NUH LIFE

NHS
Nottingham
University Hospitals
NHS Trust

Fertility tests and treatments

Information for patients at

NUH Life Fertility Services

Please retain this booklet as you may need to refer to it throughout your treatment

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Introduction to NUH Life Fertility Services

NUH Life is the state-of-the-art **fertility clinic**, **andrology lab** and **donor sperm bank** based at Nottingham University Hospitals NHS Trust, Queens Medical Centre campus.

We have over 30 years experience providing fertility advice, investigations and treatment to both NHS-funded and self-funded patients. We are an **open and inclusive service where everyone is welcome** - heterosexual couples, single women, LGBTQ+ couples and singletons, and those with children already.

If you are looking to use donor sperm in your treatment, we have around 40 donors to choose from, all recruited and screened here at NUH Life. We offer a highly personalised matching service and our **success rates are well above the national average**.

NUH Life is based within an NHS Trust, but you wouldn't believe it when you visit our unit, which **looks and feels like a private clinic**. We are lucky to have the best of both worlds. All of our services are available on a self-funded basis for those who aren't eligible for NHS funding. Our prices are highly competitive, and as we're a **not-for-profit** organisation, any revenue generated goes straight back into the NHS Trust.

Some of the treatments and services we specialise in include:

- **Ovulation induction (OI)**
- **Intrauterine insemination (IUI)**
- **Donor insemination (DI)**
- **Sperm donation**
- **Fertility preservation for men and transwomen**

NUH Life is also the gateway to NHS-funded IVF in Nottinghamshire and we will support you to find your preferred local provider.

It is our privilege to guide and support you on your fertility journey. If you have any questions, please do not hesitate to ask.

Referral to NUH Life

Your GP can refer you to NUH Life for specialist fertility advice and investigations. To give you the best advice in primary care, and to get the most out of your first appointment at NUH Life, your GP should perform some basic fertility tests and send the results with your referral. The tests we request are:

For patients with regular menstrual cycles:

- FSH and LH (taken on day 1-5 of menstrual cycle) within 6 months
- Chlamydia within 6 months
- Height (m), weight (kg) and BMI
- Partner semen analysis within 12 months (where applicable)

For patients with irregular menstrual cycles:

- FSH and LH (taken on any cycle day) within 6 months
- Prolactin & TSH within 6 months
- Chlamydia within 6 months
- Height (m), weight (kg) and BMI
- Partner semen analysis within 12 months (where applicable)

Once we have received your GP referral and test results, we will send you a pack of information with forms to complete. Please return the completed forms to NUH Life as soon as possible. Once received, we will then book an appointment for you with one of our Consultants or Nurse Specialists.

The usual waiting time from us accepting your GP referral to your first consultation is around 8 –10 weeks.

Overseas visitors
If you are not a UK citizen, or do not have indefinite leave to remain or EU settled status in the UK, after your referral is received by NUH Life the Overseas Visitors Team at NUH Trust will contact you to confirm your eligibility to access NHS-funded

fertility services. They will ask you to provide documents to evidence your residency status. The sooner you get these documents to them, the sooner we can process your referral. If you are not eligible to receive fertility services on the NHS, NUH Life will contact you to explain your self-funding options.

Female BMI

An important note, we do not routinely accept GP referrals for patients with a BMI of 35 or above as we are unable to treat patients with this BMI. Self funding patients can be treated with BMI up to 35 at the discretion of their consultant. To be eligible for NHS-funded fertility treatment BMI must be between 19 and 30.

Maintaining a healthy weight and lifestyle is one of the best things you can do to improve your fertility. High BMI negatively affects egg quality, frequency of ovulation, pregnancy health and childbirth complications. Please speak to your GP for support with losing weight and feel free to call the clinic for more information. The NHS Live Well website has more information on how to maintain a health weight www.nhs.uk/live-well

In the meantime it is recommended to follow some general preconception health advice.

Preconception health

As with any health issue, lifestyle, diet and fitness can have a big impact on fertility. By introducing some basic changes, both men and women can improve their fertility, increasing their chances of natural conception (where applicable) and success rates in fertility treatment. Feelings of loss of control and helplessness are sadly very common in fertility patients, but this is one area where you can make a really positive impact.

Eating healthily

For both men and women, being under or over weight, can negatively affect your fertility. Try to eat a balanced diet with 5

portions of colourful fruit and veg daily, whole grains, healthy fats and proteins. Eating a portion of full-fat dairy every day (such as milk or yogurt) may be beneficial, particularly for those with irregular periods. Try to minimise food that is high in sugar or processed fats and avoid sugary drinks.

You won't always get it right all of time and that's ok. Aim to get the balance right over a day or even a week.

Tommy's website has some more detail about what constitutes a good pre-pregnancy diet www.tommys.org/pregnancy-information/planning-a-pregnancy/.

Folic acid, vitamin D and other supplements

Women who are trying to conceive should take a daily supplement of 400 micrograms folic acid up until they are 12 weeks pregnant. It is also recommended for men and women to take 10 micrograms vitamin D daily, especially in winter. These supplements can be bought over the counter in supermarkets and pharmacists, either as a separate supplements, part of a pre-conception or pregnancy multivitamin or a duo of folic acid with vitamin D. If you are taking pregnancy or pre-conception vitamin that already includes vitamin D and folic acid, there is no need to take extra. The only exception to this is women who are diabetic or have a BMI over 30 - their folic acid supplement needs to be increased to 5mg but this is only available on prescription. Your GP or consultant can prescribe this for you. For men, there is no official recommendation for any specific pre-conception vitamins or supplements.

