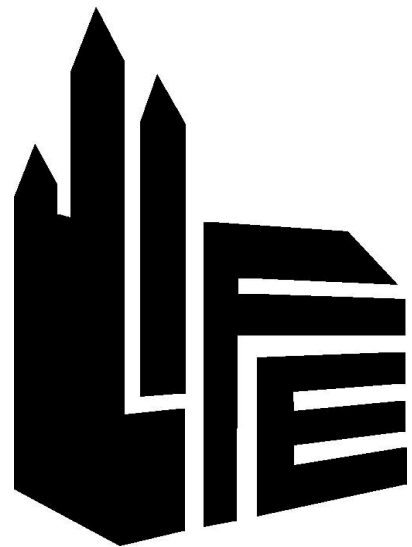


The Treatment cycle with In Vitro Fertilisation



The IVF treatment cycle

IVF treatment must be adapted to each patient individually. By doing this the doctor can take into account factors such as age, weight, the outcome of previous stimulation therapy, etc. when working out your individualised treatment plan. Nevertheless in each plan you can recognise a number of steps that continually reappear and we will go through them one by one below.

Preparation for the treatment

Before you can start any medication, the doctor must examine whether or not your ovaries look normal with the echography technique. If for example cysts, i.e. fluid-filled cavities, have developed in the ovaries, these have to be treated first. During the appointment with the doctor some blood will be taken to check if your hormone balance is normal. You should make good use of this consultation to question the doctor further about anything that is not quite clear to you.

1. The stimulation treatment

During the stimulation treatment you will be asked to take three different medicines. The first is a GnRH analogue or antagonist, the second is a product that contains FSH and the third is human chorionic gonadotropin (hCG).

1a. Medication used

a. GnRH analogue or antagonist

The GnRH analogue is a synthetic product that very strongly resembles the GnRH that your brain itself makes. The GnRH analogue is however 100 times more powerful and suppresses the action of the pituitary gland. We use it to prevent the pituitary suddenly deciding to initiate ovulation during the stimulation treatment. If it did so then without any warning the ova from all the mature follicles could be released into the abdominal cavity, making the follicle puncture procedure impossible.

A number of GnRH analogues can be obtained from the pharmacist that are all equally effective. We usually use the Suprefact nasal spray or Decapaptyl injections. The nasal spray Suprefact is administered in the form of "puffs". The standard treatment is 3 puffs three times a day. To avoid irritation in the mucous membrane of the nose it is best to alternate use of the left and right nostril. Other side effects that can sometimes appear are to do with the suppression of your hormones. In fact we temporarily bring you to a state of menopause. You could also temporarily be bothered by headache, hot flushes, mild irritability and somewhat irregular loss of blood from the vagina. If you experience these complaints it is naturally very tiresome, but the problems disappear again as soon as

you start having the FSH injections (see below). Furthermore these side effects don't have any effect on the outcome of your treatment. The nasal spray can be replaced by subcutaneous injections (Decapaptyl). These need to be administered every day.

The GnRH antagonist is a new medicine that does not suppress the cycle but is used to suppress ovulation. The administration of these injections starts the instant that the follicles have attained sufficient growth.

b. FSH

The FSH is used, as explained earlier, to encourage the ovaries to produce more egg cells. This is to ensure that when we perform the follicle puncture a sufficient number of ova is available for the in vitro fertilisation.

FSH is available in a number of different forms including Metrodin HP° Menopur°. The FSH in these preparations is prepared from human urine. Just now some new products are available (Gonal-F° and Puregon°) that contain synthetic FSH manufactured in a laboratory.

The FSH is supplied in the form of ampoules, which contain a powder that first has to be dissolved in the accompanying fluid; there is also the possibility of a dissolved form. The solution can be injected into the muscle (intramuscularly) or under the skin (subcutaneously). If you like, an appointment can be made to teach you how to administer these injections yourself. For certain medications the administration has been greatly simplified so you can do it yourself with no difficulty. In other cases you could get your GP or a nurse to come to your house. You can obtain more information from one of our counsellors by phoning 016/270190.

