried a number of avenues already.

Many of those who engage in assisted reproduction do have healthy babies.

This section contains the answers to some of the questions that our patients ask about infertility.

Is this likely to be a male or a female problem?
Statistics show that female factors account for approximately 40% of all infertility cases and male factors account for a further 40%. In the remaining 20% of cases, fertility is unexplained.

Sometimes a minor problem with both partners can impair fertility, even though the couple may have had no problems in other relationships. At times, there may be no scientific explanation for infertility.

When should we go for treatment?
Under normal circumstances, a couple has a 25% chance of conceiving a child each month, if they have unprotected intercourse during the fertile part of the menstrual cycle. About 80% of couples do conceive a child within a year.

When considering infertility treatment, time is never on your side and age is an important factor. Every six months makes a significant difference in terms of your fertility, so don’t wait to seek treatment. Broadly, the guidelines are that if you are under 35 and have not conceived within one year, then talk to your doctor and get expert advice. If you are over 35, then time is critical and you should seek medical advice much more quickly - after six months at the most.

Is starting a family later in life an issue?
Financial circumstances, second relationships, and a woman’s career are the primary reasons why people choose to delay having a child. There is no doubt that starting a family later in life can lead to fertility problems. Research clearly shows that:

- Women are most fertile between the ages of 20 and 24
- At 35 you’re half as fertile as you were at 25
- At 40 you’re half as fertile as you were 35.

This means that it can take much longer to get pregnant when you reach your late thirties or early forties.

Why does fertility decline with increasing age?
A woman’s ovaries age in the same way that normal aging affects all of her organs and tissues. Most women have about 300,000 eggs in their ovaries at puberty. For each egg that matures and is released or ovulated during the menstrual cycle, at least 500 eggs do not mature and are absorbed by the body.

As a woman ages, the remaining eggs in her ovaries also age, making them less capable of fertilisation and their embryos less capable of implanting.

Fertilisation is also associated with a higher risk of genetic abnormalities such as chromosomal abnormalities. The risk of a chromosomal abnormality in a woman age 20 years is one in 500 while the risk in a woman age 45 is one in 20.

Gynaecological problems such as pelvic infection, tubal damage, Endometriosis and fibroids also tend to increase with age. Sexual function may also decrease with age due to reduced libido and less frequent intercourse. Aging does not just affect women; it also affects men, although to a lesser degree. Aging affects sperm and frequency of intercourse. However, men are capable of conceiving a child at any age.

What is unexplained infertility?
This affects 20-25% of infertile couples. In the majority of cases, the failure to reach a diagnosis is not due to inadequate investigations, but is perhaps due to other factors which are impossible to assess using conventional methods.

For example, assessing whether the eggs have actually been released at the time of supposed ovulation, whether the eggs are deposited into the fallopian tubes, whether the sperm are capable of reaching the site of fertilisation within 24–48 hours of their production or whether the eggs can be fertilised by the sperm.

In cases with unexplained infertility, assisted conception in the form of IVF is both diagnostic and therapeutic. For example, if the eggs are not released by performing egg collection or if the tubes are not picking up the eggs, they can be by-passed when IVF is performed. Finally, fertilisation itself can be diagnosed by the performance of IVF.
How Fertilisation Works

Fertilisation occurs when a woman’s egg and a man’s sperm fuse to form a single cell. This occurs in one of the fallopian tubes. For this to happen, the egg and the sperm have to perform certain functions beforehand and once fused, the merged cells must find their way to the uterus and embed into the lining of the womb, in order for the fertilisation to become a pregnancy.

Here is a brief overview of the roles played by the female egg and the male sperm:

**The Female Egg**

The exact time of the month for ovulation depends on your menstrual cycle. Taking an average menstrual cycle of 28 days, ovulation occurs on days 12-15. Day one is the first day of your period.

At ovulation, an egg is released from the ovaries. It is picked up by and travels down one of the fallopian tubes towards the uterus where, if intercourse has taken place within the last four days, it may meet sperm.

Eggs live and can be fertilised for 12-24 hours after being released. Sperm can live and stay active in your body for up to 48 hours.

Hormones prompt an increase in blood supply to the womb, in preparation for implantation. It takes up to five days for the fertilised egg to reach the womb and embed itself in the lining.

If the egg is not fertilised, or if the fertilised egg cannot attach to the womb lining, then a period begins.

**The Male Sperm**

At the point of ejaculation during intercourse, a man can release up to 300 million sperm into his partner’s vagina.

Only a small proportion of those make it through the neck of the womb and on to the fallopian tubes. The sperm must be actively moving, of normal appearance and of sufficient quantities to be considered normal. It must also be capable of moving through the female genital tract to reach the fallopian tube, where the egg is fertilised.

The quality of the cervical mucus in the woman’s body at the time of ovulation must be such that it allows free passage of the sperm into the uterus.

Finally, only one sperm will find its way in to fertilise an egg.

**The fusion of the Female Egg and the Male Sperm**

Once the sperm penetrates the egg, the chromosomes carried by the sperm and the egg come together and the egg is fertilised. Within hours, the microscopic zygote divides over and over to produce multiple cells.

Over the period of about 5 days, the fertilised egg or blastocyst now made up of about 150 cells, makes its way to the uterus or womb.

At this point, if conditions are favourable, the fertilised egg embeds itself in the lining of the womb and the female becomes pregnant.

10 Ways to Boost Your Chances of Conception

1. **Stop smoking**

   Tobacco smoking is long established as a general health hazard and has been shown to affect reproductive health in both men and women. Smoking has been linked to infertility and early menopause in women and sperm problems in men, as well as being a factor in premature or low birth-weight babies. Studies show that non-smoking couples were almost twice as likely to achieve a pregnancy as those where the male partner smoked more than 5 cigarettes per day.

2. **Manage your weight**

   The body mass index (BMI) is a measure of your weight in relation to your height. If your BMI is between 25 and 30, you are classed as overweight, and if it is above 30, you are classed as obese. In both these cases, you may find it harder to conceive. Conversely, being significantly underweight can also disturb your menstrual cycle.

3. **Eat a healthy diet**

   A balanced diet will help ensure a woman’s body is healthy enough to conceive and nourish a developing baby. A healthy diet can also help to keep sperm production at optimum levels.

4. **Minimise stress**

   Take time out from your busy schedule to simply relax. Stress can have a negative impact on your relationship, your libido and your ability to conceive. High levels of stress have also been shown to reduce the quality of sperm. To alleviate normal, work or family related stress, take weekend breaks, have a relaxing health spa treatment, or just arrange a time when you can chill out. Sometimes just talking about a problem can help to resolve it and reduce the associated stress.

