

IVF treatment

patient information

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This brochure provides information on in vitro fertilisation, also referred to as IVF treatment.

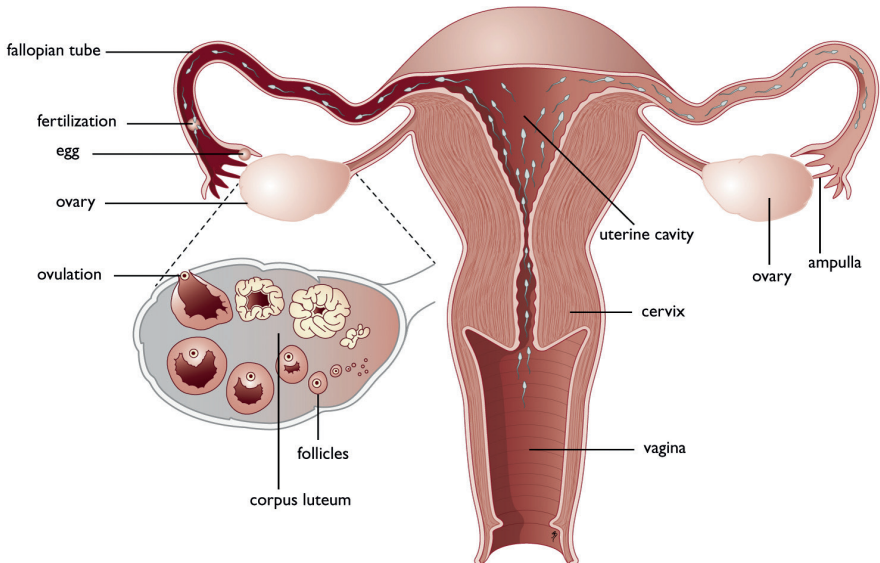
Should you have any further questions after reading this brochure, please don't hesitate to contact us. The doctors and midwives at the Leuven University Fertility Centre will be happy to provide further information.

THE MENSTRUAL CYCLE

The start of the menstrual cycle coincides with the presence of several small **follicles**. One of these follicles will grow and mature in the ovary over the course of the first 14 days.

As the follicle grows it will produce more and more hormones (oestrogen). The high oestrogen concentration will affect the endometrial lining and cervix. **Ovulation** will follow under the influence of the luteinising hormone. The mature follicle will tear and release the egg, approximately 14 days before the end of the menstrual cycle.

When the egg is released it is captured in the oviductal ampulla. The egg proceeds through the fallopian tube as a result of the rhythmic contractions of the uterus and **fallopian tube**.



What remains of the follicle after ovulation develops into a **corpus luteum** under the influence of the luteinising hormone.

In turn, the corpus luteum secretes progesterone, a hormone that maintains the endometrium. If the egg is not fertilised after ovulation the corpus luteum will not survive. Progesterone production will decrease and the endometrial lining will break down, resulting in menstruation.

IN VITRO FERTILISATION

IVF treatment **differs** from the normal menstrual cycle in several ways:

- ✓ Hormone injections are used to stimulate several follicles.
- ✓ Medication will be administered during IVF treatment to prevent spontaneous ovulation.
- ✓ Fertilisation will take place outside the body in the fertility laboratory. An embryo will be transferred into the uterus a few days after fertilisation.

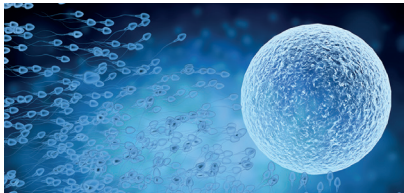
WHAT IS IVF TREATMENT?

In vitro fertilisation (IVF) is a form of fertility treatment in which hormones are administered in order to develop several eggs simultaneously.

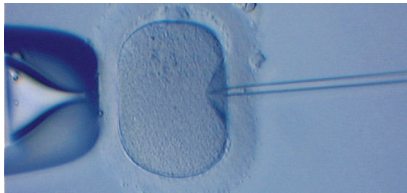
The eggs are fertilised outside the body in a fertility laboratory. A fertilised egg is referred to as an embryo.

A successfully developed embryo will be transferred into the uterus a few days after the ovum aspiration.

In some cases, e.g. with a poor quality sperm sample, the ICSI (intracytoplasmic sperm injection) technique may be used. During this process a single sperm cell is injected directly into the egg using a fine needle.



