

Intrauterine Insemination with Semen From an Anonymous Donor (IUI-D)

Patient Information

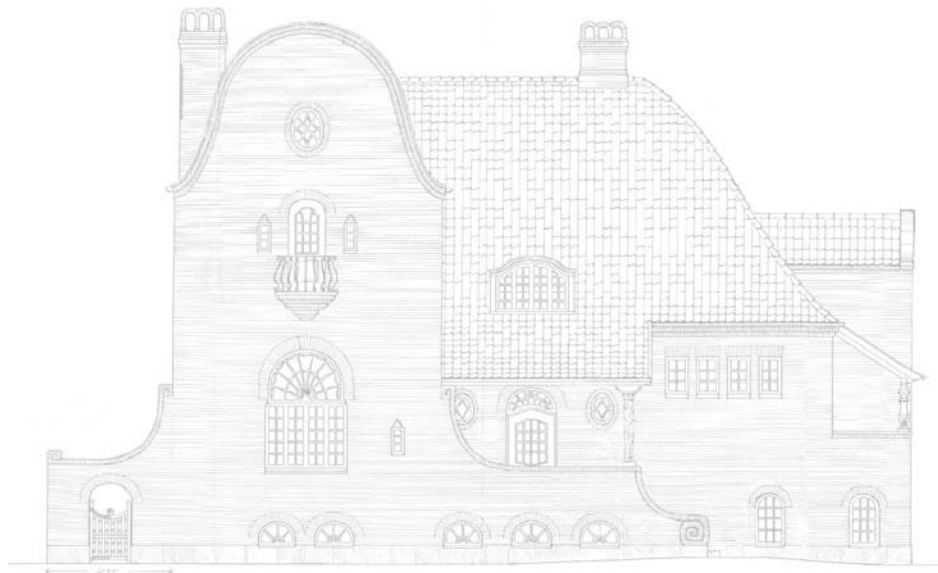


Table of contents

Table of contents	2
Intrauterine insemination with semen from an anonymous donor (IUI-D)	3
The normal fertilisation	3
Treatment with intrauterine insemination in brief	3
Treatment levels	4
Consultation and examination	4
The course of the treatment.....	5
Level 1 (urine-test for LH rise)	5
Level 2 (no hormone stimulation – follicle development monitored by ultrasound)	5
Ultrasound scan in other clinics	5
Ovulation induction	5
Level 3 (mild hormone stimulation – follicle development monitored by ultrasound).....	6
Hormone stimulation	6
Ultrasound scan.....	7
Ultrasound scan in other clinics	7
Ovulation induction	7
Insemination	7
Pregnancy test.....	7
The chance of becoming pregnant	8
How many treatments?	8
Treatment related side effects	8
Side effects of the medicine.....	8
Complicated pregnancy	8
Risk of ovarian cancer?	9
Acupuncture.....	9
Legal and other aspects of using donor sperm.....	9
Reservation of sperm from the same donor for future treatment.....	9
Price list (IUI-D)	10
General advice.....	10
Alcohol.....	10
Tobacco	10
Coffee/caffeine.....	10
Medicine	10
Environmental factors	10
German measles (rubella)	11
Body weight	11
Folic acid.....	11
Links	11
Notes	11
Overview over IUI-D treatment (with hormone stimulation and ultrasound monitoring)	12

Intrauterine insemination with semen from an anonymous donor (IUI-D)

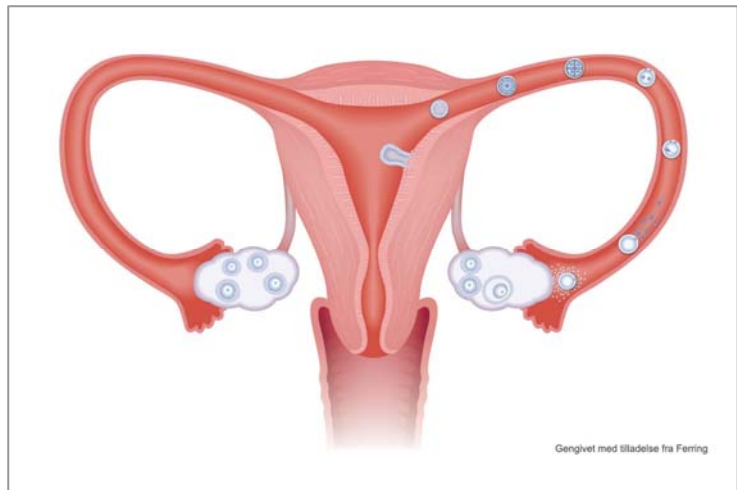
Intrauterine Insemination with semen from an anonymous donor is a treatment option when usable sperm cells cannot be obtained from the partner.