   Concern about fertility problems can also lead to increased stress. Be open in your relationship about your fears and concerns. Talk to your medical GP or visit a reputable IVF clinic and talk to the doctors there. Ignoring the problem will not make it go away. The sooner you begin to address it, the sooner you can take practical action to overcome it.

5. **Exercise regularly**

   Walk, cycle, swim or run – 30 minutes of moderate exercise helps you to improve your fitness and to manage your weight. Exercise is also proven to decrease stress, as well as helping to improve your mood and your libido. Sperm count has been shown to be reduced in general, because people are much more sedentary than our forefathers.

6. **Take supplements**

   It is recommended that all women trying for a baby should take 400mcg of folic acid a day to help protect against conditions such as Spina Bifida in the baby.

   Zinc deficiency has been linked to a reduced sperm count and it is recommended that men take 30 milligrams of Zinc supplement twice daily. Selenium, Vitamin E and Folic Acid are also important supplements for the improvement of male sperm.

7. **Drink sensibly**

   Heavy drinking can affect your fertility as well as posing a significant threat of miscarriage. Drinking alcohol can also affect the quality of a man’s sperm. Research shows that significantly reducing alcohol intake for both the man and woman can improve your chances of conceiving a healthy baby. If you are trying to conceive, you and your partner should reduce your alcohol consumption considerably.

8. **Be drugs aware**

   Some prescription drugs can lessen your chances of conceiving, so if you are taking regular medication and want to try for a baby, talk to your GP about alternatives. So called ‘recreational drugs’, such as marijuana, cocaine or heroin, can cause miscarriage or damage to an unborn child as well as having a negative impact on your own health. All of these types of drugs should be avoided.
Mind / Body Programme

Integrating Cognitive (CBT), Mindfulness Relaxation & Healthy Lifestyle techniques to positively manage stress and promote conception.

We genuinely believe that the support and care that we give to each of our patients is absolutely critical, which is why the Sims IVF Clinic is the first fertility clinic in Ireland to introduce a Mind / Body programme in conjunction with fertility medical care.

The emotional and psychological wellbeing of couples and individuals undergoing fertility treatment is very important. Several research studies indicate that integrating mind and body treatment into fertility care supports an increase in conception rates in addition to reducing possible emotional stress (Domar A, Clapp, D. et al, 2000). If a woman participates in a stress management programme, research shows that she has a 52% greater pregnancy success rate (American Society of Reproductive Medicine’s 65th Annual Meeting).

Our Mind / Body programme aims to improve your well-being by encouraging a positive focus on your overall health, relationship and emotional experience.

There are a number of reasons why individuals and couples will find the Mind / Body Programme useful:

- To establish self-supportive thinking styles with Cognitive Behavioural techniques (CBT)
- To understand the relationship between stress and infertility
- To integrate mindfulness based relaxation techniques
- To decrease any symptoms of stress, anxiety, low-mood and fatigue
- To receive Nutritional Support specific to male and female fertility
- To support your physical health with Medical Acupuncture specific to fertility care and restorative gentle exercise, Chi Kung

To reclaim your sense of self-confidence and feel more empowered in the treatment process

To learn effective coping skills

To give dedicated space and time to nurture and enhance your relationship

The Sims IVF Mind/Body Programme will benefit those who wish to reduce stress, promote conception and increase well-being. Couples and individuals have the option of attending a one day programme or attending over six evenings on consecutive weeks in a small group setting.


Sims IVF Fertility Counselling Service

Supporting your optimum emotional & relational well-being throughout fertility treatment.

Sims Fertility Counselling is accessible to couples and individuals who may find the process of fertility treatment challenging. Sessions are optional and can support the individual and couple to gain insight into fertility issues they may be facing.

Prior to attending the clinic or when undergoing the treatment process, individuals and couples have generally gone through a range of thoughts and feelings relating to their experience. This may be in response to their own beliefs or those of others e.g. family and friends. Sims Fertility Counselling provides an Integrative CBT Counselling approach to support the individual in recognising and changing any unhelpful thoughts or beliefs, thereby supporting their emotional and relational experience during fertility treatment. Couples can attend separately or together.

Fertility Counselling aims to enhance couples and individuals’ experience of fertility treatment and support the person in resolving any difficulties that may hinder this. CBT is research based and guidance has been published by the UK National Institute of Health and Clinical Excellence (NICE) on the effectiveness of CBT in treating a range of emotional issues.

Unhelpful emotions or issues may include:

- Anxiety relating to the treatment
- Negative predictions about the future
- Unhelpful self or other (e.g. partner) beliefs following a negative outcome
- Social isolation relating to disclosure
- Guilt, anger or envy relating to your situation
- Low mood
- Relationship issues

Sims Counselling Provision

Individuals may benefit from different types of counselling at different stages of fertility treatment. The following counselling is available:

- Support Counselling
  - Self-referral
- Therapeutic Counselling
  - Self-referral
- Drop-in Counselling
  - via medical staff referral
- Implications Counselling
  - Donor Programme
- Assessment Counselling
  - via Doctor referral
Part 3. Talking to the Experts

Making an Appointment

If you are concerned that you may have a problem conceiving a child, contact your GP or a reputable IVF clinic to have a chat about it. It is vital that you take action quickly so that you can identify any issues that need to be addressed.

If you would like to talk to a Consultant at Sims IVF, you can make an appointment online at www.sims.ie. To ensure that we have all the details that we need, to address your particular needs at the first consultation, we ask you to complete a comprehensive and confidential set of questions online.

This significantly improves our ability to get to deeply understand your concerns about infertility, at the first consultation. If you are unsure of the answers to some questions, don’t worry. We can cover these questions more fully at consultation stage.

Once you register online, you will receive a confidential call from us by telephone shortly after.

What to Expect from a Consultation

No obligations, just a listening ear

The normal procedure for a new patient attending the Sims IVF Clinic is to have an initial consultation with one of our doctors. Their role is to listen to your concerns and gain an understanding of the problems that you are experiencing. There is no obligation on you to go any further.

During a first consultation, the doctor will discuss your medical history with you and ask you a number of questions. It is useful to bring copies of any prior test results that you have had with you, including record of investigations, tests and treatment summaries. The doctor can then recommend the best options in terms of investigations, tests and potential treatments.

We encourage both partners to attend this first consultation as infertility is a shared condition and you will both want to be involved in all aspects of the decision making process. Consultation generally lasts an hour, which gives you the opportunity to ask questions and discuss your concerns with us.

Sims IVF takes a proactive approach to fertility treatment

Most of our patients want to get started as quickly as possible. Our nurse will arrange dates for your planned treatment immediately.