IVF technique



ICSI technique

INITIATING IVF TREATMENT

You can contact the Leuven University Fertility Centre at your own initiative or with a referral from a doctor.

Your initial consultation with the fertility centre will provide room for a [detailed consultation](#). In preparation of this initial

consultation, you will first have to complete a [questionnaire](#) at home. The fertility consultant will ask specific questions to get a clear understanding of your situation. Sometimes this consultation will be prepared by a specialist midwife. You will then be given information on [additional examinations](#) involving you and your partner. The examination phase may take up to two or three months.

Once all examinations have been completed a [consultation](#) will be arranged with the fertility consultant to discuss the results of the examinations. If these results show that a spontaneous pregnancy is highly unlikely, IVF/ICSI treatment may be an option.

Before starting fertility treatment, you will receive information on the various stages of the treatment. Information videos provide more explanation prior to your consultation with the [midwife](#). This is also when the [signed contracts](#) are handed over to schedule the start of the treatment.



IVF TREATMENT PROCEDURE

STEP 1: HORMONAL STIMULATION OF THE OVARIES

During IVF treatment several follicles will be stimulated to mature. To **stimulate the follicles** you will be given **daily hormone injections** for a period of approximately 14 days.

Follicle growth will be monitored via blood samples and ultrasound follicle measurements. Once sufficient follicles have matured the ovum aspiration will be scheduled.

Different types of hormones (gonadotropins) can be used to stimulate the follicles. The doctor will decide which hormones you will receive during your fertility treatment.



Gonadotropins contain follicle stimulating hormone (FSH), with or without luteinising hormone (LH), which stimulates the growth of follicles.

The hormones are administered daily via subcutaneous injections, which you, your GP or the home nurse can perform.

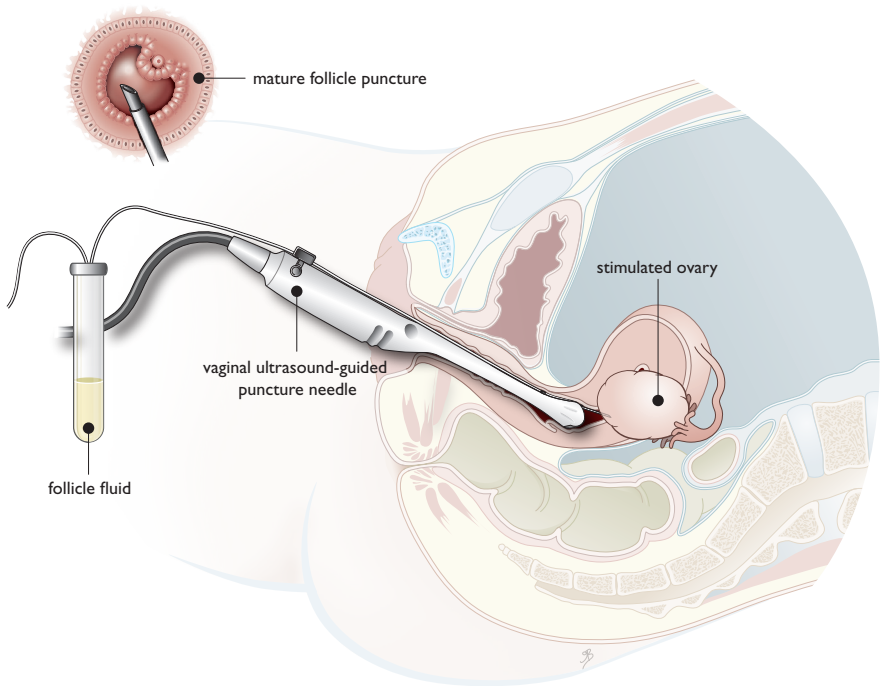
During IVF treatment you also need to take [hormones on a daily basis](#) using injections [in order to prevent ovulation](#).

STEP 2: OVUM ASPIRATION AND SPERM PROCESSING

Once sufficient follicles have matured the ovum aspiration will be scheduled. You will have to administer a single hormone injection in preparation of the ovum aspiration. This will trigger the eggs to mature and initiate the start of the ovulation process.

