



# FROM WANTING A CHILD TO HAVING A CHILD

## We give you our word

**The fulfilment of your greatest wish is our ultimate goal. We hold ourselves to ensuring that you feel looked after and well-advised, at all times.**

Around ten percent of all couples in Germany require medical help to fulfil their life's dream. The progress that has been made in reproductive medicine in recent years is impressive - the opportunities available now give much greater cause for hope than in the past. The chances of an infertile couple becoming pregnant with medical help are very good, around 65 to 70 percent.

This is why our patients, with their questions, worries and difficulties, are at the very centre of our concerns - you have our word. For us, an individual approach and personal atmosphere are just as important as the highest level of medical care when it comes to evaluating and treating your unfulfilled desire to have a child.

Our many years of experience have taught us: sometimes, our first attempt may not be successful. But patience and determination will pay off in the end.

On behalf of all my colleagues here:  
Welcome to Frankfurt Fertility Centre.

**Prof. Stefan Kissler**  
Medical Director



<b>1. Hoping for a baby: a few words to start with</b>	<b>6</b>
Fertility problems – why us? Is it me? Is it you? The first steps toward getting pregnant How good are the chances of getting pregnant?	
<b>2. Human reproduction</b>	<b>8</b>
<b>3. Infertility – possible causes</b>	<b>11</b>
<b>4. Medicines</b>	<b>13</b>
Clomiphene Human menopausal gonadotropin (hMG) Follicle stimulating hormone (FSH) Corifollitropin alfa GnRH antagonists GnRH agonists Human chorionic gonadotropin (hCG) Progesterone	
<b>5. Assisted reproductive technology</b>	<b>16</b>
<b>5.1 Overview of the methods</b>	<b>16</b>
Ovulation induction (OI) Intrauterine insemination (IUI) In-vitro fertilization (IVF) Intracytoplasmic sperm injection (ICSI) Assisted hatching Polar body biopsy Preimplantation genetic diagnosis (PIGD) Egg freezing (cryopreservation) Testicular sperm extraction (TESE) Microsurgical epididymal sperm aspiration (MESA)	

<b>5.2 Fertility treatment (IVF)</b>	<b>19</b>
Step one Promoting egg maturation (ovarian stimulation)	
Step two Monitoring egg maturation	
Step three Inducing ovulation	
Step four Egg retrieval procedure (ultrasound aspiration)	
Step five Sperm collection and processing	
Step six Fertilization of retrieved eggs and embryo growth	
Step seven Transferring the embryo(s)	
<b>6. Risks of fertility treatment</b>	<b>24</b>
<b>7. Advice for your fertility treatment</b>	<b>27</b>
<b>8. Fertility treatment and the law</b>	<b>30</b>
<b>9. Glossary</b>	<b>31</b>

# 1. Hoping for a baby: a few words to start with

## Fertility problems – why us?

First of all, you're not alone. Countless couples dreaming of a family are asking themselves the same question. Did you know that about one in seven couples in Germany today are involuntarily childless? And that the number of couples like you is increasing all the time?

Couples are defined as infertile if they have not been able to conceive a child despite having had frequent unprotected sex for a year or longer.

## Is it me? Is it you?

Inability to become pregnant is always a problem that affects both partners. Failure to conceive may be for many reasons: organic and psychological factors, occupational circumstances, the woman's age, lifestyle, diet, cigarettes, alcohol and environment all have a major impact on fertility.



Organic causes of infertility are as common in the male partner (about 40%) as in the woman (about 40%) and may be diagnosed in both partners (about 20%).

No apparent cause of infertility is identified in only about 10% - 20% of couples who are having problems conceiving.

Even if the problem lies in the male partner, the treatment still involves the woman in most cases.

## The first steps toward getting pregnant

It starts with special tests to get a definite diagnosis. Because there are so many possible reasons for infertility, the tests take a lot of time and are always done in both partners. Once a definite cause (or causes) has been established, an individualized treatment plan is designed on the basis of your diagnosis. The doctor will then discuss this plan, the duration of treatment and each individual step with you in detail.

## How good are the chances of getting pregnant?

The average pregnancy rate after embryo transfer in IVF treatment is 20–30%. To compare: a healthy couple having frequent unprotected sex also has an approximately 20-30% chance of getting pregnant in a single cycle.

Your doctor will be able to tell you more about your individual chances of a successful pregnancy. The nature and severity of the infertility problem and the woman's age are factors that always need to be taken into account when estimating an individual couple's chances of success.