If you decide to go ahead with testing, you will meet with a fertility nurse who will explain each step of the testing or treatment that has been prescribed by the doctor. The nurse will also discuss and plan any blood tests or investigations that the doctor ordered. Many people referred to Sims have already undergone extensive infertility testing and treatment elsewhere. We will only repeat tests if it is essential.

We run your testing and your treatment plan in tandem, so that we waste no time in treating you for infertility issues. This is because we know that time is never on your side when it comes to fertility treatment. We can adapt the treatment plan if your tests suggest that we need to – but overall, you can be assured that we take a proactive approach to your treatment from the moment you become a patient at Sims IVF.

Your initial tests

Some of these initial tests may be carried in-house by Sims IVF clinic. The following are relatively straightforward:

- Anti-Müllerian Hormone or AMH testing has replaced traditional blood tests to ascertain key hormone levels and antibodies.
- Individual testing for FSH (Follicle Stimulating Hormone), LH (Luteinising Hormone), TFS (Thyroid Functions) and Prolactin are no longer required; AMH covers all of your major test requirements.

We have a medical laboratory – Fertility Laboratory Ireland – attached to the Sims Clinic, so that we can turn your tests around in 24 hours.

We also conduct the following tests:

- Adhering to the EU Screening guidelines, we screen for infectious diseases and will test you and partner for all major illnesses such as HIV, Syphilis, Hepatitis and Cystic Fibrosis.
- Blood group and assessment of the blood profile for women who are at risk of conditions such as sickle cell anaemia and thalassaemia.

It is important to get a regular Cervical Smear test and this will be done, if a recent test is not available.

We use SIS (Saline Infusion Sonography) to identify the presence of hydrosalpinx (fluid in fallopian tube) or polyps, fibroids or adhesions which may impede implantation and should ideally be removed prior to treatment.

We can refer patients for a hysteroscopy, which is a very simple procedure to investigate further, if required.

Submucous fibroids in the uterine cavity may also affect implantation and it is usually recommended that these are removed surgically prior to treatment. Your doctor may refer you for further assessment if there are fibroids that need to be removed.

Consultants review

Following the initial tests or investigations, an appointment is made for you to speak with a consultant after one month. The doctor will present the results of the tests to you and will recommend a course of treatment for you including a medication regime.

Other investigations will need to identify physiological issues – such as the following in women:

- A woman may not be ovulating or releasing eggs at the right time. In other cases, the fallopian tubes can be blocked or damaged, and so eggs cannot be picked up and carried along the fallopian tubes to be fertilised.
- There can also be problems with the womb lining, which means that a fertilised egg is prevented from implanting successfully, perhaps due to an immune problem.

Advanced Infertility Testing

When you come to an IVF Clinic, you can be tested for a number of conditions. Below is a synopsis of the fertility problems encountered by women and men that may be identified through testing.

Female fertility problems and testing

- Ovulatory Problems
- Reproductive Immunology
- Polycystic Ovarian Syndrome (PCOS)
- Endometriosis
- Tubal Disease
- Anti-Müllerian Hormone (AMH)

Here are the more common female fertility problems in more detail:

Ovulatory Problems

Ovulatory problems are the most common cause of female infertility and occur due to hormonal imbalance. This imbalance may arise either within the hypothalamus, the pituitary gland or in the ovaries. Common causes of these problems include stress, excess weight loss or weight gain, excessive production of prolactin (the hormone that stimulates milk production in the breasts) and polycystic ovarian disease.
Reproductive Immunology
In some cases, fertility problems and positive response to IVF can be hampered by the immune system which turns on the newly-implanted embryo and destroys it. Autoimmune testing and treatment can significantly improve the chances of implantation, where reproductive immunology problems exist.

Sims IVF carries out two tests to identify auto-immune problems. One is a basic test to find out whether you have antibodies in your system that might hamper the conception and pregnancy process. The second checks for natural killers in the body that might have an immune system that might hamper the conception and pregnancy process.

Endometriosis is the only definitive way to diagnose endometriosis. Laparoscopy allows direct visualisation and ideally biopsy of areas suspected of being endometriosis. It is carried out by inserting a small telescope through an incision close to the navel.

Endometriosis can be managed quite simply and IVF is an appropriate treatment for associated infertility where other methods have failed.

During a laparoscopy, the surgeon can also clarify if the tubes are open. This is where liquid is flushed through the neck of the womb. This flushing with liquid is similar to Saline Infusion Hysterosonography which is carried out on all female patients pre-IVF at Sims.

Many women who have Endometriosis can conceive without any difficulty however some women do have difficulty getting pregnant.

IVF is an appropriate treatment for infertility associated with Endometriosis where other methods have failed.

Tubal Disease
Tubal factor infertility accounts for up to one quarter of all infertility cases. This includes cases where both the fallopian tubes are blocked, or one is blocked, or one or both are scarred. It is usually caused by pelvic infection as a result of pelvic inflammatory disease (PID) or appendicitis, by pelvic Endometriosis, or by scar tissue that forms after pelvic surgery.

In cases of relatively minor tubal damage it can be difficult to be certain if it is solely responsible for the infertility or one of a number of contributing causes. From a practical point of view, the presumptive diagnosis is due to tubal factors unless the degree of scarring is very minimal. In this event, and if no other cause of infertility is found, then a diagnosis of unexplained infertility may be warranted.

The diagnosis can be made in a number of ways. Your doctor may suggest a laparoscopy and hydrotubation. A camera is placed through your belly button to inspect the pelvis. This is especially useful if other features are present including pain which might suggest Endometriosis. Dye is passed through the tubes and the blockage or swelling can then be confirmed. The most common cause of blocked tubes is infection (PID) of which the most common infection is Chlamydia. About 70% of women who have blocked tubes have had a Chlamydia infection although it is often silent and they will not have even been aware of it.

A less invasive test still carried out in some hospitals is called a hysterosalpingogram. It is a useful test but is being superseded in many parts of the world by HyCoSy or saline sonography. These do not require X-ray technology but rather vaginal ultrasound similar to being monitored for fertility treatment. HyCoSy uses a special contrast dye while the saline test uses sterile salty water (saline). These are much less invasive than the older tests and may themselves be...
Male infertility occurs when a man does not produce enough sperm, known as a low sperm count, or the sperm are not of a sufficiently high quality to fertilise the egg. It is also possible that there are problems with the tubes that carry sperm resulting in no sperm in the ejaculate (azoospermia). A man may also find it difficult to get an erection, or have trouble ejaculating, therefore, sperm may not reach his partner’s vagina.

**Male Fertility Problems**

Anti-Müllerian Hormone (AMH)

Knowledge of how you will respond to hormone injections during an IVF treatment cycle is a very important part of fertility treatment. Depending on your own individual characteristics, you may fall into the extremes of response – an excessive response or and adequate response. A recently developed test allows us to modify our approach, resulting in a reduced incidence of both of these extremes.