The subcutaneous hormone injection administered into your abdomen triggers ovulation. The timing of the injection depends on the time of the scheduled ovum aspiration. If you inject too soon or too late we may not find any eggs during the ovum aspiration. [You must inject the ovulation trigger exactly at the agreed time.](#)

Ovum aspiration will take place on average 36 hours after the injection of the ovulation trigger. During the ovum aspiration procedure a vaginal ultrasound-guided needle is inserted and suction is applied to aspirate all the mature follicles. This procedure is performed under a light anaesthetic. The follicle fluid is examined in the laboratory for the presence of an egg. The fertility doctor will tell you how many eggs there are on the day of the ovum aspiration. If the ovum aspiration is in a weekend, supplements may be charged.



Ovum aspiration: a vaginal ultrasound-guided needle is inserted and suction is applied to aspirate all the mature follicles.

On the day of the ovum aspiration your partner will be expected to produce or deliver a **sperm sample**, at/to the laboratory, unless frozen or donor samples are used. The sperm sample will be processed in preparation of the fertilisation.

STEP 3:

FERTILISATION AND DEVELOPMENT OF THE EMBRYO

The eggs and sperm are combined several hours after the ovum aspiration. Several fertilisation techniques exist.

- ✓ With **IVF treatment** the capacitated sperm sample is added to the eggs in a dish, which is placed in an incubator. The next morning the eggs are checked to see whether they have been fertilised.
- ✓ If the motile sperm count is too low to guarantee successful fertilisation of the eggs, the ICSI technique will be used. A single sperm is injected into the ovum using an ultra fine needle. Similar to IVF treatment, fertilisation is checked in the laboratory the following day.

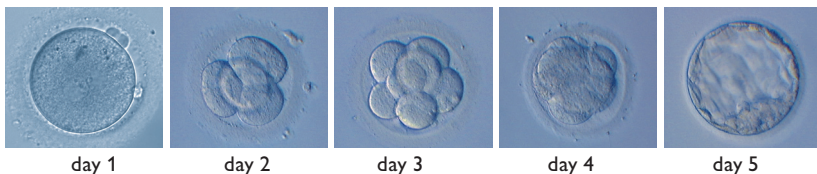
The midwife will call you the day after the ovum aspiration to communicate the results of the fertilisation.

If fertilisation was successful, the midwife also communicates the planning of the embryo transfer.

In some cases all embryos are frozen and transferred at a later time. If this is the case the doctor will inform you on the day of the ovum aspiration at the latest.

With good stimulation it is anticipated that approximately 80% of the eggs will have matured. On average 70% of mature eggs are fertilised.

Embryo development



A fertilised egg is referred to as an embryo. Embryos divide repeatedly. The evolution and development of the embryo is monitored daily in the fertility lab.

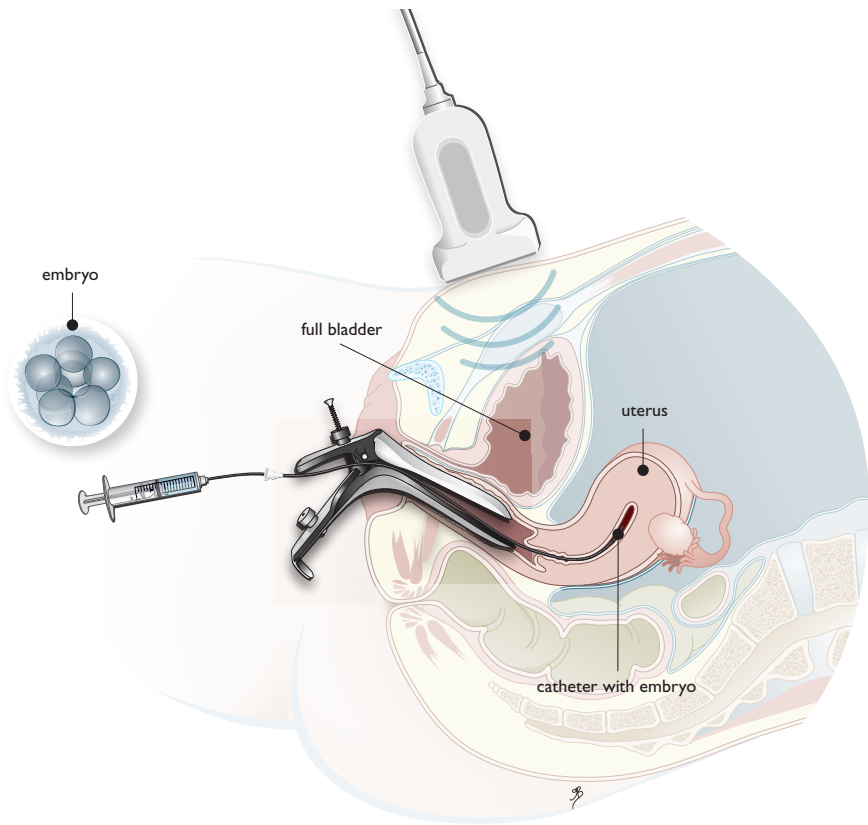
Three days after fertilisation a successfully developed embryo will have reached the six to ten cell stage.