Keep active, exercise regularly

Staying active is an important factor for men and women to maintain a healthy weight, support their mental wellbeing and reduce stress.

Women and birthing people who do regular, moderate exercise get pregnant quicker than those who do not exercise regularly. Moderate exercise means any activity that will:

- Raise your heart rate

- Make you breathe faster
- Make you feel warmer

Simple ways to include more activity into your every day are:

- Avoid sitting down as much as possible - try a standing desk for work or set a reminder to get up and move around every 30 minutes
- Walking or cycling to work
- Standing on the bus or train, or getting off a stop earlier and walking
- Go for a 10 minute walk on your lunch break
- Take the stairs instead of the lift

Alcohol

Alcohol can negatively affect fertility both male and female fertility and should be minimised when trying to conceive. In pregnancy there is no “safe” level of drinking, and alcohol should be avoided.

Drugs and other medication

Illegal and recreational drugs - including cannabis, anabolic steroids and testosterone supplements - can reduce the chance of conceiving and are particularly harmful to male fertility. If you use drugs or are taking any prescribed medication, it’s useful to check these with a GP/your consultant or nurse specialist.

Stop smoking/ vaping

If you’re trying for a baby, quitting smoking is the best thing you can do. Smoking has been linked to infertility and early menopause in women, and has been shown to reduce sperm quality in men. Even low levels of smoking (1-5 cigarettes a day) can be harmful. Smoking is also a risk factor for premature or low birth weight babies and cot death, and smoking should be avoided in pregnancy. There is now also emerging evidence that vaping also affects sperm quality and fertility and should be avoided for men and women. The NHS does not fund fertility treatment for people who smoke.

Keep cool

Sperm production happens best when the testes are a couple of degrees cooler that the rest of the body—which is why they are outside the body! To keep the testes at the right temperature, avoid tight-fitting clothing, saunas, hot showers/ baths and using your laptop on your knee. For transwomen tucking should also be avoided.

Travel history

Let us know if you have recently travelled to a country with Zika virus, Mpox, Ebola, Malaria or similar travel-related diseases (you can check on the Travel Health Pro website https://travelhealthpro.org.uk/countries). It is advisable not travel to any Zika virus countries throughout the duration of your treatment.

Mental health

Anyone who has been trying for a baby for a long time, or having fertility treatment, knows that it can be hard on your mental health. Feelings of isolation are common, because even though many people experience fertility issues, most people don't talk about it. But **you are not alone**, and it's ok to feel sad, anxious, frustrated, angry, helpless, out of control or like you're just going mad!

The good news is research shows that stress does not directly affect the result of fertility treatment, but it can affect whether you choose to have or continue treatment, and how you manage any stress is important. Be kind to yourself and acknowledge that you still need enjoyment in your life - occasional treats and rewards are important. Try to find ways of managing stress that bring balance, work well for you and align with your overall goals – exercise, yoga, journaling, meditation, joining a support group or network or counselling.

The Fertility Network has a great article on caring for your mental health with even more tips fertilitynetworkuk.org/caring-for-your-mental-health-when-trying-to-conceive/. We also have our own counselling service here at the clinic.

Further advice

For more lifestyle/ healthy living advice whilst trying to conceive, speak to your GP or your Fertility Nurse Specialist. You can also search “NHS planning your pregnancy” and the Tommy’s website is a fantastic resource.

Services provided by NUH Life

Initial consultation at NUH Life

At your first NUH Life appointment, you’ll see a Consultant or one of our experienced Fertility Nurse Specialists, either online or in person. They’ll take a full history for you (and your partner), look over your initial test results from your GP, plan with you any further investigations or initiate your treatment pathway. After your consultation, the Fertility Nurse Specialists will take over organising your pathway, but if necessary a review appointment with the consultant can be requested. If at any point you require IVF treatment, we can apply for your funding and refer you to your preferred local provider.

There are various eligibility criteria for accessing NHS-funded fertility treatment, which we will explain to you. If you are not eligible for NHS-funded treatment, the option of self funding your treatment will also be discussed with you.

Welfare of the Child

As an HFEA-licensed fertility clinic, our team has a legal duty to consider the welfare of any child who could be born through treatment at our centre, and any existing children who may be affected by their birth. As part of that requirement, you will be asked to complete an HFEA Welfare of the Child form, asking about any previous experiences convictions relating to harming children, child protection measures, domestic violence etc. This is standard practice in all UK fertility clinics. The forms will be discussed with you by the Consultant or Fertility Nurse Specialist at your initial appointment. You should complete these forms openly and honestly.

If there are any concerns raised, NUH Life will initiate a Welfare of the Child assessment process, reaching out - with your consent - to your GP and any other services who may be able to provide information e.g. probation officer, social services. You may also be asked to attend an appointment with one of our counsellors, and NUH Life may potentially seek advice from the hospital's ethics committee.