Donor insemination may also be used if a single woman wishes to become pregnant.

The normal fertilisation

In a 'normal' menstrual cycle of approximately 28 days ovulation takes place around day 14. A single oocyte ('egg') is released from the ovary and the oocyte enters one of the fallopian tubes.

If intercourse has taken place 50-200 million sperm cells will have been ejaculated in the vagina. The sperm cells swim through the uterine cervix and the uterine cavity and into the fallopian tubes. Only a few hundred sperm cells reach the distal part of the fallopian tubes, where the fertilisation takes place.



Ovulation and fertilisation

Subsequently the fertilised egg – now an early embryo – is transported through the fallopian tube to the uterine cavity where it implants and develops into a child.

Treatment with intrauterine insemination in brief

The principle in treatment with intrauterine insemination can be summarised as follows:

1. One (or 2-3 if hormone stimulation is used) oocytes are matured in the ovaries
2. The ovulation and the insemination are timed to ensure that the oocyte and the sperm cells meet
3. The sperm cells are injected directly into the uterine cavity so there is only a relatively short distance to the fallopian tubes where the fertilisation occurs.

Treatment levels

Most women who are treated with donor insemination have normal fertility. Therefore it is often easy to obtain pregnancy.

Treatment with donor insemination may be performed on different 'levels'.

Level 1: The woman finds out when the time of ovulation will be by using an 'ovulation test' daily in the days preceding ovulation. The insemination is performed the day after the test becomes positive. This method is only recommended for women with a regular menstrual cycle of 26-30 days.

Level 2: The growth of the follicle is followed by ultrasound scanning. When the follicle (and thus the oocyte) is ready an injection for ovulation induction is given. Insemination is performed approximately 38 hours later.

Level 3: Mild hormone stimulation is given. The purpose is to develop 2-3 oocytes. Ultrasound scanning, ovulation induction and insemination are as for Level 2.

Consultation and examination

Before treatment is started you are welcome to come to the clinic for a consultation. If you prefer, you may just send us information about your case, so we can plan the treatment.

Either way we will evaluate your (in)fertility history, and examine the results of diagnostic procedures and tests you may have had. We can also plan additional work-up if necessary.

Some of the most important factors for evaluating the cause of infertility are described below:

The fallopian tubes are best examined by X-ray (HSG, Hystero-Salpingo-Graphy). If the tubes are *not* normal, the best treatment is IVF (In Vitro Fertilisation) and not insemination. If the woman has never had pelvic inflammatory disease (including chlamydia) or other infections in the abdomen (for example severe appendicitis) it may not be necessary to examine the fallopian tubes initially. However the tubes should always be examined, if pregnancy has not been obtained after three treatment cycles.

The ovaries can be examined with an ultrasound scan. The woman should also have a blood test for FSH, LH and oestradiol taken on cycle day 2-3.

Sperm quality. If donor insemination is planned, it is most often because the sperm quality is severely reduced, or because there is no male partner.

Blood tests for serious infectious diseases (HIV, hepatitis-B og hepatitis-C) *must* be performed on both partners before treatment.

The woman should also have a blood test for the 'milk hormone' (prolactin) and thyroid function (TSH – Thyroid Stimulation Hormone). A blood test for german measles should also be taken. If the woman is not immune, she should be vaccinated against german measles.

The woman should have a *PAP-smear* and a test for *chlamydia* performed.

The course of the treatment

As previously described, the treatment may be on different 'levels'.

In many cases it will be reasonable to carry out 2-3 treatment cycles *without* hormone stimulation (Level 1 or Level 2). If pregnancy has not been obtained, it may be relevant to use mild hormone stimulation in order to make 2-3 oocytes mature in each cycle (Level 3).

