

In vitro fertilisation (IVF) treatment

The aim of this leaflet is to help answer questions that you may have about assisted conception techniques, including in vitro fertilisation (IVF) and intracytoplasmic sperm injection (ICSI). If you have any further queries, please speak to a doctor or nurse caring for you.

What is the difference between IVF and ICSI?

Ovarian stimulation and egg collection in ICSI and IVF cycles are exactly the same (see below). The difference occurs after egg collection. In IVF, eggs are placed together with sperm in a laboratory dish to allow the sperm to naturally fertilise the eggs. In an ICSI cycle, each mature egg is individually injected with a sperm under the microscope by an experienced embryologist.

When can I start?

Treatment can start when:

- you've had your first appointment with an Assisted Conception Unit (ACU) doctor
- you've signed the relevant consent forms
- we have the results of virology blood tests for both partners taken within three months of your expected treatment date
- we have the result of a sperm assessment, conducted within one year of your expected treatment date
- you have been taught by a nurse how to carry out your own injections
- funding is agreed
 - if you are eligible for NHS funding, you will have received a letter confirming your entitlement
 - If you are self-funded, you will have paid for this and the required medication.

The treatment start date depends on your cycle. On the first day of your period, please email: ivf.nurses@gstt.nhs.uk, stating:

- that you want to start treatment
- your name
- your ACU number (if you know it)
- a contact number
- the date of the first day of your period.

We will contact you within two to five working days to arrange the next steps.

How will I get my medicine?

We will send the prescription to an independent drug distributor who will contact you directly about delivering the medicine to your home or place of work. If you are self-funded, you will pay the drug distributor directly for the prescription.

Please note

If you are funding your own treatment, we cannot order your required medication until full payment for the treatment cycle has been received.

What happens in an IVF/ICSI treatment cycle?

A treatment cycle is made up of five steps.

1. The woman's ovaries are stimulated with follicle stimulating hormone (FSH) injections to produce multiple eggs and the hormone which releases the eggs is temporarily switched off, using medication, so we have control of egg release.
2. The woman's eggs are collected from her ovaries.
3. The man produces a semen sample, or if using frozen or donor sperm, the sample is prepared.
4. The eggs and sperm are placed together in a laboratory dish to allow fertilisation and early embryo development to occur.
5. The embryos are placed in the woman's womb – usually on the second, third or fifth day after egg collection when the fertilised egg has divided (please see page 8 for more information). Sometimes it is necessary to freeze the embryos if they cannot be immediately transferred, or there are extra ones

Step 1 – Stimulation of ovaries and down-regulation

How are the ovaries stimulated to produce eggs?

The two most frequently used stimulation protocols are:

- long protocol
- short protocol.

There is no difference in clinical pregnancy outcome (pregnancy with a heartbeat seen on ultrasound scan) between these two protocols. The choice between one or another is made based on your medical history and your doctor will be able to advise you at your first appointment which one is better for you.

After you've agreed a plan with the doctor, we will arrange an appointment with the nurse who will tell you how to use the medications and give you a written personalised schedule to follow.

The long protocol

In this protocol, you will start the first medication on the 21st day of your menstrual cycle (counted from the first day of your period) and you will continue this treatment until two nights before your egg collection.

The first medication you will be asked to take a medication that suppresses the release of eggs. This is given as either a nasal spray or an injection under the skin of the tummy or thigh. This part of the treatment is known as down-regulation - it will

- make the ovaries temporarily inactive
- make sure the ovaries respond better to the hormone injections
- prevent your ovaries from releasing your eggs before we can collect them.

As with any medication, it has potential side effects. These include: hot flushes, night sweats, headaches, mood swings, and lack of concentration. These side effects can occur because the oestrogen hormone level in your blood drops. You may not experience all or any of these symptoms, but if you do, they will improve once you start your daily injections of the second medication containing Follicle Stimulation Hormone (FSH). FSH is what your body naturally produces to stimulate the ovaries so when you take this hormone your oestrogen levels will rise again. You will start FSH approximately two to three weeks after the start of down-regulation.

An internal (vaginal) scan is performed by a nurse in the ACU after two to three weeks of down-regulation. This is to check that the ovaries are inactive and contain no large follicles or cysts, and that the lining of the uterus (endometrium) is thin. If this is not the case, we will ask you to continue the medicine for another week. Occasionally, if there is an ovarian cyst present after down-regulation, we may drain this using a procedure similar to egg collection.

