



**Insemination
(IUI-H)
with
Partner sperm**



Information

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Collection and storage of information

As health professionals we are obliged by the authorities to gather, organise and store information about the patients we treat. Medical treatment is only possible, if you can accept this. Information is collected and stored according to the General Data Protection Regulation. More information is available on our website.

Insemination with sperm from the male partner (IUI-H)

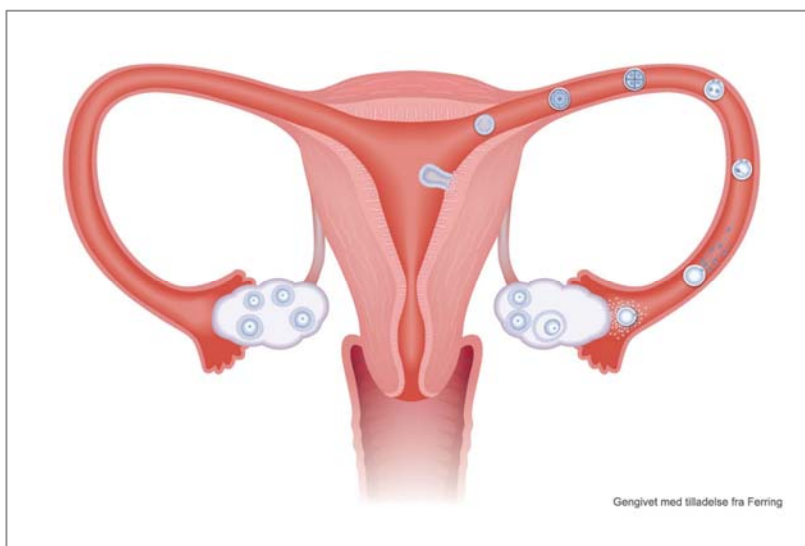
Intrauterine insemination with 'washed' sperm from the male partner is a treatment option for couples with unexplained infertility or couples where the sperm quality is moderately reduced.

Insemination with the partner's sperm is also used together with a mild hormone stimulation of the woman in couples where the woman does not ovulate regularly or have long menstrual cycles.

The normal fertilisation process

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.

In vaginal intercourse, 50-200 million sperm cells are ejaculated into 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 fetus.

How does insemination treatment increase the chance of getting pregnant?

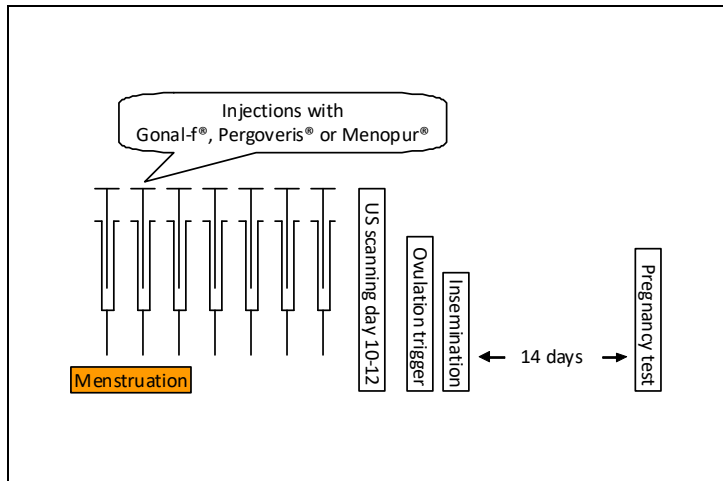
The main reasons for the increased chances are:

1. A mild hormone stimulation makes 2-3 eggs develop and ovulate in one cycle. Without hormone stimulation only one egg ovulates in each cycle.
2. The time of ovulation and the insemination are *timed* to ensure that the oocyte and the sperm cells meet.
3. The sperm cells are injected into the uterine cavity, allowing a much higher concentration of sperm cells to reach the egg

