

FERTILITY

Patient guidance

2. IVF/ICSI – long protocol

IVF/ICSI Treatment – long protocol

IVF is an abbreviation of 'In Vitro Fertilisation'. This means that fertilisation occurs outside the body (in vitro) in a test tube. IVF is also called 'test tube treatment' or 'artificial fertilisation'.

When can we offer IVF treatment?

- For blocked or damaged fallopian tubes due to, e.g., pelvic inflammatory disease or appendicitis, previous caesarean section or abdominal surgery
- For severe endometriosis
- When the woman or man has been sterilised
- Where pregnancy has not been achieved through insemination with partner or donor sperm.
- Where the man has reduced sperm quality

Course of your fertility treatment

On the next page you will find an overview of your fertility treatment with us. You should expect to make 5-6 visits to the fertility clinic.

Step 1: Preliminary consultation

You will first attend a preliminary consultation, at which we take good time to discuss your fertility treatment. An ultrasound scan is done of your uterus and ovaries, and we discuss your general state of health and ensure that you have undergone the necessary fertility review. On this basis, the doctor makes a plan for the optimal fertility treatment for you.

Step 2: Registration for treatment

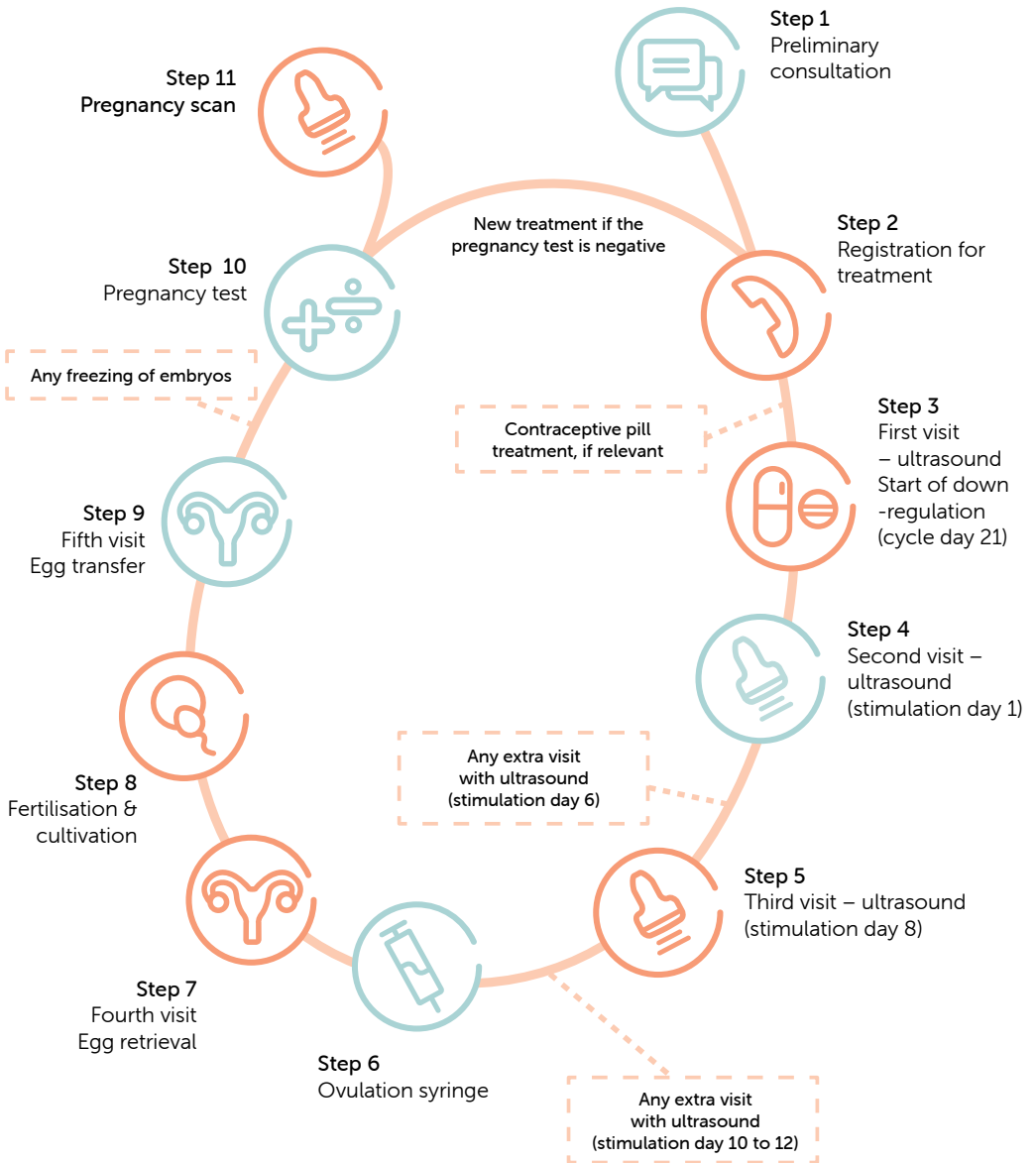
When you get your menstrual period, please contact us on telephone +45 3817 0740.