Level 1 (urine-test for LH rise)

The body's ovulation induction hormone is called LH (Luteinising Hormone). The concentration of LH rises abruptly when the oocyte in the follicle is ready for ovulation. The ovulation takes place approximately 24 hours later. We recommend this treatment only for women with a regular menstrual cycle between 26-30 days.

You should perform a urine LH-test every morning from around day 11 of your cycle (if the cycle length is 28 days)

Cycle length	26	27	28	29	30
First LH test taken on cycle day	9	10	11	12	13

The LH-test should *not* be taken on the first urine void in the morning. When the test is positive (2 lines, see the instructions that came with the test) please call us so we can book an appointment for insemination the day after the positive test.

The phone is open workdays 9-12 a.m. and 2-4 p.m (weekends 9-12 a.m.).

Level 2 (no hormone stimulation – follicle development monitored by ultrasound)

Please call our secretaries (+45 3940 7000) when your menstrual period starts. You can make an appointment for an ultrasound scan. The first scan is normally performed on cycle day 10-12.

The phone is open workdays 9-12 a.m. and 2-4 p.m (weekends 9-12 a.m.).

The purpose of the scan is to determine when the follicle - and thus the egg/oocyte - is mature (approximately 17-18 mm i diameter) and ready for ovulation induction.

The ultrasound scan also shows the thickness of the endometrial lining, where the fertilised egg is going to implant.

Ultrasound scan in other clinics

If you live far from our clinic it may be convenient for you to have the ultrasound scan(s) performed 'locally'. If you prefer this option, you should send us information about the scan by email (sekretaer@trianglen.dk) or fax (+45 3940 7075). You may request a special form for this purpose from us.

When you are scanned, we would like to know the following:

- The size and number of follicles in the right and left ovary
- The thickness of the endometrium.

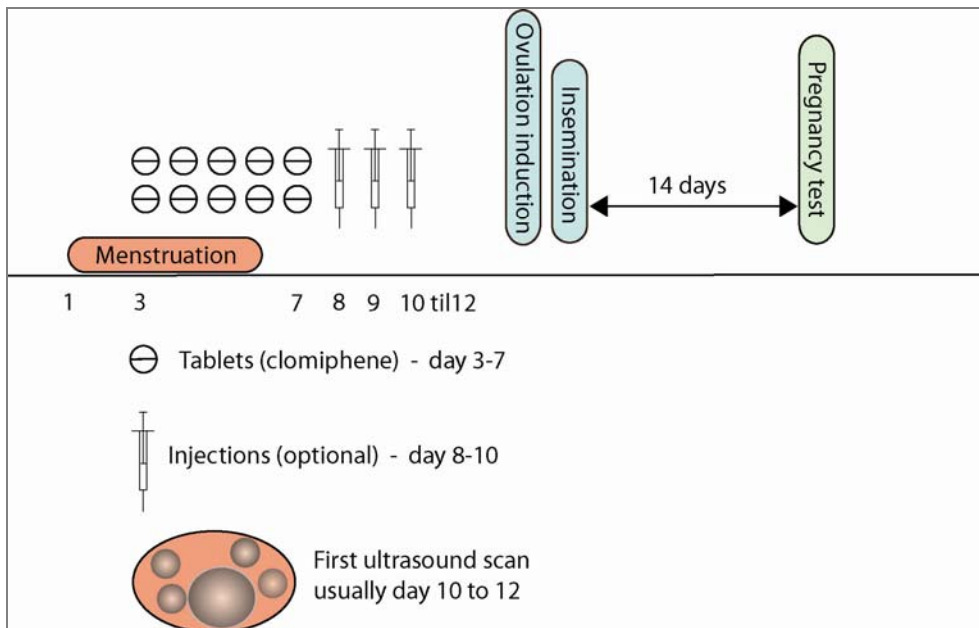
Ovulation induction

When the follicle is ready, you should take an injection with hCG (Ovitrelle® or Pregnyl®) for ovulation induction. Ovulation takes place approximately 38 hours later.