Please don't worry—it is very rare for fertility treatment to be refused on the grounds of Welfare of the Child. If you have any concerns or questions please speak to a member of staff.

Donor sperm

At NUH Life we have our own donor sperm bank with around 40 donors to choose from. All our donors have been recruited and screened here at our centre and we have a personalised matching service to help you find the donor that best matches your preferences.

We do not buy donor sperm from overseas, nor do we supply sperm to overseas clinics. This way we can be absolutely sure that patients are using donor sperm that is provided by donors who are altruistically motivated, fully informed, counselled, supported, compensated and screened to HFEA standards, with a maximum of 10 families created and only in the UK.

As well as supplying donor sperm for our own in house treatments, we supply donor sperm to patients at other UK centres. For example if you choose to have treatment elsewhere, or require IVF treatment, we can supply NUH Life donor sperm for use in your treatment at another UK centre. This will still fall within the 10 family limit. Please speak to a member of the lab team for more information.

It is essential that if you are considering treatment using donor sperm you read our patient information booklet Using donor sperm *and attend Implications Counselling.*

Counselling and emotional support

Facing subfertility can be a difficult and distressing time, and we encourage all our patients to utilise our counselling service. The word “counselling” has many connotations and you may think you don’t need “counselling” because you’re not depressed, anxious, struggling, etc. But we consider counselling to be a routine part of the fertility treatment pathway, the same as any other consultations or appointments you might attend. In fact if you are using donor sperm, implications counselling will be an essential step in your treatment pathway.

Our counsellors are independent and impartial, they are here to listen and they will not judge or advise you. Support counselling is an opportunity to explore your feelings, coping strategies, options, and your relationships with partners, family, friends and colleagues during your fertility journey. For example, how do you manage your feelings around another friend announcing her pregnancy on social media? Or the well-meaning colleague who asks “so do you have children then?”

Counselling sessions are completely confidential between you and the counsellor. No counselling notes will be held on your medical file. The counselling service is available to you before, during or after your treatment, with six sessions free of charge. You can attend support counselling with your partner or as an individual and each session is around 50 minutes long. Our *Counselling information* leaflet has more information about how our counselling service can help, and for those using donor sperm there is also our *Using donor sperm* leaflet. Please speak to a member of staff if you would like to make an appointment.

Female investigations

Once you have had your initial consultation, you may need some more investigations before we can find the best treatment for you.

Baseline ultrasound scan

You will be offered a baseline ultrasound scan to check the shape and position of your ovaries, fallopian tubes, uterus (womb) and endometrium (lining of the womb) and to make sure there are no anomalies. The scan is performed in the first few days of your cycle, usually whilst you are on your period, and is a transvaginal scan. The scan will be performed by a specially trained sonographer or nurse and should not be painful or uncomfortable and there is no need to be embarrassed—this is a normal part of our day-to-day work. You are welcome to have a chaperone with you. If you have any worries or concerns, please speak to one of our nurses.

Tubal patency tests

The fallopian tubes are where fertilisation occurs. The tube picks up the egg after it is released from the ovary, the sperm swim up the tube to meet and fertilise the egg, and then the fertilised egg travels down the tube to the uterus. If the tubes are blocked, fertilisation is unlikely to occur. If the tubes are damaged, scarred or diseased, then the chance of the fertilised egg getting stuck in the tube and an ectopic pregnancy occurring is increased. Therefore it is important to check that the tubes are open (tubal patency) early in the fertility patient pathway. If both of the tubes are blocked, IVF is the only course of treatment. If one tube is blocked but the other is open, we may also still recommend IVF.

At NUH Life tubal patency can be tested using either a hysterosalpingogram (HSG) procedure or laparoscopy and dye surgery. Which test we recommend depends on the individual diagnosis, history and sometimes patient preference.

The majority of patients will have an HSG, which is a simple outpatient procedure performed in the x-ray department by one of our Fertility Nurse Specialists. A dye that is visible on x-ray is inserted into the uterus using a fine tube passed through the cervix. If the tubes are open, the dye will fill the tubes and spill out the end near the ovary - this can be visualised on x-ray.

An HSG requires no anaesthetic and waiting times are short. HSG can cause some discomfort, and there is a very low risk of infection and bleeding. More information about this procedure and any risks involved can be found in our separate *HSG* leaflet.

Note: no patient should have an HSG or a laparoscopy and dye test performed if pregnant. It is therefore important patients abstain from any sexual intercourse from the last period until the test is completed.

Laparoscopy and dye

Laparoscopy and dye (lap and dye) is a day case operation. It is usually carried out under a general anaesthetic and you can go home the same day. The gynaecologist will make small incisions on your abdomen and use a fine telescope to visualise the fallopian tubes, ovaries and uterus. A small amount of gas (carbon dioxide) inflates the abdomen to allow a clear view. The surgeon checks for endometriosis, pelvic infection, adhesions, ovarian cysts or fibroids, and the dye test shows whether the fallopian tubes are open or blocked. A blue dye is inserted into the uterus through a tube through the cervix. If the fallopian tubes are patent, the surgeon can see the fallopian tubes fill up with the dye, and the dye spill out of the tubes into the abdominal cavity.