Because the growth of a large number of follicles is promoted the ovaries swell greatly. This can cause pain in the lower abdomen and cause a bloated feeling. However these side effects do not have a harmful effect on the outcome of your treatment cycle. If you are uneasy we will give you every possible support.

c. hCG

Human chorionic gonadotropin or hCG is likewise a hormone that is obtained from human urine. Its action is identical to that of LH. In a spontaneous cycle LH causes the ovulation. Using hCG we can initiate ovulation artificially during the stimulation. After the hCG injection the ova begin the vital phase of maturation, which is very important for fertilisation. The ova are typically released from the follicles approximately 36 hours after the injection of hCG. This is something that may not happen normally. Therefore follicular puncture is scheduled about 34 to 35 hours after the injection is performed, so that sufficient time is left to pick up the mature egg cells from the ovaries.

hCG is available in ampoules. Two forms are available: Pregnyl and Profasi. Like the FSH hCG must be dissolved in an accompanying fluid. It is injected intramuscularly. The exact time at which the injection must take place will be arranged.

1b. The stimulation schedules

The two treatment schedules that we use most frequently during IVF are the “long” and the “short” schedules.

a. The long schedule

In the long schedule the nasal spray (Suprefact) is started a number of days before you expect your period. Usually that is on the 25th day of the cycle. Your period will come and about 14 days after starting the nasal spray a blood test is done to check whether the spray has done its work. If the hormones in your body are still not sufficiently suppressed, you continue with the nasal spray.

Otherwise you are ready to start having the FSH injections (Menopur, Metrodin HP, Puregon, Gonal-F). Please note, you must continue the nasal spray during the injections!

The growth of the follicles must be checked regularly by echography and a blood test. The number of ampoules of FSH you have to have is sometimes adjusted depending on the results. If everything is going well, when the follicles are sufficiently large, you will be given an appointment for the follicle puncture. As explained before, you first have to have an injection of hCG (Pregnyl, Profasi). Make a careful note of exactly when the hCG has to be injected and when you are expected for the puncture. It is very important and now we are nearly ready, there must be no misunderstandings. Also make quite sure that you have not mixed up your ampoules of FSH (Menopur, Metrodin HP, Puregon, Gonal-F) and the hCG (Pregnyl, Profasi)!

b. The short schedule

In the short schedule the nasal spray is started on the 1st day of your period without preliminary echography. You start the injections on the 3rd day of your period. Apart from that there is little difference between this and the long schedule. You will likewise have to come for regular appointments to monitor the growth of the follicles with the short schedule. When the follicles have grown sufficiently, you will get an appointment for the follicular puncture and likewise be given a time at which you must have the hCG injection (Pregnyl, Profasi). Once again, please note everything carefully!

c. The antagonist schedule

In this the nasal spray is not used, as the cycle is no longer being suppressed. The stimulation schedule runs like for the short schedule, but from on average the sixth day an extra injection (the antagonist) is added. This prevents ovulation from occurring too early.

2. The follicle puncture

The stimulation has got a sufficient number of follicles growing, you have had the hCG (Pregnyl) on time and you are looking forward expectantly to the outcome of the follicle puncture procedure. What do you have to do for the follicle puncture?

a. Preparation

The exact timing of the follicle puncture will be arranged. You come to the hospital approximately 15 minutes before the agreed time (H. Hart Hospital, 5th floor, Naamsestraat 105, 3000 Leuven). You do not have to register and you make your way to the Unit for Reproductive Medicine (URG) on the 5th floor. There take your place in the waiting room where the nurse will come and call you.

Follicular puncture is a relatively short intervention that takes 15 - 20 minutes. The procedure is performed under mild sedation, which ensures that the puncture is painless. As a general anaesthetic is not required you do not have to go without food. After the procedure you might temporarily feel a bit light-headed because of the mild sedation, so you are not allowed to drive after the procedure. So make arrangements for your transport in advance.