STEP 4: EMBRYO TRANSFER

The doctor will discuss the embryo transfer policy with you before the fertility treatment. The transfer procedure during which one or more embryos are transferred via a catheter directly into the uterine cavity is not painful. It is important that your bladder is full to ensure that the embryo transfer runs smoothly. Once the embryo has been transferred you can return to your daily activities.

An embryo will be transferred three to five days after the eggs were collected. The doctor will provide more information on the number of fertilised eggs, the quality of the embryos and the possibility of freezing an embryo. The number of embryos that can be transferred is determined by law.

The fertility doctor will discuss the embryo transfer policy with you before starting the fertility treatment. For more information please read the section on 'legal age limits' further in this brochure.



The embryo is inserted/transfered into the uterine cavity via a catheter.

STEP 5: POST TREATMENT

Progesterone treatment will start on the evening of the ovum aspiration if an embryo is transferred in the same cycle. This is necessary to keep the endometrial lining in optimum condition during the second half of the cycle.

Fifteen days after the ovum aspiration the pregnancy hormone is measured via a blood test.

- ✓ If the **pregnancy test is positive**, a second blood test will be arranged a week later to check again. The midwife will discuss with you which medication you need to continue to use.
- ✓ If the **pregnancy test is negative**, a new treatment can be initiated. The doctor will discuss this with you during a consultation.

FREEZING EMBRYOS

If several embryos have developed successfully on the day of the embryo transfer, the remaining embryos will be frozen and stored. Only good quality embryos come into consideration for freezing.

If new fertility treatment is required, a frozen embryo will be used for the next embryo transfer. A frozen embryo will be transferred during a natural cycle or following the administration of hormone tablets.

POTENTIAL TREATMENT RISKS

OVERSTIMULATION OF THE OVARIES

The purpose of IVF/ICSI treatment is to mature several eggs at the same time.

In some cases the ovaries are overstimulated, resulting in the stimulation of a large number of follicles. The ovaries will enlarge which may lead to an accumulation of fluid in the lower abdomen. This is referred to as ovarian hyperstimulation syndrome (OHSS). Frequently occurring symptoms include pain in the lower abdomen, weight gain, difficulty breathing, stomach problems, dizziness or nausea.

If this occurs you must contact the fertility centre. We will perform a blood test and ultrasound scan to assess the severity of the situation. In most cases we will advise you to rest. In more severe cases you will need to be admitted to the hospital.

If there is a risk of OHSS during the stimulation phase, the doctor may decide not to transfer any embryos in the days after the ovum aspiration. In this case the embryos will be frozen and possibly transferred in a following cycle.

COMPLICATIONS FOLLOWING OVUM ASPIRATION

There is a small risk (less than 1%) of bleeding or infection following the ovum aspiration. If, soon after the ovum aspiration, you notice severe blood loss or develop a fever, you must contact the fertility centre.

LEGAL AGE LIMITS

In Belgium, ovum aspiration procedures are permitted up to the age of 46. The legal age limit for a frozen embryo transfer is 48 and can only be performed providing the application was submitted before the age of 46.

Since the Royal Decree dated July 2003 the [health insurance](#) contributes to the cost of IVF/ICSI treatments, with a maximum of six cycles up to and including the age of 42. Financial contributions from Belgian health insurance funds are subject to approval from the health insurance fund's medical adviser. Repayments are linked to a limitation in the number of transferred embryos, depending upon the woman's age and treatment sequence (see table).

