Intra Uterine Insemination (IUI) treatment

IUI is a relatively simple treatment used in cases where there is deficient cervical mucus, mild male-factor infertility, mild endometriosis or unexplained infertility.

**IN NATURE** probably only one in a million sperm from the ejaculate reaches the vicinity of the egg in the Fallopian tube. IUI gives sperm a head start by placing several million sperm directly into the uterus. IUI is often combined with a medication like clomiphene to increase the number of eggs ovulated from one to 2–3.

**IUI options**

- **Simple IUI** refers to IUI in a natural menstrual cycle without the use of any medications. This approach helps sperm transport through bypassing the woman’s cervical mucus or when men cannot ejaculate normally, for instance after surgery to the prostate or bladder. It is often a good option when sperm has been frozen, such as before cancer treatment or vasectomy.

  In simple IUI, daily blood tests or urinary LH tests are started a few days before ovulation is predicted. These tests measure the level of the hormone called LH. LH starts to rise about 36 hours before ovulation – this is often called the ‘LH surge’. Clinic staff use the change in LH levels to decide the best time for insemination.

  Simple IUI is usually the first option for women using Donor Sperm.

- **Stimulated IUI** (sometimes written IUIS) combines IUI with a low dose of medications to try to increase the number of eggs from one to 2–3. Stimulated IUI can improve the chance of pregnancy for couples who have unexplained infertility, for couples when the man has moderately lower sperm concentrations or moderate reduction in the number of moving sperm, and for couples when the woman has mild or moderate endometriosis.

  There are three common ways to try to increase the number of eggs that mature in a treatment cycle. The simplest is by taking the pill clomiphene citrate for 5 days, usually starting on the third day of the cycle.

  A related approach is to add one or two injections of the medication FSH following the five days of clomiphene. This continues the ovarian stimulation started by clomiphene. We do a blood test for estradiol the day after stopping clomiphene to see if FSH is needed.

  Another approach is to use daily injections of FSH, usually starting on the second or third day of the cycle. FSH is a much more expensive medication than clomiphene so this is a more expensive option.

  Whatever the approach in stimulated IUI, we monitor the growth of follicles in the ovary by blood tests that measure the amount of estradiol the follicles are producing and by ultrasound scans that measure the number and size of the follicles.

  As for simple IUI, we measure LH daily to time insemination.

  Ovulation can be triggered by a single injection of the medication hCG before LH starts to rise. A trigger injection can improve the timing of insemination and it will give you an extra day’s forewarning of when insemination will occur. An hCG injection is sometimes given after LH starts to rise to support the biological effect of LH – in this situation insemination is timed by the LH rise rather than when hCG is given.
Problems and solutions
There aren’t any tests to predict the right dose of clomiphene for a particular woman having IUIS, so common problems are:

• The initial dose of clomiphene isn’t high enough to produce more than one follicle. If this happens, we will give you the choice of continuing treatment or stopping and trying again at a higher dose of medications.

• The initial dose of medications causes too many follicles to grow, increasing the risk of multiple pregnancy such as twins or triplets. If this happens we will stop treatment and ask you not to have sex or to use barrier contraception such as a condom or diaphragm. A lower dose of medications will be used in the next cycle.

Although we can count the number of sperm we place in the uterus, we can’t be sure they actually reach the egg(s) and lead to fertilisation. Because of this, we usually recommend that you consider moving to IVF if you do not become pregnant after 4 cycles of IUI using partner’s sperm, or after 6 or more cycles if you are using donor sperm.

Risks and side effects

• Multiple pregnancy Blood tests and ultrasound scans give a good idea about how many follicles are growing in the ovary in a particular month of treatment but they are not perfect. About 10-15% of pregnancies from IUIS treatment are twins and about 1% are triplets. Quadruplets or more are possible but very rare.