The day of the puncture your husband will be asked to provide a sample of semen. If you live not too far away this can be brought from the house.

b. The operation

As the follicle puncture is performed under mild sedation, you can watch what is happening on the screen of the echography equipment. The husband is welcome to attend the puncture too if he wants to. The egg cells are sucked out via the vagina under echographic control. This means the fluid-filled vesicles are one by one pricked open and the contents aspirated (sucked out) and the fluid inside the follicle together with the ovum is collected in special containers. When the fluid-filled vesicles are "popped" a slight amount of bleeding sometimes ensues that will however stop by itself. The small amount of blood in the abdominal cavity may irritate the peritoneum. So pain in the lower abdomen after follicle puncture is not unusual. So the day of the operation make sure you take some painkilling medicine. Painkillers that are safe during early pregnancy are Perdolan Mono or Dafalgan.

During the next one or two days a small amount of blood might be lost from the vagina from the puncture site. This is not coming from the uterus and will not affect the progress of your treatment in any way. Follicle puncture is a safe technique that only very rarely gives rise to complications. Very rarely bleeding or an infection is caused in the abdominal cavity, which in most cases is easy to treat.

3. The IVF lab

The containers with the follicular fluid are taken immediately to the laboratory. This is where the work will be done with the ova and sperm. The day after the puncture a first evaluation of the number of fertilised ova can be made. You will be asked to phone the secretary to arrange the next appointment, for the embryo transfer. This will usually take place the second or third day after the puncture.

Transporting the egg cells

Due to decentralisation of our activities some patients will have the follicle puncture done at another hospital that is approved by the centre.

As soon as this has been performed the ova are handed to your husband in a small incubator. His job is to take the egg cells to the IVF laboratory in Leuven (the Unit for Reproductive Medicine (URG), H. Hart Hospital, Naamsestraat 105, 5th floor). He does not have to rush. He can plug the incubator into the cigarette lighter in his car, and it will then keep the contents at the correct temperature.

In the hospital he goes to the 5th floor and reports to the URG. This is located in the corridor opposite the lifts, 2nd door on the left. He will hand over the incubator with the egg cells to the embryologists.

One of the embryologists will show him to a room where he can produce a semen sample. Note that sexual abstinence for 2-3 days beforehand is probably optimal for generating the sperm sample.

After delivering the egg cells your husband can return to the day hospital and pick you up.

4. The embryo transfer

In the embryo transfer the embryos are introduced into the uterus by means of a fine catheter. This procedure is completely painless and does not require an anaesthetic.

Before this is done one of the technicians will discuss with you how the fertilisation process went and what results were obtained. He or she will tell you how many fertilised egg cells there were, the quality of the embryos, which of them can be transferred and which are of sufficiently good quality for freezing to be undertaken. In principle only 2 of the embryos will be returned to the woman.

By doing this we want to achieve two things: maximise the chance of a pregnancy and at the same time keep the chance of a multiple pregnancy as low as possible.

After the embryos have been transferred you have to stay lying down for a short while. But after that you can resume your normal activities. The cavity of the uterus is so sticky on the inside that there is no danger of the embryos "falling out". The only things we advise against are strenuous sporting activities. And it is best not to have sexual intercourse for the first four days after transfer.

If frozen embryos are available, the couple can decide to have them transferred during the following cycle. Hormone stimulation and follicle puncture do not have to be repeated, only the embryo transfer.

5. Supporting the luteal phase

Your embryos have been returned to the uterus. You are probably feeling very happy but also rather anxious. What if something goes wrong now? Such questions are entirely understandable, but there is not much more the doctor can do at this stage to increase your chances of pregnancy. It is really up to nature at this point. The doctor can of course make sure sufficient hormones are circulating in your blood, so that a resulting pregnancy will be promoted.