It is normal to have a period during this time. This does not mean that the medication is not working. **Do not stop taking your medication until we ask you to.** If you stop the medication too soon, your eggs could be released before we have had a chance to collect them.

You can have sex throughout your treatment and it is possible to get pregnant naturally during the down-regulation period. If this happens it is important that you tell the nurses so they can give you the correct advice.

If the scan confirms that you are down-regulated then you can start your FSH injections. These are a daily injection, taken over 10 to 14 days, to stimulate egg development in the ovaries. The injections are given just under the skin on the thigh or tummy. We will teach you or your partner to do this.

FSH causes the oestrogen hormone level in your blood to rise. This might result in increased breast tenderness or bloating, nausea, or increased emotions.

We will monitor your response to FSH using internal scans, which measure the number and size of the follicles within the ovaries. The first scan is usually done 9 to 11 days after starting the injections. In some cases a further scan is needed, usually 48 hours later. We aim to get at least two to three follicles, which measure about 18 to 20 millimetres in diameter, before we book your egg collection. The decision of when to prepare you for egg collection depends on your individual response to stimulation.

You normally have FSH prescribed for 12 days. If you need further FSH injections or run out of any other medications it is important that you contact the nurses on **t: 020 7188 2300** as soon as you realise. We will arrange to send another prescription to the drug distributor. Please note that the line is only open Monday to Friday so we would be grateful if you could let us know about possibly needing more medication before the weekend.

The short protocol

In this protocol we will ask you to email: ivf.nurses@gstt.nhs.uk on the first day of the preceding menstrual cycle for us to be able to arrange medications and injection teach. Most of patients will be asked to start contraceptive pills to be able to “programme” the start of your IVF stimulations. Once we have arranged for you to have your medications delivered, we will plan for you when to stop the pills and when to come for a scan to start stimulation.

As with the long protocol you will need to take (FSH) injections once a scan has been completed, usually during your period. Side effects from FSH injections are possible and similar to those seen in the long protocol (please see above).

In short protocol you also need down-regulation drug that prohibits the release of eggs. But it is added to the FSH injection at later stage, from day 6 of your stimulation.

Stimulation will continue for approximately 10-14 days, until the follicles in your ovaries are ready for egg collection (see above).

Step 2 - Egg collection

Decision day

Our team of doctors, embryologists and nurses will decide the best day for your egg collection. This decision is based on your medical history, your response to the stimulation drugs and the ultrasound findings. Very occasionally the cycle might be cancelled before egg collection if you under or over respond to the medication.

A one-off injection is given late at night 36 hours before the planned egg collection. This medication causes the final stages of egg maturation to take place and is called '**trigger**'. There are different drugs that can be used as a trigger. **The time this injection is taken is important** and will be explained very clearly to you. The eggs will not be mature, be released and are unlikely to fertilise if trigger is taken at the wrong time and treatment may be jeopardised.

You do not need to take any more injections after the trigger injection.

How do I prepare for egg collection?

You should not have anything to eat or drink for seven hours before your egg collection. This is because you will be given a type of anaesthetic called sedation for the procedure. This sedation helps you relax and prevents pain during the procedure. It can sometimes make you feel sick; and an empty stomach reduces the chances of complications if you vomit.

You should have a bath or shower on the morning of your egg collection. Please do not wear makeup, nail varnish, perfume, jewellery or contact lenses.

You will need to be accompanied to and from hospital by your partner or another other responsible adult.

What happens during the egg collection?

You may be asked to take pain-relieving medication one hour before the procedure. This medication is in the form of a suppository; it's a dissolvable medication that is inserted into your rectum (back passage). Please speak to an ACU nurse if you are concerned about this.

When you arrive in the ACU you will be taken to the procedure and recovery area by the nurses and asked to change in to a hospital gown.

Once you are in the egg collection room you will be introduced to the team involved in the procedure. This will include a gynaecologist, nurse, embryologist, an anaesthetist and their assistant.

As part of our strict witnessing procedures we will ask you to tell us your name and date of birth. We check these details against your medical records and confirm the storage tubes for your eggs are correctly labelled.

A small cannula (plastic tube) is put in a vein in your arm or hand and used to give you medication to keep you sedated during the procedure. Sedation is given by an anaesthetist (specialist doctor). It keeps you asleep and pain free during the procedure. We will give you oxygen to breathe and monitor your pulse, blood pressure and breathing throughout the egg collection.