Normally the injection for ovulation induction is taken in the evening. The precise time is arranged with our secretaries. The insemination is performed in our clinic approximately 38 hours later, close to the time where ovulation occurs.

Level 3 (mild hormone stimulation – follicle development monitored by ultrasound)

Please call our secretaries (+45 3940 7000) when your menstrual period starts. You can make an appointment for an ultrasound scan. The first scan is normally performed on cycle day 10-12. Concerning ultrasound scans in other clinics, please see below. *The phone is open workdays 9-12 a.m. and 2-4 p.m (weekends 9-12 a.m.).*



Overview over insemination with hormone stimulation

Hormone stimulation

The plan for your hormone stimulation has been written in your notes, so the secretaries can confirm the planned hormone treatment with you.

In most cases mild hormone stimulation is given in the early part of the menstrual cycle. The purpose of the hormone stimulation is to make 2-3 follicles grow in the ovaries. The most common form of hormone treatment is clomiphene citrate 50 mg twice daily from cycle day 3-7. In some cases additional hormone injections with follicle stimulating hormone (FSH or hMG) is given on cycle days 8-10.

If your menstrual cycle is very long the aim of the hormone stimulation is to make 1 or 2 follicles grow.

Women with PCOS (PolyCystic Ovary Syndrome) often do not develop follicles when treated with clomiphene tablets. In these women it may be necessary to induce follicle development with daily injections with FSH (Follicle Stimulating Hormone). The injections are normally given for 10-20 days.

Ultrasound scan

The purpose of the scan is to determine the number of follicles and to find out when they are mature (17-18 mm in diameter). If the number of mature follicles is too high, the cycle has to be cancelled.

The ultrasound scan also shows the thickness of the endometrial lining, where the fertilised egg will implant.

Ultrasound scan in other clinics

If you live far from our clinic it may be convenient for you to have the ultrasound scan(s) performed 'locally'. If you prefer this option, you should send us information about the scan by email (sekretaer@trianglen.dk) or fax (+45 3940 7075). You may request a special form for this purpose from us.

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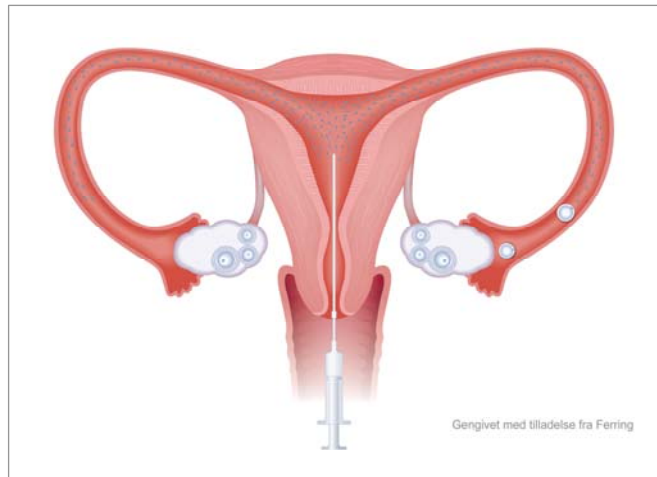
Normally the injection for ovulation induction is taken in the evening. The precise time is arranged with our secretaries. The insemination is performed in our clinic approximately 38 hours later, close to the time where ovulation occurs.

Insemination

The donor is selected according to the following criteria, which we can get from the sperm bank:

- Color of hair
- Color of eyes
- Ethnical background
- Height
- Weight

The insemination is performed like a gynaecological examination. A thin plastic tube is introduced into the uterine cavity and the sperm sample is injected. In most cases there is no pain or discomfort associated with the insemination.



Insemination i the uterine cavity

There are no special precautions after the insemination. You may do anything you would otherwise have done.

Pregnancy test

After the insemination we give you a pregnancy test, which you should use 14 days later. It is best to test on the first urine you void in the morning.

Please call our secretaries and tell them whether the test was positive or negative. If the test is positive, you should be ultrasound scanned approximately three weeks later, when the early embryo should be visible.

If the test is negative, you should follow the plan we discussed on the day of insemination.