Visit www.aleris-fertility.dk for information about telephone hours.

Please provide us with information about:

- Your name
- Your civil registration (CPR) number
- The date of the first day of your menstrual period

Course of your fertility treatment



You are given an appointment for an ultrasound scan on cycle day 21. We use the term first cycle day for the day on which your period has really started.

NB – Pre-treatment with contraceptive –pills, if relevant

If you have irregular bleeding, i.e. a cycle of more than 35 days, or if you have a tendency to form cysts, you may be requested before the down-regulation to begin pre-treatment with contraceptive–pills from cycle day 3 or 4.

Another hormone called Provera may also be used. This can be used if the endometrium is more than 5 mm thick and will provoke a menstrual period. We find the pre-treatment that suits you best.

Step 3: First visit with ultrasound – down-regulation (cycle day 21)

On cycle day 21, you will arrive in the fertility clinic for an ultrasound scan of your uterus and ovaries to ensure that the time is optimal for starting down-regulation with either a nasal spray or injections. You can choose which option you prefer. The effect is the same.

The endometrium will be thick on cycle day 21, and there will be signs that there has been ovulation in one of the ovaries in the form of a collapsed follicle.

If you have been pre-treated with contraceptive pills, we may not see any signs of ovulation on the ultrasound scan, but instead see an endometrium that is affected by the contraceptive pill treatment.

When you take the down-regulation hormone, the pituitary gland inhibits the production of your own sex hormones FSH and LH.

The effect can be equated with you entering into a short-term menopausal- like condition. However, you will still get your menstrual period 7-12 days after starting the down-regulation hormone. The bleeding may be a slightly different to your usual bleeding. It may be slightly shorter, longer or arrive slightly later.

It is very important that you contact us if you have not had your menstrual period before your next visit to the fertility clinic. In such case, we will schedule a new appointment for you so that you do not visit the clinic in vain. It is important that you continue taking your down-regulation hormone.

The lack of menstruation may indicate that your own hormones have not been down-regulated yet or that you may have become naturally pregnant. If there is still no onset of your menstrual period, we will assess whether you need to have an ultrasound scan.

The main purpose of the down-regulation is to ensure that you do not ovulate before we retrieve the eggs, as your eggs will then have been wasted. Another purpose is to bring the ovaries in a condition that makes the hormone stimulation effective and easier to control.

If you have been pre-treated with contraceptive pills, you must continue to take the remaining contraceptive pills in the pack concurrently with the down-regulation hormone.

Step 4: Second visit with ultrasound (stimulation day 1)

After 14 days of down-regulation, you will visit the fertility clinic. You will again have an ultrasound scan to see if your ovaries have been down-regulated and whether the endometrium is thin, which it should be when you have just had your menstruation. Some women still bleed at this time, which does not prevent a scan of you. If everything is OK, the actual hormone stimulation can begin.

We call the day you start hormone stimulation 'first stimulation day'. The stimulation can be done with several different hormone preparations. All the preparations contain FSH and some of them also contain LH. Your doctor decides which preparation and dose will be best for your treatment.

FSH is the female sex hormone that your body already knows. It stimulates the formation of more than the one egg which you normally form each month. The hormone must be injected. The dose is individual and depends on your age, weight, number of follicles and AMH (anti-müllerian hormone).

You will continue with the down-regulating hormone in a smaller dose. This means that you will now take two types of medicine until the day on which you are to administer the ovulation syringe.

A nurse will instruct you in how to take your medicine, so that you can administer the injections yourself. You should inject the hormone in your stomach every evening at roughly the same time.