A member of the healthcare team will tell you the results of the lap and dye test before you go home and advise you to make an appointment with NUH Life to discuss the next stage of your treatment. Patients can normally go home the same day as the procedure. A small amount of the gas used to inflate the abdomen may be left behind which can lead to some pain in the shoulders and abdomen, and problems with “wind”. There are normally two stitches where the incisions were made and these can take two to three weeks to dissolve. Rest is recommended for the first few days. Most people are able to return to work after a week.

Possible complications of laparoscopy are: Pain, sickness, bleeding, infection of surgical site, blood clots, damage to the

abdominal wall or internal organs (including the bowel or bladder), failed procedure. Serious complications are rare, occurring in less than 1 woman per 1,000.

Male investigations

Semen analysis

At least one semen analysis will be required from the male partner. You might feel embarrassed providing a semen sample for testing but please be reassured that it's not at all embarrassing for us, it's part of our day-to-day work. The semen analysis test itself is simple and provides a lot of important information about male fertility. Usually if a GP requested your semen analysis, you will get your results from the GP. If one of our team recommended the test, you will usually obtain the results from the Fertility Nurse Specialist. For more information see our *Diagnostic semen analysis* leaflet.

Test wash

In addition to the semen analysis sometimes we prepare the sperm (washing) to see whether we can harvest enough for IUI treatment. This is particularly useful when the sperm test is borderline and a decision needs to be made between IUI and IVF. Please be aware that these results cannot be given over the phone. You should make an appointment to discuss these results with a Fertility Nurse Specialist.

Blood tests for hormones and/or genetic analysis

If a semen analysis shows that you have a low sperm count or no sperm (azoospermia) we may recommend specific blood tests for hormones e.g. FSH, LH, prolactin, testosterone, or genetic tests e.g. karyotype, cystic fibrosis carrier screen, to check for any hormonal or genetic causes.

If you or your partner are diagnosed with a low sperm count or azoospermia, it can be a huge shock. It can help to talk it through with someone impartial, independent, and experienced. Contact our team to find out your options for support.

Fertility treatments

Funding

Fertility treatments are provided at NUH Life on an NHS-funded or self-funded basis. Patients who fulfil their local Integrated Care Board (ICB) criteria for funding will receive treatment on the NHS. Patients that fall outside of these criteria or those from outside of our funding area have the option to self-fund treatment. Please ask clinic staff for more information about NHS funding criteria or for a price list. Once all the necessary tests have been performed and funding has been confirmed, there is no usually any waiting time to start treatment at NUH Life. If you require IVF treatment, we can apply for funding for you and help you find a local provider.

Infection screening

Prior to starting fertility treatment, patients are required to undergo testing for HIV, Hepatitis B and Hepatitis C, plus sometimes additional testing for chlamydia, CMV or other infections. This is a legal requirement in the UK, and helps to ensure the health and safety of patients, staff, sperm samples in the laboratory/ storage and children born through treatment. You may also be tested for immunity to Rubella.

Success rates

The success of fertility treatment is dependent on a number of factors including female age, egg quality and sperm quality. For our latest success rates visit our website www.nuhlife.co.uk or please ask a member of staff for a paper copy. The HFEA also publishes impartial success rate information for all UK clinics on its website www.hfea.gov.uk.

Ovulation induction/ ovarian stimulation

Ovulation induction can be recommended for those who do not ovulate regularly due to conditions such as polycystic ovary syndrome (PCOS). The aim of ovulation induction is to use

fertility medication to stimulate the ovaries to grow one or two follicles. (Follicles are small fluid-filled pockets in the ovary that should contain a developing egg.) It can be used alongside intercourse (called ovulation induction treatment (OI)), or intrauterine insemination treatments.

Each growing follicle usually contains one egg (oocyte) and is considered mature and ready to ovulate when it has grown to a diameter of 1.7 to 2.4cm. At this time an injection of human Chorionic Gonadotrophin (hCG) might be recommended to assist with the final stages of maturation and ovulation. Ovulation usually takes place 36 to 48 hours after the injection. We will schedule your insemination or recommend you have intercourse with your partner according to when ovulation is likely to occur.

Sometimes more than one follicle develops, and if there are more than two or three follicles, treatment is likely to be abandoned because of the high risk of multiple pregnancy.

There are two main types of drugs used to induce ovulation:

- Clomid/ Letrozole
- Gonadotrophins e.g. Gonal F, Ovaleap, Menopur

The term ovarian stimulation is usually used to describe the same process, but for IVF treatment where the aim is to stimulate more follicles to grow, and more eggs to be collected. There is more information about this in the IVF section.

OI with Clomid (Clomiphene Citrate)/ Letrozole

Clomid and Letrozole cause the body to release more of its own follicle stimulating hormone (FSH) and luteinising hormone (LH). FSH and LH act on the ovary to encourage follicles to grow and mature. Results show that four out of five women who did not previously ovulate, ovulate when given Clomid/Letrozole. When taking these medications it is important to have regular intercourse (every other day) from about day 10 of your cycle.

This may need to be adjusted if you have shorter or longer cycles. Your nurse will advise you based on your own cycle.