An ultrasound probe is placed inside the vagina and a fine needle is attached to the side. The needle is gently passed through the vaginal wall into the nearest follicle in the ovary. The fluid from the follicle is put into a small tube. The needle is moved from one follicle to the next until we have emptied all the follicles in the ovary. The needle is then removed and the procedure is repeated in the other ovary.

The embryologist will examine the fluid from each follicle under the microscope and check for any eggs. As each egg is found, it is placed in special fluid in an incubator.

Not every follicle will contain an egg and on rare occasions no eggs will be found. Sometimes despite draining a good number of follicles we may get a low number of eggs. We will tell you after the procedure how many eggs were collected.

How long will it take?

Egg collection usually takes about 20 minutes depending on the number of follicles drained.

After the egg collection

After the procedure you will rest on a bed in the recovery area for one or two hours. Please arrange for a responsible adult to drive you home or accompany you in a taxi. This is particularly important if your partner has had a sperm retrieval procedure on the same day as he will have also had sedation. We do not recommend public transport because you might need assistance after sedation.

Sedation can affect your reasoning, reflexes, judgement, coordination and skill. For 24 hours after the procedure, please do not:

- stay alone – a responsible adult must stay with you during this time
- drive any vehicle, including a bicycle
- operate any machinery
- attempt to cook, use sharp utensils or pour hot or boiling liquids
- drink alcohol
- smoke
- take sleeping tablets
- make any important decisions or sign any contracts.

It is not unusual to feel some lower tummy or pelvic pain after the procedure. It is perfectly safe to take paracetamol for this without altering your chances of IVF working or damaging a pregnancy. You might have some blood stained vaginal discharge which should become darker and stop after a few days. This blood is coming from the site where the needle has passed through the vaginal wall and is not the lining of the womb breaking down.

You will be prescribed the hormone, progesterone, to take for 17 days following the egg collection to make the lining of the uterus as receptive as possible to the embryos. Progesterone can be given in different preparations and frequencies. We will tell you how to administer it before discharge on the day of egg collection.

What happens if my treatment cycle is cancelled?

The majority of women respond well enough to stimulation to progress to egg collection. About 5% of cycles have to be cancelled due to under or over response.

If your cycle has to be cancelled, we will ask you to stop taking all of the medications. We will arrange a follow up appointment with a senior doctor as soon as we can. At this appointment we will reassess your treatment and plan a further attempt, if appropriate. We realise that it is very disappointing to have a cycle cancelled, and will offer you the opportunity to speak with one of our dedicated fertility counsellors for additional support.

Having your cycle cancelled does not always mean you will never respond appropriately. Every cycle is different and we may be able to adjust your stimulation programme to achieve a better response and give you an improved chance of becoming pregnant in a further treatment cycle.

Why would a treatment cycle be cancelled?

Your egg collection might be cancelled if not enough follicles have developed in the ovaries. However, if your fallopian tubes are open and one or two follicles have developed, we might still ask you to take the trigger injection. We will then advise you to have intercourse at a certain time or arrange for intrauterine insemination (IUI), which is when the prepared semen is placed directly inside your uterus.

Your egg collection might be cancelled because you have produced too many follicles. This means you are at risk of ovarian hyperstimulation syndrome (see page 14) and this will be made worse if you become pregnant. If you want to have intercourse in the next few days, you should use a condom to prevent pregnancy. If a large number of eggs are released at once, a triplet or higher number of pregnancies could result. The more babies you are carrying, the greater the chance of miscarriage or other problems.

Step 3 - Sperm collection

On the same day as the egg collection, if you are having treatment with your partner who is expected to provide fresh semen, he will be asked to produce a sample in specially designated room in ACU. If either of you feel anxious about giving a sample in the unit, please let us know in advance

The man should avoid intercourse or masturbation for two to three days but not longer than a week before the egg collection in order to try and get the best semen sample. The sample will be assessed in the laboratory. If the sample is not of sufficient quality to do IVF, then the laboratory may recommend ICSI to improve the chances of fertilisation.

If you have treatment with frozen sperm, the sample will be thawed and prepared only once we have collected your eggs.

Step 4 – Fertilisation

What happens in the laboratory?