In the long treatment, the egg retrieval will take place on stimulation day 10 to 15.

Step 5: Third visit with ultrasound (stimulation day 8 or 9)

At this scan, we assess whether the hormone stimulation has meant that you have formed an adequate number of follicles (egg sacs). The quantity is individual. The size of the follicles is essential for when the eggs are to be retrieved. They can be retrieved when there are three follicles > 17 mm. We know that such eggs are mature.

Sometimes, it may be decided already on stimulation day 8 when you should take your ovulation syringe and when to arrive for egg retrieval. Other times, you may need an appointment for an extra ultrasound scan and any hormone dose adjustment.

Planning of egg retrieval

When the egg retrieval is planned, the nurse will instruct you in which medicine you are to take and when to take it.

You will be notified of when you are to arrive in the fertility clinic for egg retrieval.

If you have a partner who is to provide sperm for the treatment, you will be given a sperm cup.

Step 6: Ovulation syringe before egg retrieval

The day on which you are to administer the ovulation syringe you must stop taking:

- The stimulation hormone
- The down-regulation hormone

The ovulation hormone completes the maturation of the eggs. The injection is very important and must be administered at home at a very fixed time agreed with us.

If you accidentally forget to take the injection with the ovulation syringe, no eggs can be retrieved and this cycle must be cancelled.

Step 7: Egg retrieval

The day on which your eggs are to be retrieved, you and any partner must arrive at the fertility clinic at the agreed time. Many women find that they can be both nervous and tense before the egg retrieval. Therefore, we talk to you about how we can best support you so that your egg retrieval becomes a good experience.

The sperm sample – information for the man

The sperm sample and the accompanying form must be submitted on the egg retrieval day by agreement. On the form, you must fill in the following information:

- Name and civil registration (CPR) number of both you and your partner
- Date and time of sperm sample
- Your signature

You should avoid an ejaculation in the last 24 hours before the sample is taken. Prolonged abstinence does not improve the sperm quality.

The sperm sample is provided in the cup handed out to you. It is produced max. one hour before it is to be delivered. If you have a long journey time, you can produce the sperm sample in the fertility clinic.

It is important that the sample does not contain impurities and perfume. The sample must be provided by masturbation. During transport to the fertility clinic, the cup containing the sperm sample should be kept very close to the body, directly on the skin, so that it stays warm.

Upon receipt of the sperm sample, we check that the information on the sperm cup matches that on the supplied form.

In the laboratory, the sperm cells are separated from the sperm fluid and purified before being added to the eggs. This ensures that the fertilisation is done with the best sperm cells. In the last 8-10 weeks prior to an IVF treatment, you should avoid hot baths and saunas, as heat can affect the sperm cells. Illness with fever may also have a negative impact on sperm quality. Therefore, you must inform us if you have been ill with high fever > 38 C within the past three months before the treatment.

It sometimes happens that there are problems producing the sperm sample. If you know that this is a problem, talk to us about it beforehand. We can then agree on how to find a solution.

Sperm donor

If a sperm donor is to be used in your fertility treatment, we refer to separate patient information on the choice of sperm donor.

Preparation and pain relief

One hour before your scheduled egg retrieval, you will take 1 g paracetamol. If you wish, you may also be given a sedative tablet at the fertility clinic.

You will have a venflon (a small plastic cannula) inserted in a vein.

When the practical things have been taken care of, you can lie down, relax and listen to music.

Right before the egg retrieval, you will be asked to empty your bladder as this makes it easier to retrieve eggs.

The egg retrieval procedure

The doctor and laboratory staff will check your identity when you enter the room where the egg retrieval will be done. A doctor and a nurse will be present during the egg retrieval. The laboratory staff are in the room next door and are ready to receive the fluid from the follicles.

Before commencement, you have been given pain relief through a combination of paracetamol, a local anaesthesia which is placed at the top of the vagina and a morphine preparation.

We attach a small instrument to your finger which measures your pulse and your ability to oxygenate your blood.

During the egg retrieval, we will continuously tell you what is happening and supplement your analgesics if you need it.

The egg retrieval is done through the vagina with ultrasound guidance. The fertility doctor gently inserts a thin needle through the top of the vagina and into the follicles. These are clustered like a bunch of grapes, and it

is therefore most often only necessary to prick once or twice on each side. You are awake and can follow the procedure on the ultrasound screen, but you will probably feel a little drowsy/dizzy from the analgesics you have been given.