It has now been established that the hormone AMH, which is made by the ovarian follicle containing the egg, can accurately predict how your ovaries will respond to fertility drugs. This is sometimes called the ovarian reserve. Armed with this information, your consultant can make better decisions from the outset as to how to best proceed with your assisted reproduction cycle.

AMH involves a single blood test which can be performed at any stage in the menstrual cycle. At the Sims Clinic, we can analyse your AMH levels in our own dedicated laboratory. Other relevant hormones may be measured in parallel with AMH, these are thyroid stimulation hormone (TSH) and Prolactin. Together these are known as the AMH profile.

**Physiological Issues**

Absence of sperm in the ejaculate (azoospermia) may be due to an obstruction at the level of the vas deferens, epididymis, or even at the level of the testes. It may also be due to bilateral congenital absence of the vas. Some men may have testicular failure which is failure of production of the spermatozoa. This may be the result of a chromosomal disorder or previous infections such as mumps. It may also be associated with the history of failure of descent of the testes into the scrotum.

On rare occasions there may be anti–sperm antibodies in the semen which impair their motility. This may occur following a reversal of a vasectomy or other surgery on the male genitals and may also be related to previous infections or injury. Your semen sample will be tested for sperm antibodies during the analysis.

**Semen Analysis**

Abnormalities in semen production can cause male fertility problems. The initial screening for men is a semen analysis. A normal assessment should show a sperm count of more than 20 million sperm per ml with at least 50% of the sperm actively motile and more than 35% of the sperm with a normal shape.

The sperm should be able to survive in the female genital tract for a period of 24-48 hours so that they are able to reach the site of fertilisation in the fallopian tubes.

Abnormalities in the semen are primarily due to a defect in sperm production by the testicles. The cause of this is usually unknown but may be associated with previous infections or surgery including undescended testis or hernia. Abnormalities may also be caused by excessive drinking.

Certain drugs, radiation and radiotherapy may have a detrimental effect on the production of the sperm. The presence of a varicocele, a condition where there is an increase in the blood flow around the testicles due to dilated veins, may lead to a rise in the temperature around the testicles, which may adversely affect sperm production and motility.

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**ICSI**

Until recently, there has been no effective treatment for male infertility. Drugs have rarely improved sperm counts. However, since the introduction of micro manipulative techniques, in particular Intracytoplasmic Sperm Injection (ICSI), the success rates for couples with male problems have markedly improved.

ICSI bypasses the natural process involved in a sperm penetrating an egg and is therefore used when there are problems that make it difficult to achieve fertilisation naturally or with conventional IVF.

**Sperm DNA fragmentation testing**

Sperm DNA is packaged by nature in a different way compared to that of other cells in the body. In sperm cells, DNA is arranged in very tight organised loops so that it can be carried safely to its final destination – the egg. Semen protects sperm from several hazards along the journey. DNA fragmentation occurs when particular reactive oxygen species damage the sperm DNA. If damaged sperm is accepted into an egg for fertilisation, poor quality embryos or miscarriage can result.

There is a test that can assess this problem. The sperm chromatin structure assay (SCSA) can measure a DNA fragmentation index (DFI). This test may reveal high susceptibility toward DNA damage or actual DNA fragmentation already present in the sperm. Sims Clinic can conduct this test as a matter of routine.

**Genetic testing**

However, in cases of severe deficit of semen quality or non-obstructive azoospermia, genetic testing should be considered and is available at Sims IVF.

**Sperm Donor**

In extreme cases, another option a couple could consider is to use sperm from a donor.
Part 4. Infertility Treatments and Supports

Not every clinic provides the same infertility treatment. It is important to choose a clinic that employs the latest technology, testing and treatments. Do your research and become familiar with the types of treatments that are available.

Leading Reproductive Medicine

Treatments
We are leaders in reproductive medicine in Ireland and are responsible for the first Donor Gamete (using egg or sperm donors) programme, in the country. We are also the first practitioners of Blastocyst Culture and Transfer. New from 2011, we are the first clinic in Ireland to provide IMSI (Intracytoplasmic Morphologically-Selected Sperm Injection).

- Reproductive Immunology
- Ovulation induction and cycle monitoring
- Intra-uterine Insemination (IUI) – using partner’s sperm or donor sperm
- In Vitro Fertilisation (IVF)
- Intracytoplasmic Sperm injection (ICSI)
- Intracytoplasmic Morphologically-Selected Sperm Injection (IMSI)
- Surgical sperm retrieval (TESE)
- Assisted Hatching

This is a review of each of the treatments in more detail:

Reproductive Immunology
Treatment for reproductive immunology is very much in its infancy. It has been clearly shown that a woman who has persistent miscarriage with antiphospholipid antibodies (aPLs) can dramatically improve their live-birth rate if they are given blood thinners with aspirin and heparin injections.

If natural killer cells are identified which significantly reduce the chances of conception, then there are three interventions that can be used to help the body to accept the sperm and the implantation in the womb – these include steroid, intralipid infusions and IVIG.

Treatment for reproductive immunology is far from an exact science. However, it does help to eliminate possibilities and its success rates for those with recurrent miscarriages have proven to be worthwhile.

Ovulation Induction and Cycle Monitoring
Ovulation induction involves the use of medications to stimulate the development of one or more mature follicles in a woman’s ovaries. Women that have irregular cycles or anovulation (do not ovulate) may be treated with medications to stimulate the development of one or more mature follicles in a woman’s ovaries. Women that have irregular cycles or anovulation (do not ovulate) may be treated with ovulation induction using small doses of fertility drugs.

Pelvic ultrasound scans are used to access the endometrium (lining of the womb) and to determine how the follicles are developing. Blood tests may also be carried out to measure hormone levels and helps to determine when a woman is most likely to ovulate, at a woman’s most fertile time.

Ovulation induction cycles are followed by a HCG injection to induce ovulation. Timed sexual intercourse can then take place or Intraruterine Insemination at a given period of time.

The side effects involved in ovulation induction include bloatedness, lower abdominal discomfort, headaches and fatigue. Careful monitoring removes the risk of multiple births by advising the patient to abstain from sexual intercourse where indicated.

Intra-uterine Insemination (IUI) – using partner’s sperm or donor sperm
IUI involves the injection of a sample of prepared sperm from the husband or partner (IUI-H) into the woman’s uterine cavity around the time of ovulation.

Who is IUI suitable for?
IUI is recommended only if the woman has healthy fallopian tubes, preferably confirmed laparoscopically, and if the man’s semen analysis is normal. It may be useful for women who have cervical mucus hostility and in some cases of unexplained infertility.