We have extremely rigorous checking and witnessing guidelines for all laboratory procedures to make sure that the eggs, sperm and embryos used in your treatment belong to you. This now includes an electronic tagging system – *IVF Witness* – which adds to the security. You will find that you are frequently asked to give your name and date of birth which are two identifiers used to help ensure accuracy. We will explain these to you before we start any treatment and are always happy to discuss them with you in more depth at any stage of your treatment.

Insemination/injection of sperm

The sperm sample for your treatment is prepared by separating the normal and moving sperm from the ejaculated fluid and placing it in an electronically tagged test tube. In an IVF cycle, the prepared sperm and egg(s) are placed together in a carefully labelled and electronically tagged dish. In an ICSI cycle, a single sperm is injected into each mature egg and this is put into a dish labelled and tagged with your name and unique number. These dishes are left in the incubator overnight, to allow fertilisation to take place.

Fertilisation

The next morning the embryologist carefully examines each egg to see if fertilisation has occurred. We will call you the day after your egg collection to tell you how many eggs have fertilised and when to come in for embryo transfer.

Rarely, about 5% of cycles, none of the eggs fertilise and there are no embryos for transfer. This is obviously very disappointing. We will offer you the earliest available appointment to see a senior doctor to discuss the cycle and your future treatment options. You will also be offered an appointment to see one of our counsellors.

Embryo development

Eggs that have fertilised are called embryos. As embryos develop, their cells divide. Two days after fertilisation, the embryo should have two to four cells. Three days after fertilisation, the embryo should have six to eight cells. By day five, an embryo has more than hundred cells. Embryos with good potential to implant should reach developmental stage known as “blastocyst”. We transfer embryos to the uterus two, three or five days after fertilisation.

Step 5 - Embryo transfer

What is embryo transfer?

During embryo transfer we place the best one or two embryos into your womb (see details below re embryo numbers). This is a much simpler procedure than egg collection and there is no need for sedation. During the procedure, we use an ultrasound scan probe on your tummy to help us to place the embryos where they have the highest chance of implantation.

How should I prepare for it?

You will need to have a full bladder for this procedure so that we can see the uterus clearly on the ultrasound scan. A full bladder makes the procedure technically easier as the bladder lies in front of the uterus and, in four out of five women, the uterus naturally bends forwards. Filling up the bladder will, therefore, straighten out the uterus and make it easier to direct a soft catheter, which contains the embryos. An ACU nurse will give you instructions on how to prepare for this.

What happens during the embryo transfer?

As part of our identity checks, you and your partner (if you attend together) will again be asked to state your names and dates of birth before the transfer. The doctor and embryologist will check that the dishes containing your embryos are labelled with your name and unique identity number.

The embryologist will have selected the best embryo(s) for transfer. The doctor and the embryologist will discuss this decision with you.

A speculum, which is the small instrument also used during a smear test, is placed in the vagina to help us clearly see the cervix (neck of the uterus). The outside of the cervix is cleaned, and any mucus from inside the cervical canal is removed. This mucus might prevent the embryos getting to where we want them to be in the uterus.

The soft catheter, which holds the embryos, is inserted into your uterus. We usually try with an empty catheter first to see the best position and path. Once we are happy that the catheter can be easily inserted, the embryo(s) is placed in the catheter and gently injected into the uterus. The catheter is then removed and checked to make sure all of the embryo(s) have been replaced. Sometimes, the embryos remain in the catheter. The procedure will then be repeated until we are sure the embryos are in your uterus – this does not affect your chances of getting pregnant.

You will be able to empty your bladder immediately after the transfer without any risk of losing the embryos.

How many embryos will be transferred?

The Human Fertilisation and Embryology Authority (HFEA) current guidelines allow us to transfer up to two embryos (or to consider a maximum of three if the woman is over 40).

If the remaining embryos are suitable, they will be frozen for future use. As part of our strategy for reducing the number of twin or triplet pregnancies, we usually recommend that women under 35 years in their first cycle have only a single embryo replaced, especially if they have additional embryos for freezing. This gives a high chance of pregnancy (over 50%) and a low chance of twins. Two embryos will be advised if you are older, or if the embryo quality is not as good. If you are aged 40 or over, we will talk to you about whether we think you should have three embryos transferred.

Blastocyst transfer

By day five after egg collection the embryos undergo further development to become fluid filled balls of cells called 'blastocysts'. Recent evidence suggests that, for some patients, waiting until day five allows us to choose the embryos with the best potential of achieving a pregnancy since not all embryos reach blastocysts stage by day five of development.