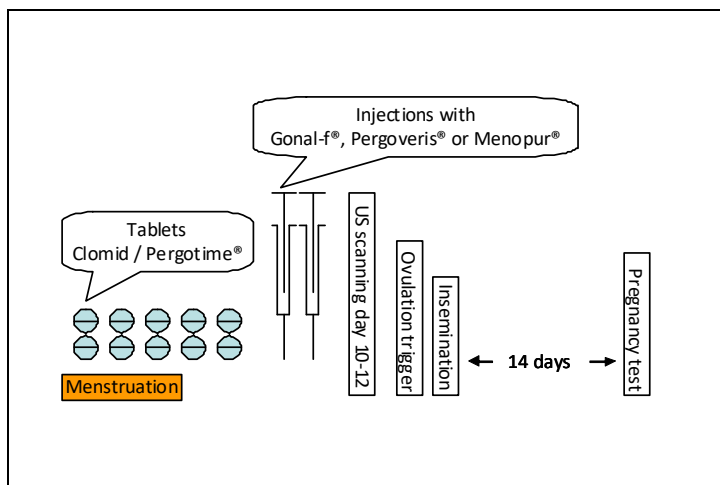
Overview of the treatment

Below you will find a brief description of the treatment.

The woman is prescribed a mild hormone stimulation, starting on day three of the menstrual cycle in order to make more than one egg develop. This will allow more eggs the opportunity of being fertilized. It also slightly increases the risk of a twin pregnancy.



Hormone stimulation with injections



Hormone stimulation with clomiphene and injections

The growth of follicles in the ovaries is monitored by one or more ultrasound scans. Normally the first scan is performed 10-12 days after the start of the menstruation.

When the leading follicle(s) reach a diameter of about 18 mm (17-20 mm) you will take a 'trigger' injection to start up the process of ovulation. The ovulation then takes place approximately 38 hours later.

The intrauterine insemination is done close to the time of ovulation. At the insemination the 'washed' sperm sample is injected through the uterine cervix into the uterine cavity and flows out into the fallopian tubes.

Two weeks later you will take a pregnancy test.

The individual steps are described in more detail later.

Consultation and examination

Before treatment is initiated, we would like to see you for a consultation in our clinic. At the consultation the doctor will talk with you about your fertility history and the results of tests that may have been performed. We may also plan additional work-up if necessary.

The doctor will perform a transvaginal ultrasound scan. This scan can provide important information about the uterus and the ovaries.

If you live far from us, you may instead send us information about your medical and (in)fertility history. We will then evaluate your case and review the results of diagnostic procedures and tests you may have had. We will also plan additional work-up if necessary.

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

Sperm quality can be evaluated in our clinic or in other specialised laboratories. If the sperm quality is normal or slightly reduced, it may be used for intrauterine insemination. If the sperm quality is severely reduced, we will recommend IVF/ICSI treatment.

The fallopian tubes and the uterine cavity are best examined by a special ultrasound examination (HyCoSy) where a contrast liquid is injected into the uterine cavity and visualized as it passes through the fallopian tubes.

If the tubes are not normal, the treatment of choice is IVF (In Vitro Fertilisation) and not insemination.

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

Blood tests for serious infectious diseases (HIV, hepatitis-B and 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 (rubella) should also be taken. If the woman is not immune, she is recommended to have a vaccine against german measles before starting fertility treatment.

The woman should have a PAP-smear (not older than 3 years) and a test for chlamydia trachomatis (not older than 3 months) performed.

The course of the treatment

Contact us when your menstrual bleeding starts

When your menstrual bleeding starts, please contact Trianglen's secretaries at phone number (+45) 3940 7000 and make an appointment for an ultrasound scan around day 10-12 of your cycle. Your treatment plan is written in your file so our secretaries can inform you about the medicine planned for you and the time of the ultrasound scan.

Hormone stimulation

In many cases we have planned that you should start a mild hormone stimulation from day three of your cycle. The purpose of the stimulation is to make 2-3 follicles ('eggs') grow. The hormone stimulation is most often given as daily injections of Gonal-f®, Pergoveris® or Menopur®. In some cases the hormone stimulation may be with tablets containing 'clomiphene' or a combination of clomiphene and injections. Please see above and on the last page of this information.

If you have a very long or 'no' cycle (for example women with PCOS) the aim of the stimulation is to make 1-2 follicles grow.

If you have PCOS the stimulation is done with very low doses of Gonal-f®, Pergoveris® or Menopur®. Since it may be difficult to know which dose is necessary, we normally start with a low dose. If no follicles are growing after one week at this dose, we may carefully increase the dose until we reach a threshold where the follicles start growing. Because it may be necessary with several careful dose increments in women with PCOS the stimulation may extend through 10-20 days or more.

Ultrasound scan

The first ultrasound scan is normally done around day 10-12 of the cycle.