The most important hormone for pregnancy is progesterone. The doctor will prescribe this hormone in the form of vaginal tablets or injections. The tablets are introduced into the vagina, where they will melt and largely be absorbed. Still a small amount of vaginal loss is not unusual and you are advised to use a mini sanitary pad. You must begin to take progesterone the day after the follicle puncture. You must continue to take the prescribed dose until the result of your pregnancy test is known.

6. The pregnancy test

The pregnancy test is done on the 12th day after the follicle puncture. You have a blood sample taken in the usual way in the morning. You can phone the secretary for the result between 17:00 and 18:00 the same day. If the test is positive, another two samples are taken to confirm this, usually every 2 days. If these also confirm that you are pregnant, you will be given an appointment for your first pregnancy echography scan. This is usually done one month after follicle puncture.

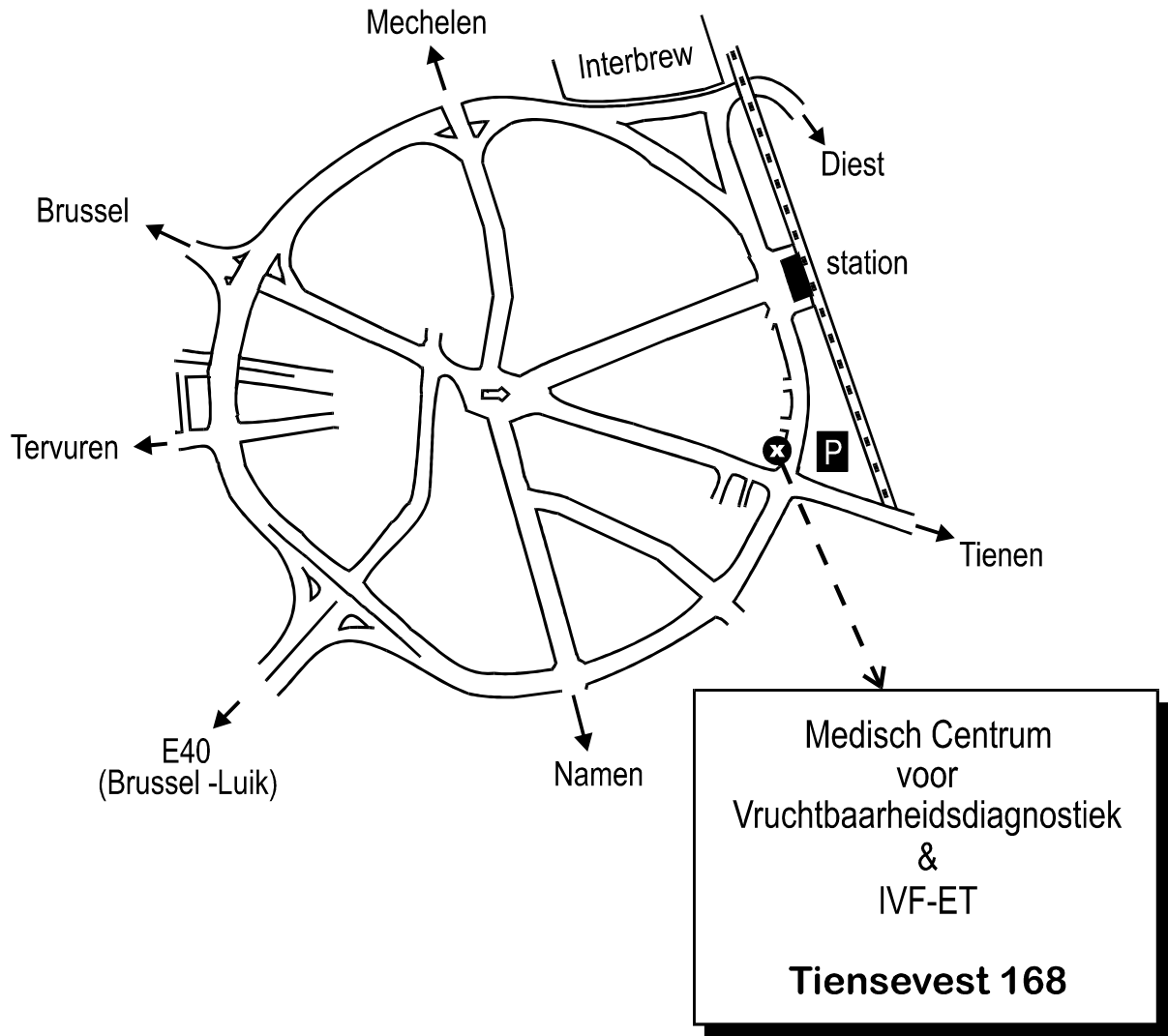
If your test is negative you will be invited to make an appointment to discuss things. At this appointment you will go over your results with the doctor. He will, where possible, indicate things that must be tackled differently next time. Nevertheless in the majority of cases it is not clear why an IVF cycle does not result in pregnancy. In fact many couples have to go through this procedure more than once before a pregnancy results. So when considering this it is useful to remember that when conceiving the chance of pregnancy is on average 20% with a spontaneous cycle. The average chance of success from an IVF sequence is 30-35%.