The greatest benefit of blastocyst transfer is for patients who have a good chance of becoming pregnant, but who also have the greatest risk of having a twin pregnancy if two embryos are transferred. We can identify this group of women, and if we transfer a single embryo, we hope to reduce the incidence of twin pregnancies, without reducing the overall chance of pregnancy. So, depending on your age and the number of good quality embryos available, on day three after egg collection we may recommend that we culture your embryos until day five of development and transfer a single embryo and freeze excess good quality embryos for future use. However if the choice of embryos can confidently be made on day 2 or 3, then there is no need to keep embryos until day 5.

What happens after embryo transfer?

You will know if the treatment has been successful 16 days after egg collection when you perform the pregnancy test that we give you. We appreciate that this wait can be difficult for many people. Please do not be tempted to perform the pregnancy test earlier than the date on the information sheet given to you at embryo transfer. The trigger injection which you had before your egg collection can stay in your blood stream for eight to 10 days and this can make the test positive, even if you are not pregnant.

Unfortunately, there is no evidence that anything you do at this stage will increase the chances of you becoming pregnant. We encourage you to return to work but you may prefer to have a few days off around the time of embryo transfer. Having baths or sexual intercourse is not known to affect the chances of pregnancy.

Pregnancy test

All women should perform a pregnancy test 16 days after the egg collection, even if they bleed before this time.

Doing the test, even if you bleed, is essential. This is because some patients who have bleeding after a cycle could have an ectopic pregnancy - an uncommon but serious complication. We will give you a pregnancy test kit and explain how to use this. It is important that you to **email or telephone the unit to give us the result.**

A positive pregnancy test

This means that one or more embryos have implanted but we will not be able to see this on a scan until you are about six weeks pregnant (four weeks after embryo transfer). We will usually arrange for you to have a scan at around seven weeks of pregnancy to assess if pregnancy is viable. If everything is ok we would in generally expect to see baby's heartbeat. Sadly, we sometimes diagnose miscarriages (10-20% of women, depending on maternal age) and ectopic pregnancies (about 1-3% of women) at this stage.

If we confirm that you have an ongoing pregnancy, we will discharge you back to your GP to arrange your antenatal care at your local hospital. Unfortunately, a small number of pregnancies can still miscarry even if these early scans are encouraging.

You must continue to take the progesterone pessaries (suppositories) if you have a positive pregnancy test until you are eight weeks pregnant.

If you develop symptoms of pain or bleeding after positive pregnancy test, please let us know and we will arrange for you review by our medical team.

A negative pregnancy test

Sadly, this means that the treatment has not been successful. You might already have started bleeding but, if not, your period will come in the next few days. This might be heavier than normal due to the medications you have taken, which have made the lining of the uterus thicker than usual. We know this can be a very disappointing time and **it is important that you ring or email in with your result** and speak to one of the nurses. We will offer you an appointment within four to six weeks to come in and see a senior doctor to discuss the cycle and possible treatment options for the future. You might also find it helpful to see one of our dedicated fertility counsellors.

Please stop taking the progesterone pessaries if you have a negative pregnancy test.

Embryo freezing

Can I freeze my spare embryos?

It is possible to freeze embryos from an IVF or ICSI cycle for later use (for more information, please see page 14).

Although the majority of couples hope to have sufficient spare embryos for freezing, in reality, this only happens in 40% of cycles. We will freeze good quality blastocysts on day five or six of development.

If you have one or two good quality embryos to transfer and spare embryos which are suitable for freezing, you have an above average chance of conception. However, the majority of couples have no spare embryos to freeze. So, if you have NHS funding that states that you can have 1 initial cycle and 1-2 cycles using your frozen embryos but your initial cycle did not result in spare embryos to freeze, this means there won't be any NHS funding available for further cycles as there are no frozen embryos to transfer.

Embryos are frozen at an extremely low temperature to make sure they do not deteriorate over the number of years they are stored. Even if your first IVF cycle results in a live birth, if you have frozen embryos you might wish to use them to expand your family at a later date.

Frozen embryo transfer

In a frozen embryo transfer cycle (FET) we thaw some of your frozen embryos and transfer one, two or three of them into the uterus. The number of embryos to be thawed in any one attempt will be discussed with you in advance by an ACU doctor or embryologist.