The purpose of the scan is to determine the number of follicles growing 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 as this causes a too high risk of a multiple pregnancy.

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 away 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 before 2 p.m. Danish time by secure email to our **secretaries** (please see our website). You may download a form for this purpose from our website.

After the ultrasound scan, we would like to know the following:

- The size and number of follicles in the right and left ovary
- The thickness of the endometrium.
- The structure of the endometrium (3-layered or luteinised)

Ovulation trigger

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

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

The sperm sample

The sperm sample is produced at home. It is made by masturbation where the sperm is collected in a small sterile container that we will provide. We recommend that there has been ejaculation approximately 1-2 days before the insemination sample so that we get fresh sperm cells for the insemination. Long abstinence does not increase the sperm quality or count.

Insemination

For the insemination we use the fresh sperm sample that you provide in the morning on the day of the insemination.

We will provide you with a small container for the sperm sample and a document that must be filled out and delivered together with the sperm sample.

Our laboratory will 'wash' the sperm sample so that the best sperm cells are collected and used for the insemination.

The insemination is performed like a normal gynaecological examination. A thin plastic tube is introduced into the uterine cavity and the sperm sample is injected.



Insemination i the uterine cavity

In most cases, there is no pain or discomfort associated with the insemination. Occasionally there may be slight discomfort, resembling menstrual pain.

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, we will book an ultrasound scan approximately three weeks later, when the early embryo should be visible.

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

The chance of becoming pregnant

The chance of becoming pregnant after insemination depends on the woman's age and the sperm count. For women below 40 the chance of a positive pregnancy test is generally around 15-18%. After three inseminations approximately 40% will have become pregnant.

For women aged more than 40 years the success rate decreases significantly.

After the woman has turned 41, the chance of becoming pregnant by insemination is just a few percent. Therefore, we do not perform insemination after a woman has turned 41.



Fetus 11 mm - around 7 weeks

If hormone stimulation has been used, the woman will often produce more than one egg. In these cases, the probability risk of a twin pregnancy is increased. Twins are seen in approximately 8% of the pregnancies after hormone stimulation. Without hormone stimulation, the probability of a twin pregnancy is 1%. Triplets are very rare.

IUI-H results 2019	Under 40 yr	40-42 yr
Number of IUI-H	1251	109
Mean age	33,4	40,9
Number of positive hCG	224	12
% Positive hCG	17,9	11,0
Number with heartbeat	199	9
% With heartbeat	15,9	8,3
Number of twin pregnancies	17	2
% Twin pregnancies	8,5	22,2

How many treatments?

If insemination with partner semen has not been successful after 3 treatment cycles, IVF or ICSI should be considered. IVF is more efficient but also more demanding. Please see our patient information about IVF-ICSI treatment.

For women with very long and irregular cycles (PCOS) it may make sense to perform up to six insemination cycles.

Age and insemination

The chance of getting pregnant and *give birth* with insemination treatment decreases considerably with age and becomes low after the woman has turned 40 years of age.

When the woman has turned 40 but not yet 41 the chance of giving birth after insemination is around 6% per insemination.

Because of these statistics we do not recommend insemination after the woman has turned 40, and we do not do insemination after the woman has turned 41.

In vitro fertilization (IVF) treatment is far more effective when the age is above 40. With IVF the chance of giving birth is around 15-20% for a woman who is 40 years old and around 13-15% for a 41-year old woman.

If insemination treatment is performed in women above 40 there is a quite high risk that she will use her last fertile months/years on a less efficient treatment. This may give a lower chance of ever obtaining pregnancy and childbirth because the time (age) for potential subsequent IVF is postponed.

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.

Sometimes hormone stimulation makes more follicles than desired grow. This may make it necessary to cancel the cycle and plan a subsequent cycle with a lower (or no) stimulation.

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 risk of complications – especially preterm delivery – is increased in twin pregnancies.

An ectopic pregnancy may occur in women who become pregnant by IUI treatment, but the risk is similar to the risk in spontaneous pregnancies.

Risk of ovarian cancer?

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

Acupuncture

Acupuncture is a classic Chinese treatment, which is also used, in modern 'Western' medicine. We offer acupuncture in connection with insemination treatment. There is no scientific evidence that acupuncture increases the chance of becoming pregnant.

Price list (IUI-H)

The prices are per treatment cycle.