Administration

Clomid and Letrozole are administered in tablet form and taken orally from day 2 of your period, for 5 days. (Day 1 is classed as the first full day of red bleeding.) The starting dose is usually 50 milligrams for Clomid and 2.5 milligrams for Letrozole, which may be adjusted according to how the ovaries respond. We will give you a prescription, usually for 3 cycles at a time. This can be collected from any pharmacy. Normal NHS prescription charges apply.

Side effects

Common side effects include headache, flushing, breast tenderness and nausea. Some patients find that taking the medication at bedtime helps manage these. If any blurring of vision is noticed then the tablets should be stopped immediately and clinic staff informed. It is recommended by the Committee on Safety of Medicines that Clomid is not taken for more than twelve cycles, after which there may be an increased risk of ovarian cancer. NHS funding includes a maximum of six cycles of ovulation induction with Clomid or Letrozole.

Ultrasound monitoring

Ultrasound monitoring of Clomid/Letrozole cycles is required for at least the first cycle. This usually involves 1 or 2 ultrasound scans from day 12 of your cycle. These are transvaginal scans carried out by a trained sonographer/ Nurse Specialist. We are always happy to provide a chaperone for scans, please ask a member of staff if you would like one. The number of scans required depends on the individual and on the ovarian response. After each scan, a Fertility Nurse Specialist will discuss the results with you and explain the next steps.

When you start your first ovulation induction cycle, please contact NUH Life when your period starts to book in for a day 12 transvaginal ultrasound scan.

OI with Gonadotrophins (GTs)

Gonadotrophin preparations such as Gonal F, Ovaleap and Menopur add external FSH to act alongside your body's own FSH. These drugs are administered by injection using an auto-injector pen or with a needle and syringe. The injection is given just under the skin (subcutaneous) meaning the needle is very short and fine. A Nurse Specialist will teach you how to self administer your drugs prior to starting treatment.

When commencing a GT cycle, please contact NUH Life on the first day of your period to book in for a transvaginal ultrasound scan—the team will tell you which day to book for,

Gonadotrophin treatment is usually started between day 2 and 5 of the menstrual cycle (day 1 is classed as the first full day of red bleeding). All patients have transvaginal ultrasound scans to monitor their ovaries, follicle development and endometrial thickness. Occasionally cysts or un-ruptured follicles from previous cycles may be discovered at the first scan and treatment may need to be delayed or modified if this is the case. Patients who have irregular periods may require a negative pregnancy test and a course of progesterone to induce a bleed prior to starting. Your nurse will guide you if this is the case.

Administration

Initial treatment involves a daily single injection for 5 days with the dose of drug tailored to each patient. Administration of the injection should be at approximately the same time each day. Patients are encouraged to alternate injection sites on a daily basis to reduce local reaction or bruising. Any drugs that require storage in the fridge can be removed from the fridge up to an hour before administration to reduce the stinging sensation on injection.

Side effects

Common side effects include headache and localised reaction to the injection site (pain, redness, bruising, swelling etc).

Ultrasound monitoring

Monitoring the ovarian response to gonadatrophins is essential and requires regular attendance for ultrasound scanning during the treatment cycle. This usually involves 3 to 5 transvaginal ultrasound scans at the clinic over the course of 2 weeks. These scans are performed by trained sonographers/ Nurse Specialists. We are always happy to provide a chaperone for scans, please ask a member of staff if you would like one. The number of scans required depends on the individual and on the ovarian response. After each scan, a Fertility Nurse Specialist will discuss the results with you and explain the next steps.

Human Chorionic Gonadotrophin (hCG)

Administration

hCG (brand name Ovitrelle) is used to trigger ovulation of mature follicles. It is administered as a single injection when the largest follicle has reached a diameter of at least 1.7cm. This is given via an injection just under the skin (subcutaneous) meaning the needle is very short and fine. We may give you a particular time to take this trigger injection to coordinate with your IUI or DI insemination. If there are multiple follicles developing, the trigger injection may be cancelled and the cycle abandoned due to the risk of ovarian hyperstimulation and multiple pregnancy.

Side effects

Local mild reaction from the injection site may occur. Occasionally patients experience headache following administration.

Please be aware that hCG injections can cause you to have a false positive pregnancy test result. It is therefore recommended that pregnancy testing is not performed within two weeks of the injection.

Intrauterine Insemination (IUI)

What is IUI?

IUI is artificial insemination for couples using partner sperm. It involves placing prepared partner sperm into the uterus at around the time of ovulation, using a very fine tube (catheter) through the cervix. Studies suggest that the best results are achieved when IUI is performed with ovulation induction using Gonadotrophins.

What are the indications for IUI?

IUI can be used where subfertility is due to anovulation e.g. PCOS, mild male factor or unexplained, where the woman is 39 years of age or below. It is important that the partner's sperm count is within normal range (or only slightly low) and that the fallopian tubes have been confirmed as patent. We do not usually recommend IUI for women aged 40 or more, IVF is usually the recommended treatment in these cases.

What is the IUI treatment pathway?

IUI can be divided into four stages:

- Ovulation induction using Clomid/ Letrozole and hCG or Gonadoptrophins and hCG
- Monitoring by ultrasound (described above)
- Insemination
- Follow up

How is the sperm inseminated?

Insemination will usually be scheduled 24-36hrs post hCG injection.