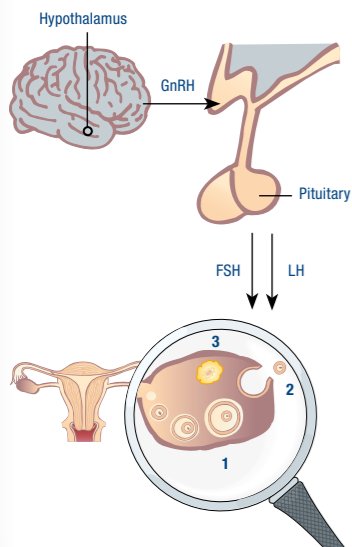
## 2. Human reproduction

**Conception and pregnancy – which may seem the easiest thing in the world – is an extremely delicate and highly complex process.**

### What happens in the menstrual cycle?

Hormones produced in the hypothalamus and pituitary gland in the woman’s brain stimulate the ovaries to produce mature egg cells ready for fertilization once a month.

#### PRODUCTION OF FSH AND LH



**FSH and LH are hormones produced in the pituitary gland and cause:**

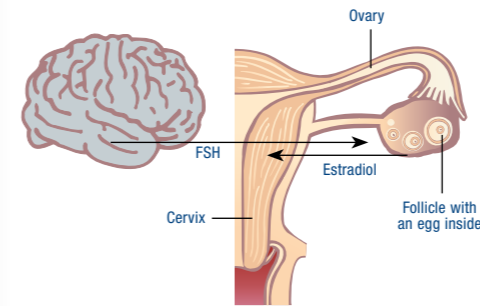
- 1** Follicle growth and maturation of the egg inside
- 2** Egg release from the ovaries
- 3** Corpus luteum development and activity

GnRH (gonadotropin releasing hormone), a hormone released by the hypothalamus, stimulates the pituitary gland to release sex hormones called FSH (follicle-stimulating hormone) and LH (luteinizing hormone).

**FSH and LH then act on the ovaries:**

- During the first half of your cycle, FSH promotes the growth and development of – usually – one follicle. The egg matures in the enlarging follicle.
- LH causes release of the egg from the ovary (ovulation) in mid-cycle.

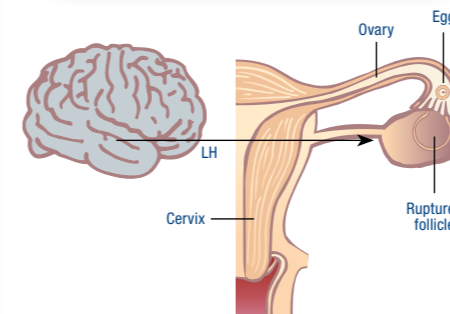
#### FIRST HALF OF THE CYCLE



#### First half of the cycle (approx. day 1-14)

Under the influence of FSH, a follicle enlarges and starts producing increasing amounts of estrogens. These estrogens thicken the lining of your womb, open the neck of the womb (cervix) by a couple of millimeters and make sure that mucus is produced as needed.

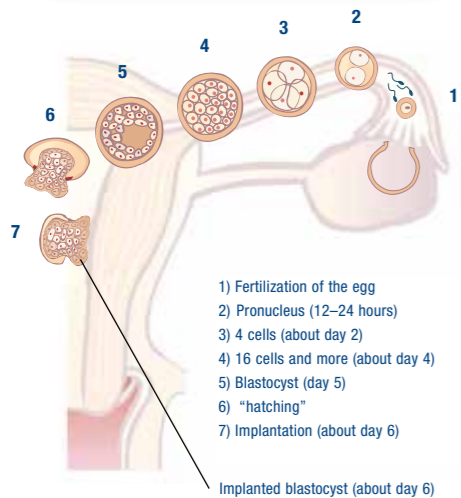
#### MID-CYCLE



#### Mid-cycle (approx. day 14-16)

A surge in LH production, usually from day 12 to 14, triggers release of the egg from the ovary (ovulation) the next day. The follicle ruptures and the fringes (fimbriae) on the funnel-shaped end of the fallopian tube sweep the mature egg into the fallopian tube. The remnants of the follicle form a structure called the corpus luteum. This releases a hormone called progesterone. Progesterone prepares the lining of the womb to enable the fertilized egg to implant and is responsible for maintaining pregnancy.