We are selective about the embryos we freeze in order to give you the best chance of pregnancy after thawing and transfer. Currently about 85% of our blastocysts, and our early stage embryos survive being frozen and thawed. Our current successful pregnancy (live birth) rate for frozen embryo transfer is 27%. This compares favourably with the average national rate, which is 26%.

An advantage of a FET is that we do not need to use hormone injections to stimulate the ovaries and you do not have a surgical egg collection procedure.

For more information about a FET, please speak to a member of our team. Prior to embarking on frozen cycles we would need to sign a consent form with both you and your partner physically present at ACU.

If you have frozen embryos, it is essential that you keep in touch with us to let us know what you wish to do with them and tell us of any changes of address.

Why do cycles fail?

There are many factors which influence how an embryo will develop once it is placed in the uterus. It is impossible to see what exactly happens to the embryos once they have been transferred, and it is often difficult to give a specific reason why a cycle has failed.

In the majority of cases, the cause is likely to be that the embryos have stopped dividing and don't reach the right stage of development to be able to attach to the uterus. This is due to errors with the genetic make-up that human embryos are prone to. Embryos are less likely to attach if they are not of the best quality.

If the uterine cavity is irregular due to fibroids, or the fallopian tubes are swollen and contain fluid we may recommend surgery to remove these before your next IVF or ICSI cycle. If there have been problems with the thickening of the womb lining, we might add in extra medications to try and improve this in any future attempt.

There are several add-on treatments you may read about in the press or on the internet that claim they can improve your chances. Many of these treatments have not been proven to benefit couples and may actually be harmful. We have a policy not to use treatments which have not yet been shown to be effective. Please talk to our doctors, if you had a specific question regarding any treatment you heard about somewhere else.

When the cycle results in a positive pregnancy test.

Problems that can occur in early pregnancy?

Sadly, as with any natural conception, the pregnancy might not progress normally and a miscarriage or ectopic pregnancy can occur.

If you develop one of the following symptoms after you have confirmed positive pregnancy test and before your pregnancy first scan at ACU, please contact us.

- heavy bleeding
- brown spotting (discharge)
- sharp abdominal pain, particularly if on one side
- shoulder pain
- faintness.

Trying again

When can we have another go?

We recommend that you wait at least two months before you have another attempt so you can have a break from treatment and allow yourself time to recover from such a big disappointment. Your body also needs a chance to recover from the medication. If you have frozen embryos we usually recommend using these before trying another fresh embryo transfer.

How many attempts can we have?

We do not have a set limit for the number of attempts a couple may have. After each unsuccessful cycle you will be offered an appointment with a senior member of the team to discuss the reasons why your cycle may have failed and how we may be able to improve your chances of success.

Each couple is assessed individually and advice is given about the likely success of further cycles. If we feel your chances of being successful are very low, we will be honest with you and may advise you to stop treatment.

Some Clinical Commissioning Groups (CCG) will only pay for one cycle of treatment and you might have to self-fund further attempts. Most couples require more than one embryo transfer to achieve a live birth.

What are the risks of IVF?

All types of medical treatments and procedures have risks. An ACU doctor will talk you through the risks involved. Below are some of the possible risks associated with IVF.

Multiple pregnancy

One of the common complications is multiple pregnancy. Multiple pregnancies have a much higher risk of complications including late miscarriage, pre-eclampsia (high blood pressure), diabetes and premature birth. Premature babies have a higher risk of complications, such as a weakened immune system, physical and mental disability, feeding and breathing difficulties. The risks at all stages of a triplet pregnancy are higher still and so the chance of having even one healthy baby at the end of treatment is lower than with either a single pregnancy or twins. HFEA guidelines only allow three embryos to be replaced in women over the age of 40.

In 2009, when the multiple pregnancy rate across the UK was well above 25% among all IVF pregnancies, HFEA released a statement requesting all clinics to aim to have multiple pregnancy rate under 15% by 2012. Our team has achieved a persistently safe rate of multiple pregnancy rate under 10% without compromising overall live birth rate.

Ovarian hyperstimulation syndrome (OHSS)

Some women have a very high ovarian reserve (high number of eggs) and may over respond to fertility drugs. This causes the ovaries to enlarge and blood oestrogen levels to rise. This is more common in younger women and those with polycystic ovarian syndrome.

Development of OHSS is not always predictable or avoidable. However, in the majority of cases we would be able to identify those who are at risk prior to stimulation. If you were identified as being at risk of OHSS the following steps would be undertaken to prevent it:

- reduced dose of FSH injection
- short stimulation protocol
- extra monitoring by checking blood hormone level and scans during stimulation
- alternative trigger drug.