Twins are associated with 2-3 times more risk for both the mother and children for a wide range of adverse outcomes, from maternal death to cerebral palsy. See our Fertility Facts on the risk of twins.
www.fertilityfacts.co.nz

• Ectopic pregnancy When an embryo implants in the Fallopian tube, the cervix or the abdomen it is called an ectopic pregnancy. Ectopic pregnancies can be dangerous because the placenta can burrow into a blood vessel and cause major internal bleeding. IUI probably doesn’t increase the risk of ectopic
pregnancy, but all women having fertility treatment need to be aware of the possibility of ectopic pregnancy. We can usually detect an ectopic pregnancy by the level of hCG in the pregnancy test and an early ultrasound scan, but not always. Symptoms include severe, localised abdominal pain.

- **Ovarian Hyper-Stimulation Syndrome (OHSS)**  The low dose of medications used means that OHSS is very rare in IUIS. The IVF section covers OHSS in detail.

- **Vaso-vagal reaction** There is a small chance of a vaso-vagal reaction at the time of insemination when the catheter is placed in the uterus. The vaso-vagal reaction is a reflex that causes the heart to slow, blood pressure to drop, and fainting. If this happens the insemination would be stopped and done at a later time.

- **Infection after insemination** Infection can occur when bacteria that are present in the vagina are transferred into the uterus during the insemination procedure. It probably happens in about 0.3% of cycles. Infection nearly always settles with antibiotics, but there have been rare cases of damage to the uterus or Fallopian tubes. Call the clinic if you feel sore, feverish or unwell within a few days of insemination.

- **Bleeding after insemination** Occasionally there is a little bleeding from the cervix the day of insemination or the day after. It is unlikely to affect the chance of pregnancy.

Pain is your body’s way of saying that something may be wrong. We need to know about any symptoms that might be concerning you. It is important to contact the clinic the same day if you have any of the following symptoms:

- Abdominal pain or discomfort;
- Abdominal bloating or swelling;
- Nausea or vomiting;
- Decreased urine output;
- Shortness of breath or difficulty breathing;
- Severe headache;
- Pain, bleeding or cramping after the insemination.

The medications used in IUI have been used over 40 years without any evidence of an increased risk of birth defects. Long-term follow up studies have failed to show any association between fertility treatment and ovarian or breast cancer. Pregnancy provides some degree of protection against ovarian cancer.

**Success with IUI**

Figure 3 shows the chance of birth from a single IUI treatment using mild ovarian stimulation (IUIS). The data includes all cycles at Fertility Associates clinics between 2011 and 2013 where the woman used her partner’s sperm.
sperm. The graph does not include the 10–15% of cycles stopped before insemination for a variety of reasons.

Figure 4 shows the birth rate per treatment cycle for IUI where the woman used donor sperm. In most of these cycles the women did not use medications for ovarian stimulation.

No one tries to become pregnant naturally and then gives up after the first month if they don’t succeed. The overall chance of becoming pregnant increases with the number of times you try – this is called the ‘cumulative pregnancy rate’. Figure 5 shows the cumulative pregnancy rate for women having IUI with their partner’s sperm and Figure 6 for women having IUI with Donor Sperm.

Did you know

At the back of this magazine we have a section for you to keep a record of the instructions you have been given (called “Your treatment diary”) and also a couple of extra pages for you make notes on things you may find you want to keep all in one place during treatment.
If you don’t become pregnant after 4 cycles of IUI with stimulation (IUI), most doctors advise moving on to IVF. Women using IUI with Donor Sperm usually don’t have any fertility factors themselves, so it is often worth trying 6 or more cycles before considering IVF with Donor Sperm.

Step by step through IUI

The ‘day 1’ call

Your day 1 call to the clinic is how you start your IUI cycle. Day 1 is the first day of your cycle that you wake up with your period. If your period starts in the afternoon then the next day is day 1.

Please call the clinic before 10:30am on your day 1 – if the person you call is busy just leave a voice message. We will act on your message the same day Monday to Saturday for all clinics, and also on Sunday for our Auckland, Hamilton and Wellington clinics. This also applies to public holidays apart from Christmas and New Year statutory holidays.