Your partner will be given a sample pot and an appointment to deliver his semen sample to the laboratory. The sample must be produced within one hour of the appointment and the sample pot kept at body temperature during transit i.e. in a pocket. If the one hour timeframe is not achievable, there is a designated production room available at the clinic. Please inform the nurse if this is required at the time of booking the appointment.

The semen sample is prepared in the lab to select the best swimming sperm. ID checks are performed to check your identity and the sample's identity. The insemination is performed by the Fertility Nurse Specialist. It only takes a few minutes and does not require any anaesthetic or pain relief. It is very similar to having a speculum examination or smear test. A speculum is inserted into the vagina, the cervix (neck of the womb) is located and a fine flexible catheter containing the prepared sperm is passed through into the uterus. The small amount of fluid containing the sperm is then expelled into the uterus. After the procedure patients are encouraged to rest for 10-15 minutes before leaving the unit. Sexual intercourse is recommended from the following day.

Some patients experience slight discomfort or cramping pains at the time of the insemination which can continue for 24-48 hours. Occasionally patients may experience light spotting of blood.

Donor insemination (DI)

What is DI?

DI is a form of artificial insemination, where frozen donor sperm is thawed, prepared and placed directly into the uterus at around the time of ovulation. DI as a fertility treatment is often combined with ovulation induction. However, if you have regular cycles you may not need ovarian induction and can just have the insemination around the time of ovulation in your natural cycle—a trigger injection may still be used to manage exact timings.

The main difference between DI and other treatments is the use of donor sperm, and the social, ethical and legal implications of this.

If you are considering DI you should read our leaflet *Using donor sperm*, and attend an implications counselling appointment before starting any treatment.

What are the indications for DI?

Donor insemination is performed in a variety of different circumstances:

- Single women
- Female same sex couples
- Heterosexual couples where the male partner is azoospermic or has other severe problems with their sperm
- Heterosexual couples where the male partner is a carrier of a genetic condition, in order to prevent passing it on to a child
- Transmen (single or in a couple)

DI is not suitable for those with blocked fallopian tubes and may not be suitable for those with endometriosis. We do not usually recommend DI for women over 40 years of age, IVF is usually the recommended treatment in these cases.

What is the DI treatment pathway?

The DI pathway is as follows:

- Investigations e.g. tubal patency test
- Implications counselling
- Donor matching (for more information see Donor Implications leaflet)
- Monitoring by ultrasound (both described above)
- Insemination
- Follow up

How is the sperm inseminated?

In terms of the actual insemination procedure, DI is the same as IUI. The insemination will be timed to take place to coincide with ovulation (usually 24-36hrs post hCG injection). A date and time will be arranged with the andrology laboratory to prepare the donor sperm. The insemination is performed by the Fertility Nurse Specialist. ID checks are performed to confirm your identity and the sample identity. A speculum is inserted into the vagina, the cervix (neck of the womb) is located and a fine flexible catheter containing the prepared sperm is passed through into the uterus. The small amount of fluid containing the sperm is gently expelled into the uterus. Patients are

encouraged to rest for 10-15 minutes before leaving the unit. Some may experience slight discomfort or cramping pains at which can continue for 24-48 hours. Occasionally light spotting (of blood) may also occur.

Follow up after treatment

You will be asked to have a progesterone blood test done 7 days following insemination or hCG administration to test for ovulation. 14 days after insemination, you can take a urine pregnancy test. Please let us know of the result either way. If it is negative, we will support you through this and arrange counselling and clinical follow up if you wish. If the pregnancy test is positive, an early pregnancy scan will be arranged for 4 to 5 weeks after insemination (around 6-7 weeks of pregnancy). If the pregnancy is viable on this scan, you should inform your GP that you are pregnant and be referred for antenatal care.

Risks of treatment

There are two major complications of fertility treatments involving ovulation induction/ ovarian stimulation (including IUI and DI):

- Multiple pregnancy
- Ovarian hyperstimulation syndrome (OHSS)

Multiple pregnancy

Multiple pregnancy is a risk whenever ovulation is induced with any fertility drug, or when more than one embryo is transferred in IVF. In natural, unassisted conception the risk of having a multiple pregnancy is about 1 in 80, With ovulation induction and IVF it is about 1 in 10. Usually a multiple pregnancy is twin, but rarely triplet and very rarely quadruplet pregnancy are possible. The level of risk to the pregnancy and mother increases in line with the number of foetuses carried.

The risks of multiple pregnancy include miscarriage, pregnancy-induced hypertension (raised blood pressure), pre-eclampsia,

premature delivery, and bleeding problems. The risks are increased with higher order multiples and identicals.

Babies born early can require intensive care and be hospitalised for long periods of time, which can be traumatic for babies and parents. Premature babies are also more likely to develop serious physical and mental illness. Parents are asked to consider the effects of multiple pregnancy on existing children, their own relationship and the financial burden that can understandably arise in this situation.

In any fertility treatment, the aim is always to maximise the chance of a healthy singleton pregnancy whilst minimising the chance of multiple pregnancy. The most effective way of doing this is to closely monitor stimulated cycles, and cancel or abandon cycles where too many follicles have developed, or to transfer one embryo (in IVF). Each clinic has their own multiple birth minimisation policy in order to mitigate the risks.