During the egg retrieval, the laboratory staff continuously receive fluid from the emptied follicles for examination for eggs. This work is done under microscope.

Not all follicles contain eggs. You will be informed about the number of eggs retrieved when all follicular fluid has been examined.

The actual egg retrieval takes about 10-15 minutes depending on the number of eggs and how easily they are retrieved.

Rest and precautions after egg retrieval

After the egg retrieval, you must rest in the fertility clinic for at least half an hour. When you feel ready and the dulling effect of the medicine has worn off, you can go home.

You will probably feel tired and need to rest for the remainder of the day. You must not drive a car for the rest of the day.

You can expect menstrual-like pain for 24 hours after the intervention, and you may be sore in the following days. You can take paracetamol against your pain, but, in as far as possible, you should avoid NSAIDs (Ipren, Brufen, Voltaren etc.).

You may also experience some subsequent bleeding. The bleeding comes from the pricks at the top of the vagina and is of no importance to your chances of getting pregnant.

The bleeding must be maximum equal to a severe menstrual bleeding. You must contact us if you experience increased bleeding, severe pain or a fever.

The egg transfer is scheduled for day 2, 3 or 5 after the egg retrieval.

Step 8: Fertilisation and cultivation of the eggs in the laboratory

On the egg retrieval day

After egg retrieval, each egg is placed in a bowl containing a cultivation medium. The eggs are then placed in an incubator (heating cabinet), where there is an optimal environment with the right pH value and temperature.

The eggs are fertilised with sperm cells a few hours after the egg retrieval.

There are two methods for fertilising the eggs:

- IVF (In Vitro Fertilisation)
- ICSI (Intracytoplasmic Sperm Injection)

IVF treatment

In IVF, sperm cells are added to the bowl with eggs. Within the following hours, the egg will be fertilised by a sperm cell. The proportion of eggs fertilised will depend on the quality of the eggs and sperm cells. The egg and sperm cell will take care of the fertilisation themselves in the same way as in the woman's fallopian tube.

As soon as a sperm cell has found its way into the egg, a process occurs in which the 'eggshell' blocks the entry of more sperm cells.

IVF is chosen when the sperm quality is regarded as so good that the natural fertilisation process can take place.

If IVF does not result in egg fertilisation and division, the doctor will recommend the ICSI fertilisation method for your next treatment.

ICSI treatment

ICSI is also known as 'IVF with microinsemination'. The procedure takes place under microscope and requires special equipment. We examine whether the egg is mature enough for fertilisation before, by means of the ICSI method, we help a single sperm into the mature egg with a thin pipette.

ICSI is offered in the following cases:

- Where the man has very poor sperm quality
- If the sperm has been aspirated from the testicles (TESA)
- Where very few or no eggs have been fertilised by IVF in previous attempts

The EmbryoScope+ technique

At Aleris Fertility, we use the new EmbryoScope+ technique for cultivation of fertilised eggs (embryos).

EmbryoScope+ provides the most optimal cultivation environment for your embryos and helps increase your chances of becoming pregnant.

EmbryoScope+ also has a built-in camera, which takes a picture of your embryos every 10 minutes and makes a time-lapse film of the development, so that we can continuously assess the development and quality of the eggs on a computer without removing them from their safe environment in the heating cabinet (the incubator).

The EmbryoViewer software allows us to select the embryos that are best suited for transfer and freezing.

The day after egg retrieval

The first sign of successful fertilisation is two pronuclei, which can normally be seen 18-20 hours after fertilisation.

The pronuclei contain the hereditary material from the sperm cell and from the egg. The membrane of the pronuclei is dissolved shortly afterwards, and the hereditary material from the egg and sperm cell merges. The egg now contains a complete set of chromosomes and is ready to continue its development.

If the egg is not fertilised, it will not divide itself and will therefore not be inserted in the uterus.

2, 3 or 5 days after egg retrieval

On day 2, some fertilised eggs may have split up into four cells and be completely regular, while others may have split up into two or three cells and be irregular or contain several nuclei.

The fertilised eggs are assessed in the laboratory according to a scoring system developed on the basis of the latest research.