Price List 01.09.2021	
Consultation prices (Covered with valid referral from Danish family doctor / GP)	
	DKK
First consultation.	1.250
Subsequent consultations that are not part of paid IUI treatment.	1.150
IUI-H prices	
Referral for both partners from Danish family doctor / GP.	0
Referral for the woman only.	1.350
Referral for the man only (includes one ultrasound scan)	2.600
No referral. Includes one ultrasound scan.	3.950
Ultrasound scan (when more than one ultrasound scan per cycle). No referral for the woman. Per scan.	1.150
Pregnancy scan - if more than one pregnancy scan. No referral for the woman. Per scan.	1.150
Acupuncture in relation to insemination treatment. For two acupuncture treatments.	1.200

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 three 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.

Physical exercise

Physical exercise is good – in moderation. Very hard physical exercise or training may reduce the chance of becoming pregnant. Most likely, high heart rate for extended periods reduces fertility.

We recommend exercise – but at moderate or low intensity.

Coffee/caffeine

Coffee, tea and cola contain caffeine. There is no indication that a moderate consumption of caffeine-containing beverages affects fertility. It is possible that a large consumption (more than 3-5 cups/glasses per day) may reduce the chance of becoming pregnant and may increase the risk of a miscarriage.

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. We advise you to discuss this subject with your doctor. It may be possible to switch to another medicine, which 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.

Pain-relief medicine

We recommend that you do not use pain-relievers of the 'NSAID' type (e.g. Brufen®, Iprel®, Diclon®) during fertility treatment. You may use paracetamol (e.g. Panodil®) if necessary, but you should also be careful with this, as some studies have shown a potential hormone-disrupting effect..

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 prior to fertility treatment. If she is not immune, she should be vaccinated because infection during pregnancy may cause serious foetal malformations.

Body weight

Underweight as well as overweight will reduce the chance of becoming pregnant. Overweight also increases the risk of complications during pregnancy and delivery. The so-called 'Body Mass Index' (BMI) which is calculated as follows may determine normal weight, underweight and overweight.

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

BMI between 20 and 25 is optimal. Your fertility may be reduced if your 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 of 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.

Opening hours, telephone hours and contact information

Opening hours

The clinic is open all days year-round, including weekends and holidays.

On weekdays, the opening hours are from 8-16 (8 a.m. – 4 p.m.).

Weekends and holidays we are open from 8-12 (a.m.).

In case of an emergency outside of our opening hours you should contact an emergency room or a doctor on call.

In the Copenhagen area in Denmark you may contact the 'Acute Phone' (1813).

Telephone numbers and opening hours

Phone: (+45) 3940 7000

Please find our telephone opening hours on weekdays, weekends and holidays on our website.

Address

Our address is:
Lundevangsvej 12
DK-2900 Hellerup
Denmark.

Email addresses

Due to security and because of the General Data Protection Regulation all email correspondence must be 'secure'. Please refer to 'Contact' information on our website www.trianglen.com.

Email contact to the clinic for patients

Please only use *secure email*, see 'Contact' information on our website www.trianglen.com.

If you send an email to us about an ongoing treatment please provide your *full* name and your *date of birth*.

There is more information on our website: trianglen.com and trianglen.dk

Links

Trianglen Fertility Clinic trianglen.dk
Danish Fertility Society fertilitetsselskab.dk
The Danish National Board of Health sst.dk
Danish Health and Medicine Authority dkma.dk
The Danish Patient Safety Authority stps.dk
The Agency of Family Law familieretshuset.dk
Sundhed.dk sundhed.dk
Medicin.dk medicin.dk - detailed information about medicine.

Notes

Overview over IUI-H treatment (with or without hormone stimulation – with ultrasound monitoring)

Day of menstrual cycle – The first day of 'real/heavy' bleeding is day 1

1st day of menstrual bleeding <i>Call our secretaries.</i>	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Tests (if relevant)					◀- HyCoSy (HysteroSalpingoUltrasound) if relevant-▶									
Without stimulation											Ovulation trigger (timing arranged with us)			
Clomiphene (+ injections)											Ovulation trigger (timing arranged with us)			
Stimulation with injections											Ovulation trigger (timing 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..

If planned you may take clomiphene tablets () (Clomid®/Pergotime®/similar) 50 mg in the morning and 50 mg in the evening. Injections () with Pergoveris®, Gonalf®, 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.