Ovarian hyperstimulation syndrome (OHSS)

Even when the use of fertility drugs is carefully monitored, individual response can vary and sometimes too many follicles develop. As well as the risk of multiple pregnancy, having a high number of mature follicles also leads to high oestrogen levels and possibly feeling unwell as a result. This is called ovarian hyperstimulation syndrome (OHSS). OHSS can occur in stimulated IUI, DI or IVF treatments.

Ovarian hyperstimulation leads to cysts forming in the ovaries and fluid collecting in the abdominal cavity, causing discomfort and bloating. If this does happen, it is important that you tell us so that we can monitor the size of the cysts. You would be advised to rest, drink plenty of fluid and take pain relief and you will usually feel better after a week or so.

In less than 1% of cases (usually in IVF treatment), a very large number of follicles develop and the ovaries swell greatly. Symptoms such as nausea and vomiting, calf pain, abdominal pain and swelling, and shortness of breath can occur. The

woman may feel faint and notice that she is only passing small amounts of urine. If these complications occur, urgent admission to hospital is required to give intravenous fluids and monitor the condition until recovery is complete.

The most effective way to prevent OHSS developing or getting worse is to stimulate the ovaries mildly, monitor carefully and to cancel or abandon the cycle if symptoms develop. This can be frustrating but is absolutely essential to protect your health. If treatment were to proceed and you were to become pregnant, the hormones produced in pregnancy can make OHSS much more severe—and in the very worst cases, OHSS can be life-threatening. If a cycle is abandoned because of OHSS, usually a month off treatment is sufficient to allow rest and recovery, and then treatment can resume at a lower dose of the stimulation.

If you experience any of the above symptoms or feel concerned, report the matter to the nursing team.

Other risks

Ectopic (tubal) pregnancies

Ectopic pregnancy (where the fertilised egg implants outside of the womb) occurs in 1-2% of natural pregnancies. In OI, IUI or DI cycles the rate is slightly increased to 1-3%. An ectopic pregnancy is not viable and requires treatment with drugs or surgery. This can sometimes result in the loss of a fallopian tube.

Ovarian stimulation and ovarian cancer

Research linking ovarian stimulation with ovarian cancer is controversial. However, for Clomid there is a proven link after 12 cycles. Hence treatments are usually limited below this.

Birth defects

The rate of birth defects after ovulation induction is no higher than in the general population, at 2-3%. Children born after such treatment are developmentally no different to their peers.

In vitro fertilisation (IVF) treatment

IVF treatment is where eggs and sperm are mixed together in the lab to create embryos. IVF is not performed at NUH Life, however we are the gateway to NHS-funded IVF treatment in Nottinghamshire. If IVF treatment is recommended for you, we will apply for your NHS funding and support you to find your preferred local provider.

Even though IVF is not performed at NUH Life, it may be a potential treatment option for you to consider, and therefore we have provided some basic information about the process here.

The IVF process can be broken down into the following key steps:

- Ovarian stimulation
- Egg collection and sperm preparation
- Insemination
- Embryo development
- Embryo transfer
- Embryo freezing

Ovarian stimulation

In IVF treatment, ovarian stimulation is performed using Gonadotrophins, alongside an additional type of medication called a GnRH antagonist or agonist which prevents spontaneous ovulation. These medications are usually administered by self-injection from day 2 or 3 of your cycle for around 10 days. Usually the aim is for about 10-15 large follicles to grow and so the dose of Gonadotrophins is higher than in an IUI or DI cycle where we aim for 1 or 2. Follicle development is monitored with transvaginal ultrasound scans and once there are several follicles of around 1.8cm or above, the final trigger injection is given late at night and egg collection is scheduled for 36 hours later.

Egg collection and sperm preparation

Egg collection is performed under sedation, general or local anaesthetic depending on the IVF clinic's policy. The doctor

scans your ovaries and extracts the fluid from the follicles using a very fine needle that is passed through the wall of the vagina. The embryologist searches through the fluid to retrieve the eggs. Egg collection usually takes around 20-30 minutes. After staying in the clinic for a couple of hours to be monitored, patients can go home. You may feel groggy due to the medication and a bit sore for a day or two, similar to period pain. You will start taking progesterone to support the lining of the womb to prepare for implantation.

At the same time as the egg collection the sperm will be prepared. If you are using fresh partner sperm, your partner will be asked to produce a sample by masturbation, usually at the clinic. If frozen partner sperm or donor sperm is being used this will be thawed.

Insemination
The eggs will be inseminated by either conventional IVF or ICSI on the afternoon of egg collection day. In IVF, all of the eggs are mixed with tens of thousands of swimming sperm. In ICSI, one sperm is injected into each mature egg. ICSI is recommended in the following circumstances:

- Frozen eggs
- Low sperm concentration or motility
- High levels of abnormally shaped sperm
- High level of anti-sperm antibodies
- Previous low or failed fertilisation with conventional IVF

ICSI is very common and performed in around half of all IVF cycles in the UK.

Embryo development
The morning after IVF or ICSI, the eggs will be checked for signs of fertilisation. The embryologist will call you to let you know how many have fertilised and the plan for the next few days. The embryos are usually kept in the lab for 5 or 6 days.