Here, it is decided which fertilised eggs are suitable either to be:

- Transferred to the uterus on day 2, 3 or day 5
- Frozen at the blastocyst stage (day 5/6) – see section on freezing

Step 9: Egg transfer

Before we start the egg transfer to your uterus, you will be identified by both the doctor and the laboratory staff.

An egg transfer to the uterus is normally a pain-free procedure lasting only a few minutes. We usually only transfer one fertilised egg. The decision on one or two eggs depends on the quality of the eggs, your age, the number of previous attempts and the cause of your childlessness.

This is done in the same way as a ordinary gynaecological examination, in which the doctor inserts a thin catheter through the cervical canal and attaches/places the embryo surrounded by a bit of fluid in the uterus.

Before you leave the fertility clinic, you will be given an appointment for a pregnancy blood test. In addition, the further course of action will be planned in case you do not get pregnant.

After the egg transfer

You can leave the fertility clinic immediately after the egg transfer.

Hormone treatment

After the fertilised egg transfer, you will be treated with the pregnancy-sustaining hormone progesterone in your vagina. Progesterone is a natural hormone that you would produce yourself in a normal, unstimulated cycle.

Regardless of whether you arrive for an egg transfer on day 2, 3 or 5, you must start taking a progesterone supplement two days after egg retrieval.

Progesterone is taken until the pregnancy blood test 14 days later. If you start bleeding before the pregnancy test, you must continue taking progesterone until you have received your test result.

Precautions after egg transfer

After the egg transfer, it is very common to feel discomfort for 1-2 weeks in the form of an oppressive sensation, periodic 'stings' from the ovaries and a certain feeling of bloating. The reason for this is that the follicles fill up with fluid and that the ovaries have been stimulated. It may also be a consequence of the egg retrieval.

We know that an inappropriate lifestyle reduces your chances of getting pregnant. We recommend that you live as healthily as possible after the egg transfer and that you avoid hard physical training and hard work.

Freezing of eggs

If you have several fertilised eggs of good quality, they can be frozen for transfer to the uterus later on.

The method we use for freezing eggs is called vitrification, where the egg is stored in liquid nitrogen at -196°C . We only freeze those eggs that are of good quality.

We cannot predict whether there will be fertilised eggs suitable for freezing and how many there will be. Therefore, we prepare the following plan together with you:

- If we freeze the eggs, you will be sent a signed declaration in which we have entered the total number of fertilised eggs we have frozen.
- If the statement specifies 0 units, this means that there are no suitable eggs for freezing.

Step 10: Pregnancy test

Around 16 days after the egg retrieval, you must have a pregnancy test done in the form of a blood sample. It shows whether you have the pregnancy hormone hCG in your blood – that is whether you are pregnant. This type of test is more accurate than a urine sample.

It is important that the pregnancy test is done also even if you have begun bleeding.

You can choose to have the blood test done with us or in the hospital. In a few women, it may be necessary to repeat the blood test so that we can follow the development of the pregnancy. Too low increases may indicate an incipient abortion or give rise to suspicion of a pregnancy outside the uterus.

Positive pregnancy test

If the test is positive, you will be given an appointment for a pregnancy scan.

Step 11: Pregnancy scan

We perform a vaginal ultrasound scan approximately three weeks after a positive pregnancy test. You will then be seven or eight weeks pregnant because the pregnancy is counted from the egg retrieval day + two weeks.

The doctor checks for heart flashes and number of foetuses. By measuring the foetus from head to tail, the age of the foetus can be calculated and a future due date for the expected birth can thus be set.

You may choose to have a pregnancy scan done nearer your home if this is easiest for you.

If everything appears to be in order, you will receive information about the further course.

The fertility clinic collects information about the individual courses of pregnancy and childbirth to get an overview of the fertility clinic's results, which must be reported to the Danish Health Data Authority.

After you have completed your pregnancy, please fill in a form about the course of your pregnancy and childbirth. You will be given the form in connection with the pregnancy scan. Please fill it in and send it to us after you have given birth.

Why did I not get pregnant?

Unfortunately, we know little about why some women fail to get pregnant. Regardless of whether you have tried to get pregnant for a short or long time, it can be associated with great sadness, disappointment and a feeling of powerlessness if your pregnancy test is negative and you get your menstrual period.

You are always welcome to call us and schedule an appointment for a consultation with one of us. For many, it may also be a great help to talk to one of Aleris' psychologists to get some tools to handle the process and any depression.