What does IUI involve?
The chance of success with IUI is enhanced if insemination is combined with ovulation induction using small doses of fertility drugs. These are taken by the woman, and the development of the follicles on the ovary is monitored with ultrasound. The insemination is timed to take place 36-40 hours after administration of another hormone injection which triggers ovulation.

On the day of the planned insemination, the partner provides a semen sample. A concentrated preparation of motile sperm is extracted from the semen sample in the laboratory. The sperm preparation is placed into the uterine cavity by the doctor / IVF nurse by means of a fine catheter inserted through the cervix. In general IUI is a painless procedure, which takes only a few minutes.

IUI using donor sperm?
IUI is also sometimes carried out using the sperm of an anonymous donor (IUI-D) in couples where there is a significant male factor involved.
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 tubes are healthy. Please refer to our website www.sims.ie for more information on results.

In Vitro Fertilisation (IVF)
The term In Vitro Fertilisation (IVF) literally means fertilisation 'in glass' and it refers to the process where a woman's eggs are fertilised outside of her body in the laboratory. The resulting embryos are then transferred back into the uterus a few days later.

Who benefits from IVF?
IVF is specifically recommended for women with absent, blocked or damaged fallopian tubes. It is also often used in cases of unexplained infertility and can be used in combination with ICSI (intracytoplasmic sperm injection) in cases of severe male factor infertility. ICSI is a variant of IVF and is where single live sperm are injected directly into oocytes (ripe eggs).

There are four steps involved in the IVF cycle:
- Stimulation of the ovaries to encourage development and maturation of the eggs
- Retrieval of the eggs
- Fertilisation of the eggs and culture of the embryos
- Transfer of the embryos back into the uterus

These steps are described more fully here:

Stimulation of the ovaries to encourage development and maturation of the eggs
Under the care of a consultant gynaecologist, the woman is given fertility medications to stimulate her ovaries to produce many follicles. Follicles are the small fluid filled structures which develop on the ovaries, each of which will hopefully contain an egg. The number and size of the developing follicles is measured by trans-vaginal ultrasound scans. The exact number of follicles which develop varies between patients, but the average is about 10. The final preparation for egg retrieval involves a hormone injection which mimics the natural trigger for ovulation. Egg retrieval will take place 36-38 hours after this injection.

Retrieval of the eggs
Egg retrieval is a minor theatre procedure which is carried out on an outpatient basis under local anaesthesia. The trans-vaginal ultrasound probe is used to visualise the ovaries and a needle attached to the probe is passed through the vaginal wall into the follicles. The fluid within each follicle is aspirated and then examined in the IVF laboratory for the presence of an egg. After identification, the eggs are washed and transferred into special culture medium in Petri dishes in an incubator.

Fertilisation of the eggs and culture of the embryos
While the egg retrieval is proceeding, the sperm is also prepared. A semen sample is provided by the male partner and, in the laboratory, a concentrated preparation of the best motile sperm is extracted from the semen sample. This sperm preparation (containing approximately 150,000 sperm) is added to the dishes containing the eggs, and they are incubated together overnight. In some couples an alternative form of insemination is required called ICSI, which involves injecting a single sperm into each egg using a very fine needle, rather than mixing the eggs and sperm in a dish.

Irrespective of the method of insemination used, on the morning after egg retrieval, the eggs are examined to see which have fertilised. Fertilised eggs (zygotes) are then routinely cultured in the IVF laboratory until day 3, at which time the best 1-3 embryos are selected and transferred back into the woman’s uterus. For some patients, a blastocyst cycle may have been recommended in which case embryo culture is extended to day 5.

Any additional embryos that are not transferred on either day 3 or day 5 can be frozen.

Embryo Transfer
Embryo transfer is a simple theatre procedure that does not routinely require anaesthesia. The embryos are placed into the uterine cavity by the doctor / IVF nurse by means of a fine catheter inserted through the cervix. The correct positioning of the embryos is confirmed by abdominal ultrasound, so the woman is required to have a full bladder for the procedure.

How successful is IVF?
Please refer to our website www.sims.ie for information on results.

ICSI
ICSI is very similar to conventional IVF in that gametes (eggs and sperm) are collected from each partner. The difference between the two procedures is the method of achieving fertilisation.

In conventional IVF, the eggs and sperm are mixed together in a dish and the sperm fertilises the egg ‘naturally’. However to have a chance that this will occur, large numbers of actively swimming normal sperm are required. For many couples, the number of suitable sperm available may be very limited or there may be other factors preventing fertilisation, so conventional IVF is not an option. ICSI has provided hope for these couples.

ICSI refers to the laboratory procedure where a single sperm is picked up with a fine glass needle and is injected directly into each egg. This is carried out in the laboratory by experienced embryologists using specialist equipment. Very few sperm are required and the ability of the sperm to penetrate the egg is no longer important as this has been assisted by the ICSI technique. ICSI does not guarantee that fertilisation will occur as the normal cellular events of fertilisation still need to occur once the sperm has been placed in the egg.

Who is ICSI suitable for?
From a patient perspective, undergoing an ICSI treatment cycle is exactly the same as a conventional IVF cycle, and the same steps are involved.

Circumstances in which ICSI may be appropriate include:
- When the sperm count is very low
- When the sperm cannot move properly or in other ways abnormal
- When sperm has been retrieved surgically from the epididymis (MESA/PESA) or the testes
- (TESE/TESA), from urine or following electro-ejaculation
- When there are high levels of antibodies in the semen
- When there has been a previous fertilisation failure using conventional IVF

What does ICSI involve?
From a patient perspective, undergoing an ICSI treatment cycle is exactly the same as a conventional IVF cycle. Patients should however be aware of the risks associated with ICSI.

- Stimulation of the ovaries to encourage development and maturation of the eggs
- Retrieval of the eggs
- Fertilisation of the eggs and culture of the embryos
- Transfer of the embryos back into the uterus

These steps are described more fully under IVF.

How successful is ICSI?
Please refer to our website www.sims.ie for more information on results.
Intracytoplasmic Morphologically-Selected Sperm Injection (IMSI)

IMSI is a new technique that allows a better selection of the sperm that is going to be micro-injected during an IVF or during egg donation. Sims IVF introduced IMSI to Ireland in 2011.

TESE Sperm retrieval

What is TESE?

TESE is a surgical sperm retrieval procedure used in fertility treatment for men who have no sperm in their ejaculate.

Who is TESE suitable for?

TESE is used for men with both obstructive and non-obstructive azoospermia. These men have no sperm in their ejaculate because either there is a blockage in the route between the site of sperm production (the testes) and ejaculation or because there is a partial or complete failure in sperm production in the testes.

What does TESE involve?