The chance of becoming pregnant

The chance of becoming pregnant with donor insemination in our clinic is approximately 25% per cycle for women younger than 40. Approx. 60% will be pregnant after 3 cycles and 80% after 6 cycles.

For women over 40 years of age the success rate decreases significantly.

After the woman has turned 42 the chance of becoming pregnant by insemination is just a few percent. Therefore we do not perform insemination after a woman has turned 42.



An embryo of 11 mm – approx. 7 wk.

If hormone stimulation has been used the woman will often produce more than one egg. In these cases, the chance of a twin pregnancy is increased. Twins are seen in approximately 5-10% of the pregnancies. Without hormone stimulation the chance of a twin pregnancy is 1%. Triplets are very rare.

How many treatments?

If insemination with donor semen has not been successful after six treatment cycles, IVF (In Vitro Fertilisation) should be considered. IVF is more efficient but also more demanding.

Treatment related side effects

In general insemination treatment is safe and there are very few risks associated with the treatment.

Side effects of the medicine

These are temporary and generally mild. You may experience nausea, breast tenderness, headache, hot flushes and tiredness.

Allergic reactions against the medicine are very rare. Symptoms may include rashes and difficulty breathing. If you suspect an allergic reaction you should not take more of the medicine and you should consult a doctor.

Complicated pregnancy

As described earlier there is an increased risk of twin pregnancies when hormone stimulation is used. The risks of complications – especially preterm delivery – is increased in twin (and triplet) pregnancies.

Risk of ovarian cancer?

Recent studies do not indicate that the hormones used for fertility treatment result in an increased risk for later developing ovarian cancer. However no studies that can completely exclude such a risk have been performed.

Acupuncture

Recent publications from our clinic and from others have shown that acupuncture increases the success rate for IVF treatment. So far no scientific studies of the effect of acupuncture in connection with insemination have been conducted, so it is not yet known if acupuncture increases the pregnancy chance with insemination treatment.

We offer acupuncture in connection with insemination for those of our patients who would like this. Please see the price list for prices

Legal and other aspects of using donor sperm

In Denmark all sperm donation must be anonymous. The anonymity can never be broken.

All donors are examined by the sperm bank's doctor. They have to be physically and mentally healthy, and there must not be inheritable diseases in their family. The donors must have a normal chromosome test. They are tested for serious infectious diseases (venereal diseases, hepatitis B and C and HIV). The sperm is only released for use after having been stored frozen for 6 months and after a repeated negative HIV test.

The sperm bank provides information about the donor's hair colour, eye colour, ethnical background, height and weight. The selection of a donor may take these criteria into account, if you wish. In most cases we use sperm from Nordic Cryo Bank (www.nordiccryobank.com) or Cryos (www.cryos.dk).

When donor insemination is used to treat a heterosexual couple the man must declare that he will be the father of the child/children, and assume all the responsibilities associated with fatherhood.

The Danish National Board of Health (Sundhedsstyrelsen) demands that the following information be given to all women treated with donated sperm:

"When selecting donors it is attempted to minimise the risk of inheritable diseases or malformations etc. by only using donors who have declared that they do not know of such conditions in their relatives and who have been interviewed by a doctor to further clarify this. Despite these precautions the risk of inheritable disease is not eliminated.

Reservation of sperm from the same donor for future treatment.

It is possible to reserve frozen sperm from the same donor for future treatment. When you have become pregnant, we can inform you about the donor-number. You may then contact the sperm bank (www.nordiccryobank.com, www.cryos.dk) and reserve sperm-"straws" from the same donor for future use.

Price list (IUI-D)

<i>Exchange rate: 1 Euro is approx. 7.5 Danish Krone</i>	DKr
Referral¹⁾ for both the woman and the man	1600,- ²⁾
Referral for the woman only	2800,-
Referral for the man only	2500,- ³⁾
No referral (or not covered by Danish public health care)	3700,- ³⁾
¹⁾ A "referral" means that your family doctor has made a referral to treatment (only applies to patients covered by the Danish public health care system)	
²⁾ For the frozen sperm from the sperm bank	
³⁾ If more than one ultrasound scan per cycle, the price for each additional scan is kr. 400,-	
Acupuncture in connection with insemination: 400,- per treatment	

General advice

Alcohol

The woman should consume as little alcohol as possible, when she tries to become pregnant. It is likely that even a small alcohol intake (1-5 units per week) may reduce fertility. When a woman is pregnant she is advised not to drink alcohol at all.