Embryo transfer
Embryo transfer most commonly takes place on day 5 of embryo development, when the embryo is at the “blastocyst”

stage. As a guide, around 50% of fertilised embryos develop into blastocysts with good potential. The embryologist and doctor will discuss with you how many embryos have developed, how many to transfer and how many to freeze. Most patients will have one embryo transferred, and around half of patients have embryos to freeze after their best embryo has been transferred.

The embryo transfer is very similar to IUI/ DI or a smear test. ID checks will be performed to confirm your identity and that of the embryo. A speculum will be inserted and an abdominal ultrasound scan performed to visualise the uterus. A small tube containing the embryo will be passed through the cervix into the uterus, and the embryo gently expelled into the uterus. Embryo transfer usually takes around 10 minutes, and you do not need to rest afterwards.

Embryo freezing
Frozen embryos can be thawed and transferred at a later date if the first transfer is not successful, or to try for a sibling later on. Success rates with frozen embryos are very similar to “fresh” embryos.

Follow up
You will usually take a pregnancy test around 1.5 to 2 weeks after embryo transfer. If you are pregnant, the clinic will schedule an early pregnancy scan. If you are not pregnant, they should offer follow up to discuss next steps.

Risks and success rates of IVF
The latest national average data for 2022 shows that for patients under 35 years of age using their own eggs, the live birth rate per embryo transferred was 33%, decreasing to 16% for women aged 40-42 years. However, your clinic should give you more specific information about your individual chance of success with IVF treatment, and any risks. To compare success rates between clinics and find national average data, the HFEA Choose a Fertility Clinic website and HFEA dashboard are excellent resources www.hfea.gov.uk

Support and further information

There are a number of organisations set up to offer advice and support to those having fertility treatment:

The Human Fertilisation and Embryology Authority (HFEA)
UK regulator of fertility treatment
www.hfea.gov.uk

Tommy's
The pregnancy and baby charity - has some excellent advice on about preparing for pregnancy and pre-conception health
www.tommys.org/pregnancy-information/planning-a-pregnancy

Fertility Network UK
UK's leading charity providing information, support and advice to all those struggling to conceive
www.fertilitynetworkuk.org

Donor Conception Network
National charity supporting people looking to use donated sperm, eggs or embryos and families with children conceived through donation
www.dcnetwork.org

HIMfertility
Fertility support and discussion for men, set up by comedian Rhod Gilbert
www.HIMfertility.com

Men's Health Forum
Organisation working to improve the health of both men and boys
www.menshealthforum.org.uk

The Miscarriage Association
National charity helping people to understand and cope with any kind of pregnancy loss
www.miscarriageassociation.org.uk

The British Infertility Counselling Association
Directory of accredited specialist fertility counsellors
www.bica.net

General service information

Opening times

Monday – Thursday 07.45 – 16.00
Friday -- 07.45 - 13.00
Saturday – Treatment clinic only

Contact details

Telephone 0115 970 9238
Email: nuhnt.fertility.enquiries@nhs.uk
Please provide your date of birth or hospital number when emailing.

In case of emergency

If you have an urgent enquiry during our opening times above, call us on 0115 9709238.

Outside of our opening times, if you have an **emergency relating to your treatment** please contact Nottingham University Hospital Ward A23 (gynaecology) on **0115 924 9924 ext. 69023** Ward A23. In a medical emergency, call 999.

Teaching policy

Nottingham University Hospitals is a major teaching centre and so medical students, student nurses or junior doctors may be present during your consultation. If you prefer to not have them present please indicate to one of the nursing team.

Chaperones

You are welcome to have a chaperone to accompany you during any appointment at NUH Life. Please ask a member of staff for more information.

Interpretation, translation and accessibility

NUH has written and verbal translation and interpretation and sign language interpretation services available. If you require any support with accessing our services or written information please contact a member of staff.

Data privacy

NUH Life is part of Nottingham University Hospitals NHS Trust. NUH is the data controller of your information under General Data Protection Regulation (GDPR). Please see the NUH privacy notice for more information about how your information is treated www.nuh.nhs.uk/privacynotice

In addition, as an HFEA-licensed centre, NUH Life must also comply with their requirements for the handling of patient data. Fertility records are held securely in the clinic and are not shared elsewhere in NUH. Information about your treatment is only shared with third parties such as your GP, other medical practitioners or researchers with your written consent. For more information please speak to a member of staff.

Feedback

We really appreciate your feedback so that we can improve our services for future patients. If you have 5 minutes, please complete our online questionnaire, which is completely anonymous.

https://forms.office.com/e/5Mi4nTr1Un

You can also leave us a review on the “Choose a fertility clinic” area of the HFEA website www.hfea.gov.uk.

If you need advice or are concerned about any aspect of care or treatment please speak to a member of staff or contact the Patient Advice and Liaison Service (PALS):

Freephone: 0800 183 0204
From a mobile or abroad: 0115 924 9924 ext 65412 or 62301
E-mail: nuhnt.pals@nhs.net
Letter: NUH NHS Trust, c/o PALS, Freepost NEA 14614, Nottingham NG7 1BR

www.nuh.nhs.uk

If you require a full list of references for this leaflet please email nuhnt.patient.information@nhs.net or phone 0115 924 9924 ext. 87184.

The Trust endeavours to ensure that the information given here is accurate and impartial.