Under the care of a consultant urologist, TESE is a minor theatre procedure carried out on an outpatient basis under local anaesthesia. Sperm are retrieved from the testes and can be used to achieve fertilisation of eggs in the laboratory. However, because the numbers of sperm retrieved is often very low, it is necessary to combine TESE with ICSI.

When is TESE carried out?

In consultation with the urologist, the doctor may advise that TESE is carried out in advance of any fertility treatment to confirm that sperm production is occurring. If suitable numbers of sperm are identified on this occasion, it is sometimes possible to freeze the testicular extract and to thaw and use this sample for subsequent treatment. More commonly however, once it has been confirmed that sperm production is occurring, the TESE procedure is repeated on the day of the egg retrieval and the fresh sample used for ICSI.

Again, providing that there are suitable numbers of sperm present, the sample can sometimes be frozen for use in future treatment cycles.

Assisted Hatching

For the first 5 to 7 days of development, the embryo is surrounded and protected by an outer shell called the zona pellucida. In normal circumstances, when the embryo reaches the uterus, this zona partially dissolves and the embryo ‘hatches’ out, allowing it to implant in the uterus.

In some patients it is thought that infertility may be caused by a hardening of the zona, which makes it difficult for the embryo to hatch and implant.

Assisted hatching is a laboratory micromanipulation technique carried out before the embryos are replaced in the uterus that helps the embryo to hatch from the zona.

What does assisted hatching involve?

Assisted hatching is carried out in the laboratory by experienced embryologists. Using a very high powered microscope, a small slot is made in the zona using a very fine needle. Assisted hatching is carried out before the embryo transfer on those embryos that have been chosen for transfer.

Once it is returned to the uterus, the embryo can hatch through this opening and implant naturally.

Who is assisted hatching suitable for?

Assisted hatching is generally recommended in the following circumstances:

- The woman is aged 35 years or older
- The woman has high FSH levels
- Couples who have failed to get pregnant following previous IVF cycles
- Couples where a distinct thickening of the zona is noted by the embryologist
- Frozen embryo replacements

Embryo Grading

After insemination by IVF or ICSI, fertilised eggs are then routinely cultured in the laboratory for 3 days before being transferred back into the woman’s uterus.

Before embryo transfer, the embryos are graded by a specially trained embryologist in order to select the embryos with the best chance of implanting in the uterus and forming a healthy baby.

The main criteria used to grade embryos on day 3 are:

The number of cells which the embryo has.

Embryos showing good development will generally have 6 to 8 cells after 3 days of growth. Embryos with fewer cells may still be good, but they are less likely to continue normal development.

The amount of ‘fragmentation’ that the embryos show.

Fragmentation describes the way that cells of an embryo split off into fragments. A small amount of fragmentation is normal, but excessive fragmentation suggests that the embryo will have a lower chance of continuing normal development.

Blastocyst Culture and Transfer

What is a blastocyst?

The term ‘blastocyst’ refers to the human embryo 5 - 6 days after fertilisation.

It is the stage of development that the embryo must reach before it can implant in the uterus.

The structure of the blastocyst is more complex than earlier embryo stages because as well as increasing in cell number, the cells have become organised into 2 types, the trophectoderm, whose main role is in the implantation into the uterine lining and the inner cell mass which will give rise to the foetus itself.

The diagram below shows blastocyst formation in the female body.

The egg is fertilised following ovulation from the ovary and the embryo goes on to divide (cleave) as it travels along the fallopian tube. Blastocyst formation occurs as the embryo reaches the uterus.

What’s so special about blastocyst culture in an IVF setting?

Standard practice in IVF involves the replacement of embryos into the uterus after 3 days when the embryos are at the cleavage stage of development.

<table>
<thead>
<tr>
<th>Ovary</th>
<th>Fallopian Tube</th>
<th>Inner Cell Mass</th>
<th>Uterus</th>
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<tbody>
<tr>
<td>Egg</td>
<td>Fertilised Egg</td>
<td>Blastocyst</td>
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Cleavage Stage Embryos

Embryos reaching the cleavage stage (4 to 8 cells) are transferred a few days after fertilisation. This is the stage where the embryo is most viable and ready to implant in the uterus.
Blastocyst transfer however involves extending the period that the embryos are cultured in the laboratory to 5 or 6 days.

Why extend the time that the embryos are cultured in the laboratory?
It is known that a lot of embryos are destined to arrest at early stages so extended culture allows the embryologist to identify which (if any) of a group of embryos have the best potential for implantation by identifying those which form a normal blastocyst in culture.

Transferring embryos at the blastocyst stage also provides a better co-ordination between the embryo and the uterus by putting the embryo back in the right place (the uterus) at the right time (blastocyst stage).

What are the benefits of blastocyst culture?
Overall, if you have a normal blastocyst for transfer on day 5, the chances of pregnancy are higher (in our hands) than if you have embryos transferred on day 3.

However, the chances of having no embryos for transfer at all are also higher.

IVF has not worked for me before. Should I try blastocyst culture?
The short answer is yes. If your IVF did not work despite the fact that you had embryos for replacement on day 2 or 3, blastocyst culture should help us determine whether in fact your embryos develop beyond day 3 at all (even very good quality day 3 embryos may not form blastocysts) and if so, which of those embryos would be the best ones to transfer.

Are there any benefits in younger patients in whom IVF is likely to work anyway?
As blastocyst culture can help to determine which embryos have the best chance of being able to implant, we can potentially reduce the number of embryos that we replace into the uterus and thereby reduce the risk of a multiple pregnancy. In women under 35, without female factor infertility, we can therefore offer single embryo transfer and significantly reduce the risk of both twins and higher order multiple pregnancies - triplets and quads.

Is there any benefit for patients over 37?
Yes. We can avoid the need to transfer 3 embryos on day 3, by transferring 2 blastocysts on day 5. The small risk of triplets can be minimised without affecting the pregnancy rate.

Is there anything else I should know about blastocyst culture?
In 2003, we carried out 76 blastocyst cycles in patients with previous multiple failed IVF cycles.

78% of those couples had blastocysts for transfer.

42% of those patients achieved an ongoing pregnancy.

Blastocyst culture has become a very valuable tool in our treatment armory. The information that can be gained by attempting to develop a blastocyst gives us tremendous insight into your fertility issues.

However:
- The extra culture time required adds to both the financial and emotional cost of treatment – many couples find the wait over this period very difficult.
- It is possible that you may not have an embryo transfer at all – about 20% of the patients we have treated to date with blastocyst culture have not reached embryo transfer.
- It is less likely that there will be ‘spare’ embryos available for freezing.
- There is a slightly increased risk of identical twins reported in the literature associated with blastocyst culture.