Alcohol seems to affect the man's fertility to a lesser degree. A daily consumption of up to 3-4 units does not seem to affect the sperm quality. A higher intake of alcohol may reduce the sperm quality.

Tobacco

Smoking reduces the fertility in women and the sperm quality in men. Therefore it is advisable for both the woman and the man not to smoke at all.

Coffee/caffeine

Coffee, tea and cola contains caffeine. There is no indication that a moderate consumption of caffeine-containing beverages affects fertility. It is possible that a large consumption (more than 5 cups/glasses per day) may reduce the chance of becoming pregnant.

Medicine

If you take medicine, you should consider whether the medicine may affect your chance of becoming pregnant or if it could harm the foetus/baby when you are pregnant. You may discuss this subject with your doctor. It may be possible to switch to another medicine, that will not affect your fertility or the foetus.

In general, we recommend that you do not use herbal medicinal products, since too little is known about their possible effects on your fertility.

Environmental factors

Most kinds of work will not affect the fertility. If you work with chemical substances such as organic solvents or pesticides or if you are exposed to radiation, your fertility may be affected. You may discuss this with your workplace or with your doctor.

German measles (rubella)

It is recommended that the woman has a blood test to determine if she has antibodies against German measles. If she is not immune, she should be vaccinated because it may cause serious foetal malformations if she is infected with German measles during pregnancy.

Body weight

Both a too low and a too high body weight will reduce the chance of becoming pregnant. Over weight also increases the risk of complications during pregnancy and delivery. Normal weight and too low or too high body weight may be determined by the so-called 'Body Mass Index' (BMI) which is calculated as follows

$$\text{BMI} = \frac{\text{Weight}}{\text{Height} * \text{Height}} \quad \text{the weight is in kilos and the height in metres.}$$

BMI between 20 and 25 is optimal. The fertility may be reduced if BMI is below 19 or above 29.

Folic acid

It is recommended that all women take folic acid daily when they try to become pregnant and during the first 12 weeks of pregnancy. Taking folic acid reduces the risk of foetal malformations in the central nervous system.

In Denmark the health authorities recommend a daily dose of 400 micrograms folic acid.

If you have previously had a child (or a miscarriage) with malformations in the central nervous system (neural tube defects), it is recommended that you take 5 mg folic acid daily. This also applies if you use medicine against epilepsy.

Links

- Fertilitetsklinikken Trianglen: www.trianglen.dk.
- The Danish Medicines Agency (Lægemiddelstyrelsen): www.dkma.dk.



Notes


Overview over IUI-D treatment (with hormone stimulation and ultrasound monitoring)

Day of menstrual cycle – The first day of bleeding is day 1

1. Day of Bleeding (call our secretaries)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Tests (only in certain situations)	◀ - Blood test - ▶				◀----- X-Ray (HysteroSalpingoGraphy) -----▶										
Medicine (if planned)										Ovulation induction (time of day arranged with us)					
Monday	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed 	Thu 	Fri	Sat	Sun	Mon	
Tuesday	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu 	Fri	Sat	Sun	Mon	Tue	
Wednesday	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri 	Sat	Sun	Mon	Tue	Wed	
Thursday	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon 	Tue	Wed	Thu	
Friday	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon 	Tue	Wed	Thu	Fri	
Saturday	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon 	Tue 	Wed	Thu	Fri	Sat	
Sunday	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue 	Wed 	Thu	Fri	Sat	Sun	

The table is read horizontally beginning on the weekday where your menstrual bleeding starts..

From day 3-7 you should take clomiphene tablets () (Clomid®/Pergotime®/similar) 50 mg in the morning and 50 mg in the evening. On day 8-10 injections () with Puregon®, Gonal-f®, Menopur® or similar are given in some cases.

On day 10-12 you should be scanned () to determine the number and size of follicles in the ovaries.

(In some cases a daily LH-test is used in stead of ultrasound scan and ovulation induction.)