When we collect very high number of eggs, we may recommend not going ahead with a fresh embryo transfer and instead freeze all embryos. This allows time for hormone levels to settle, and prevents or reduces the symptoms of OHSS. A frozen embryo transfer cycle will not cause OHSS as the ovaries are not stimulated.

Symptoms of OHSS occur only after the time of egg collection or about ten days after embryo transfer. You may find that things improve only to worsen again nearer to the time of your pregnancy test.

In OHSS, the ovaries can enlarge up to three times their normal size. Your blood protein level drops which causes fluid to leak out into the abdominal cavity or around the lungs. This can result in problems producing urine, mineral imbalances in your blood and clotting problems.

Symptoms include:

- abdominal (tummy) pain and swelling (progressively increasing after egg collection)
- passing small amounts of concentrated urine
- thirst
- nausea and vomiting
- diarrhoea
- dizziness
- shortness of breath.

If you have any of these symptoms please contact us so we can give you the necessary advice. Most cases of OHSS are mild and resolved by drinking three litres of fluid a day and using mild pain-relieving medicine, such as paracetamol.

If we are concerned that you are at risk of developing moderate or severe OHSS we will keep you under regular review. If your symptoms worsen we might have to admit you to St Thomas' hospital for monitoring and treatment. Very rarely OHSS can be life threatening. Please also contact us if you have been to another hospital for advice or treatment.

Having OHSS will not jeopardise your chances of becoming pregnant. The incidence of mild to moderate OHSS is around 1 in 100 women, while severe cases are less than 1 in 1000 women.

Pelvic infection

Pelvic infection can very occasionally follow an egg collection and, rarely, an abscess might develop. We try to make sure this does not happen by giving antibiotics to women who are at higher risk of infection. The incidence of pelvic infection is less than 1 in a 100 women.

However, since it is not possible to sterilise the vagina where there are always some bacteria present, it is not possible to prevent all infections, despite precautionary measures. Symptoms of an infection include:

- pain
- bright red vaginal bleeding
- smelly vaginal discharge
- diarrhoea
- fever
- generally feeling unwell.

In these cases, we will admit you to St Thomas' hospital for antibiotic treatment. In severe cases, an operation might be necessary.

Other complications

There is a very small risk that the needle used for egg collection can puncture the bowel or blood vessels. The needle used is very fine and it is unusual to have any complications. Most cases of vaginal bleeding can be stopped at the end of the procedure by applying pressure to the puncture site. If there is a concern that a tiny hole has been made in the bowel, antibiotics will be given.

Please contact us if you feel any of the following symptoms:

- pain in your tummy
- shortness of breath
- swelling/bloated feeling in your tummy
- feeling feverish, shivery or generally unwell
- nausea and vomiting – especially fluids
- heavy or irregular vaginal bleeding
- diarrhoea
- dizziness
- you are passing a small amount of urine or if your urine seems concentrated.

What are the overall success rates for IVF?

It is important to be realistic about the likelihood of a successful treatment cycle. IVF success depends mainly on maternal age. Your chances increase as you progress successfully through each step of the treatment process.

Your chances of a clinical pregnancy are:

- one in three, when you start a cycle
- one in two if you are under 35 years old young and have a blastocyst embryo transfer.

Our live birth rates per cycle for women **of all ages** for IVF and ICSI is consistent with the national average of 27% (HFEA, 2012-2015).

More detailed up to date information on our success rates can be found on HFEA website.

www.hfea.gov.uk/

Contact us

For more information about IVF, please speak to a member of our team, phone us on **t:** 020 7188 2300, email **e:** ivf.info@gstt.nhs.uk, or visit our website, **w:** www.ivfdirect.com.

Useful sources of information

Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.

t: 020 7188 8748, Monday to Friday, 9am-5pm

Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

t: 020 7188 8801 (PALS) **e:** pals@gstt.nhs.uk

t: 020 7188 3514 (complaints) **e:** complaints2@gstt.nhs.uk

NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

t: 111 **w:** 111.nhs.uk

NHS website

Online information and guidance on all aspects of health and healthcare, to help you take control of your health and wellbeing.

w: www.nhs.uk

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A list of sources is available on request

Our values: Put patients first | Take pride in what we do | Respect others | Strive to be the best | Act with integrity