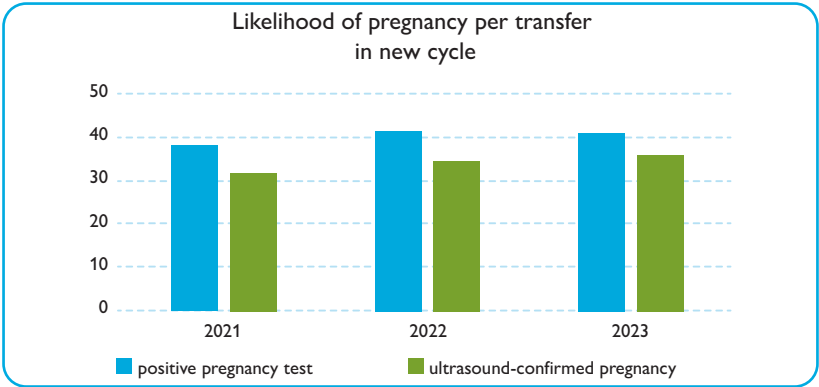
The following regulations apply to embryo transfers during IVF treatment:

	First attempt	Second attempt	Third up to and including sixth attempt
Below the age of 36	max. 1 embryo	1 embryo, potentially 2	max. 2 embryos
aged 36-39	max. 2 embryos	max. 2 embryos	max. 3 embryos
aged 40-42	unlimited	unlimited	unlimited

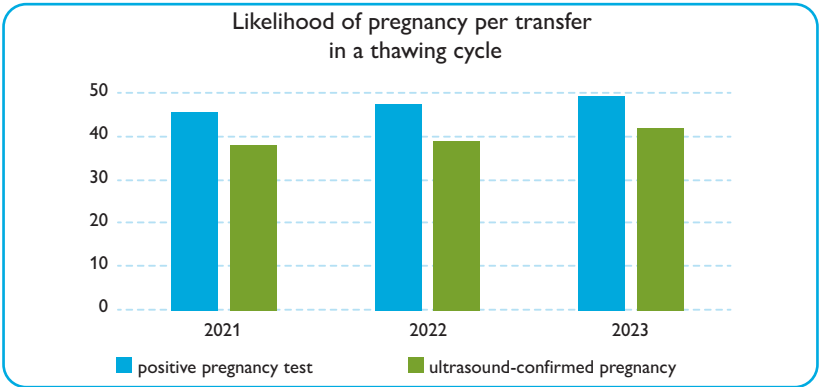
IVF TREATMENT RESULTS

The following tables show the **likelihood of pregnancy following an embryo transfer**.

In 2023, 41.1% of patients recorded a positive pregnancy test following an embryo transfer with an IVF/ICSI procedure. In 35.7% of patients this resulted in a clinical pregnancy, which means the pregnancy could be confirmed during an ultrasound scan.



The likelihood of pregnancy per embryo transfer is higher in a thawing cycle. In 2023, pregnancy hormone was recorded in the blood count of 49.1% of patients. Further progress to an ultrasound confirmation of a pregnancy amounted to 42.1%.



PSYCHOLOGICAL SUPPORT

Fertility problems or the start of fertility treatment are extremely emotional experiences.

You may be subject to various emotions and thoughts, continually changing in intensity and direction, at different times. Often, talking to your partner or someone close to you may help. If you feel there are still a number of unanswered questions you can request a consultation with our fertility psychologist.

Our psychologist will be happy to talk to you individually, or together with your partner, covering all the different aspects of fertility problems. Sufficient time will be taken to consider your specific concerns and the individual and relational decision-making process in detail. How can you talk about your experiences with your partner or your nearest and dearest? How do you manage insecurities, the highs and lows of the treatment process? Sometimes it may be a relief to be told that your feelings and thoughts are a normal part of the journey. Counseling is always possible, during the examination stage, the actual treatment or after its termination.

RELAXATION THERAPY

If you are under a lot of stress as a result of the treatment or a combination of different factors, our psychomotor therapist will be happy to provide support.

Psychomotor therapy is a type of therapy which **focuses on the body and body awareness**. This may help when stress manifests itself in physical complaints such as muscle tension, anxiety, sleeping badly, no longer being able to relax, pain, hyperventilation, etc.

Your specific symptoms are examined and the results used to jointly find a meaningful approach to deal with your particular situation. Various tips and techniques will be provided, tailored to your specific requirements, to help you along the way.

CONTACT DETAILS

Leuven University Fertility Centre

- Medical queries: 016 34 36 24
- Administrative queries: 016 34 36 50
- fertiliteitscentrum@uzleuven.be
- www.uzleuven.be/lufc
- Psychologist: Anneleen Rasquin
- Physiotherapist: Gillian Demin

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