The nurse who takes your call will give you instructions on when to start clomiphene or FSH if you are using these medications, and when your first blood test will be. If you haven’t already got a prescription for clomiphene, she will arrange that too.

You should have given written consent before starting treatment. We can’t start treatment until we have completed your consent form.

Paying for private treatment

The clinic will tell you the cost of treatment before you start. We will invoice you for each IUI cycle soon after your day 1 call. You will need to pay for your IUI cycle by the time of insemination. Any medications, such as FSH or hCG, need to be paid for when you pick them up from the clinic.

There is more information on paying for tests and treatment in our separate fees guide. It also covers refunds if you need to stop treatment.

About fertility medications

If you are likely to need FSH or hCG injections, one of our nurses will go over self-injection or give you a refresher if you would like it.

Many of the medications we use have a limited shelf life once they reach room temperature – the nurses will tell you how to store each medication you use. You don’t need to keep the medications cold while you take them home. Because the medications are expensive, we try to minimise the cost by only issuing what is needed until your next blood test or scan. However, it is possible that not all medications will be used and that sometimes you may need to discard medications.

We will give you a specific instruction sheet for each type of medication you will use.

The medication instruction booklets for both Gonal F and Puregon have a section at the back to record how much Gonal F or Puregon you have used and how much is left. We strongly recommend you use this.
Unfortunately we are unable to credit unused medications at the end of treatment.

We will give you containers to store any used needles and syringes. You can bring them back to the clinic for disposal at the time of insemination.

Blood tests and scans
There are a variety of places you can have blood tests taken – they include most cities and several places in the larger cities such as Auckland, Wellington and Christchurch. The blood tests for IUI differ from other blood tests you may have had because we have special arrangements to ensure we get the results in time for making decisions the same day.

You will need to have these blood tests done by 9 am while on treatment.

Ultrasound scans are usually done between 8 am and 9 am at the Auckland, Hamilton, Wellington and Christchurch clinics, but times later in the morning can be arranged. Each clinic has its own way of recording when you arrive so that the doctor doing the scanning knows who is waiting – the nursing or reception staff will let you know how it works.

Ultrasound scanning uses an ultrasound probe placed in the vagina. You should have an empty bladder to allow the doctor to get the best possible view of your ovaries and the follicles growing in them.

Using urinary LH tests
Although we recommend using blood tests to measure LH, it is sometimes practical to use urine tests you can do at home, such as Clearplan. We have found that doing a urine test twice a day increases the reliability of detecting the LH rise to about 90%. Make sure to test your urine at the same time in the morning and evening each day.

When the line in the test window is darker than the line in the control window, ringing the clinic and we will arrange times for insemination. If the first positive test is in the evening, insemination is usually performed the next morning. If the first positive test is in the morning, the insemination may be performed the same afternoon or the next morning.

If you have any difficulties or uncertainties about using the urinary LH kit, or interpreting the colour, please call your nurse. The urinary kit instruction sheet can also be very helpful. In some cycles there is no colour change or only a weak change. If this happens in more than one cycle, we would probably recommend using blood tests for future cycles.

We will have nearly always made a decision on the next step of your treatment by 2 pm on the day of your blood test or scan. You can expect a TXT or call with your next set of instructions between 2 pm and 4 pm on weekdays.

Decisions
Every day that you have a blood test or scan, we will get back to you with an instruction about what to do next. Our doctors, nurses and embryologists look at the results around lunchtime to make a decision. We usually TXT instructions, or call when there is something more significant such as a change in medication dose or when it is time to trigger ovulation.

We will have nearly always made the decision by 2 pm so you can expect a TXT or a call between 2 pm and 4 pm on weekdays unless you have arranged something different with your nurse. If we TXT, please TXT back to confirm that you have read our message.