The interval that our clients want before a new treatment differs. You take the break that you need.

Possible side effects and complications

Cancellation of treatment before egg retrieval. It may be necessary to discontinue the treatment if:

- The hormone treatment is not working satisfactorily
- The hormone stimulation has been excessive with a resulting risk of overstimulation
- If the woman is sick with fever during the treatment, this may result in a higher risk of infection after egg retrieval
- If the man gets a fever during the treatment, as this may affect the current sperm quality

Cancellation of egg transfer

In some cases, there is unfortunately no fertilisation or division of the eggs. In other cases, the eggs have divided themselves, but their quality cannot result in pregnancy. The reason for the lack of fertilisation/division may, for example, be the quality of the sperm and/or the eggs.

Another reason for cancellation of the egg transfer may be a risk of OHSS (Ovarian Hyperstimulation Syndrome). See further information below.

Regardless of the reason for the cancellation, we will talk to you about how we can optimise any new treatment.

OHSS (Ovarian Hyperstimulation Syndrome)

There is a risk of OHSS when more than 20 follicles are formed in a treatment. The risk is lower in connection with fewer follicles. We try to avoid this complication by stimulating individually and carefully. Some women nevertheless react unexpectedly and strongly to hormone stimulation.

OHSS symptoms may be extended abdomen, abdominal pain, nausea/vomiting, increased tendency to feel breathless or urination difficulties. This occurs due to fluid accumulation in the abdominal cavity.

In most cases, OHSS only manifests itself once you have become pregnant. If you suspect that you are becoming overstimulated, please contact us or call the emergency medical service. You should state that you are undergoing fertility treatment.

Bleeding after egg retrieval

There is almost always a little bleeding from the vagina after egg retrieval. The bleeding must be maximum equal to a severe menstrual bleeding. The blood comes from the pricks at the top of the vagina. It is of no importance to your chances of getting pregnant.

Pelvic inflammatory disease

Even if the egg retrieval is done in as sterile a manner as possible,

pelvic inflammatory disease may occur around the ovaries. The inflammation results in pain and fever. This complication is very rare and is treated with antibiotics. You can contact us, your own doctor or the medical emergency service at any time if you have any doubts.

Abdominal pain after egg retrieval/egg transfer

You can expect menstrual-like pain for 24 hours after the egg retrieval, and you may be more sore in the following days.

You can take paracetamol against your pain, but, in as far as possible, you should avoid NSAIDs (Ipren, Brufen, Voltaren etc.).

Pregnancy outside the uterus

The fertilised egg is transferred to the uterine cavity, but it may occur that the egg nevertheless moves out into the fallopian tube.

If a pregnancy outside the uterus is suspected, and you experience pain and/or bleeding, you must contact us, your own doctor or the medical emergency service.

Twin pregnancies

There is an increased incidence of twin pregnancies in connection with assisted reproduction. Twin births often occur prematurely and are generally associated with more complications and risks. The recommendation is therefore that only one fertilised egg is transferred to the uterus unless there is a medical reason for transferring two fertilised eggs.

Medicine: Effect and possible side effects

The down-regulation hormone

The down-regulation hormone inhibits production of FSH and LH in the pituitary gland. This prevents spontaneous ovulation.

The effect will cease as soon as you stop taking the hormone. It may cause transient hot flushes, headache, fatigue, dry mucous membranes and mood swings..

Stimulation treatment

Hormone preparations stimulate the ovaries to mature more than one egg. It may cause short-term burning and tenderness at the injection site. You may feel tired, and as the follicles grow, you can feel a sense of bloating and oppression in the abdomen.

The ovulation hormone

The ovulation hormone helps complete the maturation of the eggs. It is taken once approx. 34-35 hours before egg retrieval. This may cause local irritation at the injection site..

After-treatment (progesterone supplement)

Progesterone maintains the endometri-um and optimises the conditions for the fertilised egg to attach itself. It may cause fatigue, and you may feel breast tension, nausea and headache.

General side effects of medicine
All medicine may cause allergic reactions. However, this is extremely rare for the hormone preparations used. Other symptoms may include redness, swelling, itching, fever and, in extremely rare cases, respiratory difficulties.

Gyngemose Parkvej 66
DK - 2860 Søborg

Tel. +45 3817 0740

www.aleris-fertility.dk

Telephone hours

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Opening hours

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