Where can you find us?

URG (Unit for Reproductive medicine)
In vitro fertilisation laboratory
H. Hart Hospital, 5th floor
Naamsestraat 105
3000 Leuven

Medical Centre for
Fertility Diagnosis
Consulting times and general secretariat
Tiensevest 168
3000 Leuven

Tel. : +32-16. 270190
Fax: + 32-16. 270197
E-mail: life@lifeleuven.be
Website: www.lifeleuven.be



Directions for finding us

- From Brussels: Take the E40 to Liege/Luik, take the Leuven exit (no number); turn right at the third traffic lights: this is the Leuven Ring.
 For H. Hart Hospital: at the Naamsepoort (first junction after the flyover) turn left. The hospital is on the right after about 1 km, there is parking inside.
 For the Medical Centre: at the Tiensepoort (third junction after the flyover) immediately after these lights you take the small road on the right parallel to the Ring for parking. The Medical Centre is located on the other side of the Ring.
- From Genk/Hasselt: Take the A2 - E314, exit 15 Leuven; at the 3rd traffic lights turn right; this is the Leuven Ring; same directions as above.

- From Luxembourg/ Namur: Take the A4 - E411, exit 8 Leuven; in Hamme-Mille turn left onto the N25 to Leuven; at the first traffic lights turn left to Leuven. This is Naamsesteenweg and brings you to the Naamsepoort - Leuven Ring.
For H. Hart Hospital: cross the Ring and continue down Naamsestraat.
For the Medical Centre: turn right onto the Ring; Tiensepoort is the 2nd set of traffic lights (see above).

Practical information

Partnership with satellite centres

We have arranged for the work to be divided between different hospitals if they possess the necessary expertise and infrastructure.

This decentralised way of working avoids unnecessary travel and enables the patient to be treated by “her” gynaecologist in “her” region without excessive interference in her professional or social activities.

The centre will provide you with the necessary information.

Practical information

If you come for an appointment it would be helpful if you could bring the following documents with you:

- The results of any investigations or treatments that have already been performed (possibly a summary of the findings of your GP and/or gynaecologist).
- The results of a sperm examination
- The results of a blood test

Hotel accommodation

Begijnhof Congresshotel	Tervuursevest 70	tel. 016/29 10 10
Binnenhof	Maria-Theresiastraat 65	tel. 016/20 55 92
Holiday Inn Garden Court	Alfons Smetsplein 7	tel. 016/31 76 00
Ibis Leuven Centrum	Brusselsestraat 52	tel. 016/29 31 11
Industrie	Martelarenplein 7	tel. 016/22 13 49
New Damshire	Schapenstraat 1	tel. 016/23 21 15

Tourist information

Toerisme Leuven	Grote Markt 9	tel. 016/21 15 39
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