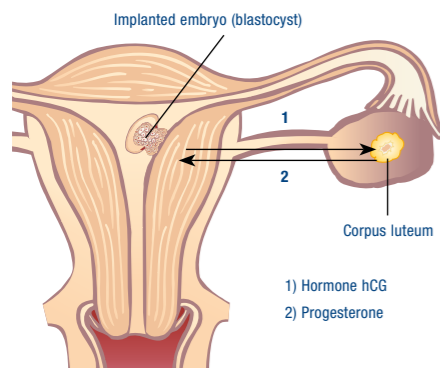
FERTILIZATION



Fertilization

Fertile spermatozoa (sperm) must first pass through the cervical mucus barrier, then through the uterus and finally through part of the fallopian tube until one of the sperm cells can burrow into the egg. The genes from the mother and father fuse, cell division begins and new life can form. Fallopian tube movements transport this early embryo into the uterus (day 2–5). The embryo reaches the womb after about 5 days and embeds (day 6–7). The pregnancy begins.

DAY 6–7 AFTER OVULATION AND FERTILIZATION



Day 6–7 after ovulation and fertilization

The embryo has embedded in the suitably prepared lining of the womb. It releases hormones (mainly the pregnancy hormone, hCG) to indicate to the ovary that implantation has taken place. The corpus luteum is preserved as a result and produces progesterone, the hormone responsible for maintaining pregnancy.

3. Infertility – possible causes

The organic causes of infertility in you, your partner or both of you can be diagnosed and are treatable in most cases. The center treating you will be happy to advise you on ways to improve your external circumstances (job, lifestyle, diet, environment) and cope emotionally with your situation.

♀ IN WOMEN\*

- Disorders of hormone production in the hypothalamus, pituitary gland, thyroid gland, adrenal cortex or ovaries that may interfere with egg maturation
- Abnormalities of the ovaries, fallopian tubes or uterus
- Endometriosis: tissue that normally grows in the uterus grows elsewhere, for example in the fallopian tubes, ovaries or bladder
- Autoimmune response: your body develops antibodies to eggs or sperm

♂ IN MEN\*

- Impairment or absence of testicular function, for example as a result of a childhood mumps infection. This can cause a low sperm count or abnormally shaped sperm.
- Defects or blockage of the tubules that carry sperm
- Testicular infection, undescended testicles or varicose veins of the testicles
- Congenital abnormalities of the testicles

\* Other causes are possible

What if there is no identifiable cause? The fallopian tubes are open, sperm quality is good, ovulation is regular and both of you are otherwise healthy in every respect – but you're still having no luck conceiving? Even then, fertility treatment may be an option for you.

## 4. Medicines

This section outlines some of the medicines used for infertility treatment. For further details and to find out more about the risks and side effects, always ask your doctor.

### Clomiphene

Clomiphene is an oral medicine to induce ovulation. It is used to trigger release of the egg into the ovary in women with infertility due to non-ovulation. Before starting treatment, the couple should be checked for other causes of infertility in the woman and possible infertility of her male partner.

### Human menopausal gonadotropin (hMG)

The active substance for drug treatment is extracted from the urine of postmenopausal women. It is called human menopausal gonadotropin or hMG. Menopausal gonadotropins contain a certain amount of LH (luteinizing hormone) as well as FSH.

### Follicle stimulating hormone (FSH)

FSH is an important medicine in the treatment of infertility. It is obtained either by extraction from the urine of postmenopausal women followed by purification (urinary FSH, uFSH) or produced by biotechnology (recombinant FSH, rFSH). Like the FSH produced by the pituitary gland, both hormones stimulate the ovaries and in that way promote egg maturation. How the ovaries respond to these hormones depends on various factors, including dosage, and differs from person to person.

**Corifollitropin alfa**

Corifollitropin alfa is a fertility hormone for controlled ovarian stimulation. When used for assisted reproduction, it is injected only once per treatment cycle in a specific treatment protocol rather than on seven successive days per treatment cycle, as would be the case for uFSH (urinary follicle stimulating hormone) and rFSH (recombinant follicle stimulating hormone). It has long-lasting FSH activity and promotes follicle growth for seven days.

**GnRH antagonists**

GnRH antagonists have been available in Germany for stimulation treatment since 1999. GnRH antagonists prevent a premature LH surge and in that way enable precisely timed ovulation on a specific day after stimulation of the ovaries and egg maturation. This allows individually controlled treatment.

**GnRH agonists**

Before GnRH antagonists became available, GnRH agonists were used for pituitary gland regulation in infertility treatment, again to prevent premature ovulation. This enables ovulation to be timed precisely to take place on a given day. Because of the mechanism of action involved, treatment with GnRH agonists takes longer than with GnRH antagonists.