Embryo Freezing and replacement

In a typical IVF or ICSI treatment cycle, the woman’s ovaries are stimulated to produce many eggs. Following fertilisation and embryo culture, the best embryos are selected for embryo transfer. For about 50% of couples, there will also be good embryos which are surplus to those required for embryo transfer. These embryos can be frozen at this point for future use.

Embryo freezing (cryopreservation) is a method of preserving the viability of embryos by carefully cooling them to very low temperatures (-196°C). 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?

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What does a frozen embryo transfer cycle actually 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 hence embryo transfer. In other cases, depending on the woman’s history a more hormonally controlled cycle may be warranted. The decision regarding the most appropriate treatment will be made in consultation with the clinician.

Are there any disadvantages to embryo freezing?
Approximately 70% of the embryos that are frozen will survive the thawing process. This does however vary between patients and it is possible that none of a couple’s embryos will survive the freezing and thawing process.

How successful are cycles involving the transfer of frozen / thawed embryos?
Overall, frozen embryos have a slightly lower chance of implanting than fresh embryos. This is mainly because in general the best embryos in a group will already have been transferred on the fresh embryo transfer.

Sims IVF European Donor Egg (EDE) Programme.

Our first experience with Donor Egg Programmes was in 1999 when we began to provide satellite facilities for couples who were attending egg donation elsewhere. In 2002, we started our own egg donation programme utilising Irish donors. We soon discovered that the supply of egg donors was far smaller than the demand from potential recipients which resulted in long and agonising waiting lists.

We decided to address the unsatisfactory waiting lists for egg donation in 2005 by launching the European Donor Egg (EDE) Programme. Sims IVF entered a partnership with Intersono IVF Clinic in Western Ukraine. Intersono IVF Clinic has a dedicated team working on the Sims EDE programme.

The Intersono IVF Clinic team work very closely with Sims IVF and to our exacting standards and protocols, including adhering to the regulations issued by the EU Tissue and Cells Directive. The success of the EDE Programme resulted over 60% Clinical Pregnancy Rate.
Intersono, located in Eastern Europe.

Why the Ukraine?
In Ireland, the UK and Western Europe, the number of recipients outstrips the number of available egg donors. Our standard policy is to offer donation to women less than 50 years of age. Egg donation has become an increasingly popular option because it has higher success rates than IVF cycles using the woman’s own eggs. Egg donation also allows for strong biological and developmental relationships within the family because donor eggs are fertilised with the male partner’s own sperm through ICSI, matured to the embryonic stage and then placed in the partner’s uterus, providing her with the same experience of pregnancy as natural conception.

Women who do not produce eggs or those with poor quality eggs may be advised to seek treatment with donated eggs. Our standard policy is to offer donation to women less than 50 years of age.

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About the Donors
Potential egg donors come forward voluntarily because of a desire to help others. There is no incentive other than compensation for expense, time, inconvenience and risks involved in the procedure.

Egg donors must be fit and healthy and between the ages of 18 and 35 years, unless there are exceptional circumstances such as known donation. They must have proven fertility.

The donors are screened for problems relating to family health history and for transmissible infectious diseases and have consented to their eggs being donated. Each donor goes through a triple testing regime.

Intersono laboratories carry out the ICSI with frozen sperm which Sims IVF transports over to them. Then the fertilised eggs are brought back to Ireland by a member of the Sims team. The culture and blastocyst transfer proceeds at Sims IVF.

Choosing your Egg Donor
As a recipient, you can choose your donor from a pool of donors. All donors profiled have their own children and so have proven fertility. The eggs that are donated for your particular cycle are exclusively reserved for you as the recipient.

All treatment is confidential. When you, as an individual or part of a couple, receive the eggs, you will not have access to the identity of person who donated those eggs. It is, however, a statutory requirement that the names of all donors and recipients are recorded and held by Sims IVF. The names are not available to either party.

Donor anonymity is protected under Ukrainian Law.

The Support and Resources you Need

Online Patient Resource Area
We have set up a Patient Resource Area on our website: www.sims.ie to give you guidance through your treatment. This resource gives you useful information including frequently asked questions, video demonstrations on how to take injections and any forms that you need to fill out.

The Patient Resource Area is unique to patients of Sims IVF and was developed based on patient feedback and insights.

Mind / Body Programme
We genuinely believe that the support and care that we give to each of our patients is absolutely critical, which is why the Sims IVF Clinic is the first fertility clinic in Ireland to introduce a Mind / Body programme in conjunction with fertility medical care.

Sims IVF / Body programme integrates both Mind and Body therapy to help you to achieve the optimal experience and success from your fertility treatment with us.

Our Mind / Body programme aims to improve your well-being by encouraging a positive focus on your overall health, relationship and emotional experience.

The Sims IVF Mind / Body programme is based on Dr Alice Domar’s, Harvard Mind/Body Medicine 1 programme and includes:

- CBT Therapy to replace unhelpful thinking patterns with more self-supportive ones
- Relaxation and mindfulness training
- Stress reduction techniques for alleviating symptoms of stress
- Dietary and nutritional advice.
- The Programme also includes a range of Complementary Health supports including:
- Acupuncture specific to infertility care
- Yoga to enhance well-being.

Counselling Support
We have a full-time resident counselling psychotherapist available to provide emotional and psychological support, particularly during any challenging times that may occur in your treatment process. Our fully accredited (IACP and BACP) and experienced therapist provides Cognitive Behavioural Therapy and Integrative Counselling sessions to individuals and couples who feel they may benefit from additional assistance before, during or after their treatment.

We also have a number of clinics each month to help those who need them to focus on and address issues such as nutrition and diet, psycho-sexual problems, and stress.

Referral by your GP or Gynaecologist
If you have been referred to Sims IVF by your doctor or gynaecologist, it is our policy to keep them informed of your progress. If not, we will stay in contact with your GP, unless it is your express wish not to. We believe that you ought to be given as much support as possible when undergoing fertility treatment and that your doctor can help you to manage your treatment.
This means that you as a patient experience far less stress if you are dealing with a pharmacy that has all the medication you require, in stock, on time. And if they can provide the necessary guidance to ensure that you are clear on when and how to take your various medications.

This is important for patient safety and also to make sure that your medication is available to you when you need it. Of course, patients may use a pharmacy of choice unless the consultant specifically recommends otherwise for professional reasons. We can also give you names of pharmacies that provide a 24/7 service to support your needs.

**Working with your Medical Specialists**

Where patients have health issues or specific medical conditions, Sims IVF is experienced in working closely with endocrinologists and other specialist doctors.

**Drugs Payment Scheme**

If you are an Irish resident, fertility medications may be covered under the DPS (Drug Payment Scheme). To qualify for the scheme and to get the latest updates on your entitlements, you can apply to the HSE. Forms are available from any pharmacy.