We strongly suggest you write down each instruction as soon as we TXT or call you. Fertility treatment can be complex enough without having to remember medication doses and times!
We have found that when people call the clinic instead of us calling them, many calls get diverted to voice mail because staff are already speaking to other patients. We then need to listen to voice messages instead of answering new calls.

- Please phone the clinic if you have not heard from us by 4.30 pm.
- You must be able to be contacted by the clinic from the time you start ovarian stimulating medications such as Gonal F or Puregon until the day of insemination.
- If you are not available between 2 pm and 4.30 pm, we need to know where we can leave a confidential message for you.

Timing insemination

If the blood or urinary LH test indicates you are about to ovulate, IUI will be timed that afternoon or the next morning, depending on the pattern of LH, or the timing of the urinary tests. If ovulation has been triggered with hCG, insemination is timed 36-38 hours later.

The nurse you talk to will tell you when to deliver the semen sample and the time of insemination.

Sperm sample

We always use frozen donor sperm so you will have decided on your donor well before starting the IUI cycle. The embryologists will know what sperm to prepare. You can skip the rest of this section.

Sperm quality is best if the sample is collected within one hour of giving it to the embryology staff. You can produce the sample at home or you can provide it at the clinic – we have rooms for this in each clinic. Please tell us where you are going to be during the day in case we need to contact you about the quality of the sample.

Although we previously advised around three days sexual abstinence to allow the number of sperm to build up, we now think that one day’s abstinence gives better quality sperm. Periods of abstinence longer than three days can be detrimental because of the accumulation of aged sperm.

The semen analysis form we give you has detailed advice around collecting a sample.

If only one follicle develops when you are having IUI with stimulation, it may be better to stop and try again later using more medications. Occasionally treatment may be stopped for too great a response to the medications – about 3% of cycles are stopped for this reason.

If you develop too many follicles the chance of triplets or quadruplets may be too high, so we will advise you to use a condom as barrier contraception, or not to have sex. A lower dose of medications will be tried in the next treatment cycle.

We will always discuss options with you before any decision is made. Although it is very disappointing to have to stop treatment, you will benefit from what has been learned for future treatment.
We discourage the use of lubricants because even small amounts can be relatively toxic to sperm. There is one lubricant that is relatively ‘sperm-friendly’, known as ‘Pre-Seed’. Clinic staff can give you more information.

If you are concerned that you may be unable to produce a semen sample on the day, we may be able to freeze a back-up sample. This needs to be done well in advance so we can see how well the sperm survives freezing and thawing. There is a separate charge for sperm freezing unless it is done for medical reasons as part of publicly funded treatment. You will also need to complete a consent form for freezing and using the frozen sperm.

**Sperm preparation**
The embryologists ‘wash’ the sperm free of the seminal fluid. The sperm are harvested in a small amount of culture medium and used for the insemination. Sperm washing takes one to one and a half hours. The culture medium contains a small amount of human serum albumin, a protein purified from blood that has been screened to Blood Bank standards. It also contains low levels of some antibiotics.

**Insemination and afterwards**
The insemination procedure involves placing the washed sperm directly into the uterus. The procedure itself is similar to a cervical smear – straightforward and painless. A nurse will insert a speculum into the vagina, pass a fine catheter into the uterine cavity and gently push the sperm solution into the uterus. After insemination, you can continue your normal activities, including sex. You are welcome to have someone present to support you at your insemination.

**Hormone support**
If you need extra progesterone to support the lining of the uterus, the nurse will explain how to use vaginal pessaries or gel over the following two weeks. The progesterone usually comes in the form of ‘micronised’ progesterone pessaries with the trade name ‘Utrogestan’. Crinone is an alternative form of progesterone that comes as a gel in a pre-filled applicator. All women will get a slight discharge when using Utrogestan or Crinone. Please tell us if irritation occurs.

**Waiting for the pregnancy test**
Most people say that waiting to see whether you are pregnant is the most stressful part of treatment. Please feel free to make an appointment to speak with a counsellor if you would like some extra support during this time.