**Private Health Insurance**

Some of the major healthcare providers cover aspects of fertility treatment. It is possible that they may cover consultations and/or some investigations or tests. For more information, contact your health insurance company directly.

**Tax Relief**

If you are not eligible for health insurance cover for your fertility treatment, you may be able to claim tax relief. Keep all invoices as these are tax deductible and it may be possible to reclaim them under the Med 1 scheme. Further information and forms are available at www.revenue.ie

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**Medications and Specialist Pharmacies**

Once you have agreed to initiate treatment, you will be given a prescription for medications.

We recommend that you procure your medication from specialist pharmacies with specific training and expertise in IVF and fertility medication. Sims can provide you with a list of these.

Research carried out recently clearly shows that dealing with a pharmacy that is experienced in the area of prescribed fertility medication can assist in the success of the treatment. The reasons for this are simple: a pharmacy that is well briefed on the types of medication required, the issues involved and the back-up service needed for patients will deliver a better service to our patients.

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**Part 5. Results**

**New Beginnings Happen Every Day at Sims IVF**

Infertility treatment has delivered thousands of new babies to couples all over the world. It is important that you choose a clinic that has proven results, excellent reputation and the most up to date fertility testing and treatment.

The most recent research conducted by the European Society for Human Reproduction and Embryology states that 30.1% of those who go for IVF in Ireland achieve a clinical pregnancy.* Sims IVF achieves over 40% clinical pregnancies for patients.

IVF programmes do not always use the same criteria to report results. It is important to understand exactly what the numbers mean when looking at percentages.

**Biochemical Pregnancy:** Positive home pregnancy (urine hCG) on Day 16.

**Clinical Pregnancy:** An ultrasound confirmed pregnancy with a fetal heart beat detected.

The clinic that you choose should give due consideration to both emotional and physical aspects of infertility. If a woman participates in a stress management programme, research shows that she has a 52% greater pregnancy success rate through IVF.

Sims IVF has introduced the Mind/Body programme which is proven to increase couples chances of pregnancy and to improve their overall sense of well-being.

When evaluating clinics, look also at the range of testing and treatments that are available to you as they vary considerably in terms of sophistication and capability.

*Based on the most recent IVF data reported from the European Society of Human Reproduction & Embryology; published in ‘Human Reproduction’ 2009; 24: 1267-87, Oxford University Press.

**Factors Affecting the Outcome of Treatment**

**Age**

As with natural conception the chances of success following any fertility treatment decline with the age of the woman. There is much documentation to show a significant drop in the pregnancy rate for women over the age of 40. Unfortunately the risk of miscarriage in this group is higher; therefore the percentage of women having a live birth decreases.

**Number of Eggs Collected and Embryo Quality**

The number of healthy eggs collected and the number of normally fertilised eggs also affect the outcome. The number of embryos available affects the chances of success for transfer and the number transferred. If only one embryo is available for transfer the chance of success are lower. The possible disadvantage of transferring more than one embryo is a multiple pregnancy. Approximately 20% of pregnancies following assisted conception are twins.

**Ovarian Reserve**

In a woman with normal menstrual periods, apart from her age the second most important element that affects IVF outcome is the ovarian reserve - the number of potential eggs available in the ovary - which is usually measured by checking the AMH. AMH operates on a scale from low to high. Women with reduced ovarian reserve have a lower, but reasonable chance, of achieving live birth.
Complications in Fertility Treatment

Multiple Pregnancy
One of the complications of assisted reproduction is the increased incidence of multiple pregnancy. Concerns about multiple pregnancy arise because it is associated with a great incidence of complications.

Problems are more commonly seen in triplet or higher order multiple pregnancies but may also occur with twin pregnancies. Because of the greater chance of pre-term labour and delivery, there is an increased risk of the babies being born before they are mature enough to survive and a greater risk of complications associated with prematurity if they do.

The maximum number of embryos transferred is generally three and therefore high order multiple pregnancies are not common. Women aged 37 years or under are usually advised to have two embryos transferred.

When 3 embryos are transferred in this younger group of patients, the overall chances of success are not significantly increased but the chances of multiple pregnancy are greater.

In women over 37 the implantation rate is lower which accounts for the reduced pregnancy rate. In an attempt to improve the overall chances of a pregnancy most women over 37 are usually advised to have 3 embryos transferred, if they are available on day 3. We would not generally recommend this to women of all ages if the embryos are grown to blastocyst stage.

If a woman conceives with multiple pregnancy, careful antenatal management is advised.

Miscarriage
The incidence of miscarriage in women who conceive naturally is approximately 25%. With assisted reproduction treatment this statistic is not significantly different, although in women over 40 there is an increased risk. Pregnancies should be monitored to ensure that the pregnancy is proceeding normally.

Ectopic pregnancy
An ectopic pregnancy is a pregnancy that occurs somewhere other than in the uterus, most commonly in the fallopian tubes. The incidence of ectopic pregnancy with assisted conception treatment is approximately 2.5%. It is potentially a serious condition but will often be detected very early in the pregnancy by ultrasound scan. It is recommended that a detailed vaginal ultrasound scan be carried out 3 weeks after confirmation of pregnancy.

Making an appointment with Sims IVF
It is the policy of the clinic to see a couple or an individual for an initial consultation with the doctor before they have treatment. This consultation is important as it is the first tool the doctor uses in assessing patients. It is of benefit to the patients that copies of any test results, record of investigations or treatment summaries are brought with them to the consultation. As some tests only have a certain validity period it may be the case that various tests may have to be repeated, although we do not do so as a matter of routine.

It is preferable that both the female and male partner (if applicable) are present, as infertility is a shared condition and both parties should be involved in all aspects of the decision making process. It is also more beneficial to a couple as they may well be hearing new information which is better to hear together first hand. Bloods or other preliminary investigations may be carried out on either the male and/or female at this first visit.

It is likely that you may wait several weeks for your initial consultation; this is because we limit our intake of new patients allowing more time to manage those patients attending for treatment. A rapid diagnosis and subsequent treatment is particularly crucial for the likely causes of patient infertility within a short time frame.

If you are already an existing patient of Sims IVF, appointments for semen analysis, consultation, testing and ultrasound scans can be made by phone or by email.

For more detailed information and for a glossary of useful terms explained, please see our website: www.sims.ie
Sims IVF clinic is a sanctuary - a place where respect, confidentiality and medical excellence reside.
We are an Academic Unit providing teaching for the students of the Royal College of Surgeons in Ireland.

We provide teaching for Post-graduate Doctors from the Danylo Halytsky Lviv National Medical University, Ukraine.

Our Quality Management System is accredited to the standard of I.S. EN ISO 9001 by the National Standards Associated of Ireland.

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