**Human chorionic gonadotropin (hCG)**

Human chorionic gonadotropin (hCG) is important to maintain pregnancy and is formed in the placenta. It is used in infertility treatment to induce ovulation and for luteal support.

**Progesterone**

Progesterone is the main corpus luteum hormone. Its activities include preparing the lining of the uterus for implantation of the embryo.





## 5. Assisted reproductive technology

Infertility treatment is teamwork. The core members of the team are you and your partner, the doctors, lab employees and helpers. Everyone contributes their share.

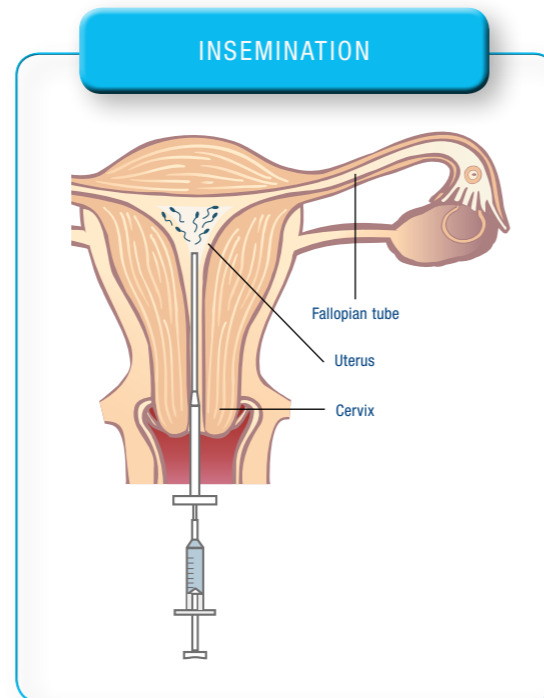
### 5.1 Overview of the methods

#### Ovulation induction (OI)

Treatment with medicines to stimulate ovulation is often the first step if the woman is not ovulating. The aim here is to induce ovulation. Fertilization can then take place by normal sexual intercourse within a set period of time or by intrauterine insemination (see below).

#### Intrauterine insemination (IUI)

Specially prepared “washed” sperm are placed in the woman’s uterus using a long narrow tube. Insemination is the method of choice where there is moderate impairment of male fertility.



#### IVF

... stands for in-vitro fertilization. The method has undergone continuous improvement and refinement since the birth of the first “test tube baby”, Louise, in England in 1978. During IVF, eggs are taken following stimulation and incubated together with the man’s sperm outside the woman’s body.

The fertilized eggs or embryos are then placed into the woman’s uterus (embryo transfer).

#### Intracytoplasmic sperm injection (ICSI)

ICSI is a measure used in addition to IVF in circumstances such as poor sperm quality. The processes are all identical to those for IVF apart from the method used to obtain the egg.

A holding pipette stabilizes the egg. Under a special microscope, a single sperm is collected by suction in a thin pipette and injected directly into the egg. Also called microinjection, ICSI thus mimics the natural penetration of an egg by a sperm.

#### Assisted hatching

In the early stage of embryonal development, the embryo is surrounded by a shell called the zona pellucida. To attach successfully to the wall of the womb, the embryo first needs to rid itself of the zona pellucida. This process is called “hatching”. To make “hatching” easier for the embryo, it is possible to “scratch” or cut a hole in the zona using a laser. This procedure is called assisted hatching.

#### Polar body biopsy

Polar body biopsy screens for certain egg chromosome abnormalities. It can be useful for couples who want to make sure that their baby does not have a genetic disease known to exist on the mother’s side.

#### Preimplantation genetic diagnosis (PIGD)

This procedure to investigate the embryo’s genes is allowed if the parents have a specific genetic condition that would be likely to result in a severe genetic disease in their child or an increased likelihood of stillbirth or pregnancy loss.

**Egg freezing (cryopreservation)**

Cryopreservation or freezing is used to preserve “spare eggs” (impregnated oocytes or pronuclear-stage zygotes).

These eggs can later be thawed, cultured and transferred to the uterus in the embryo stage following fertilization. The method is well established and requires no further maturation of the egg during stimulation treatment and no subsequent follicular aspiration.

**Testicular sperm extraction (TESE)**

TESE stands for testicular sperm extraction by means of testicular biopsy. Sperm obtained by this method can only be used to fertilize an egg by ICSI. Testicular biopsy is actually a diagnostic method to estimate the chances of success if the results of semen analysis are very unfavorable.

**Microsurgical epididymal sperm aspiration (MESA)**

A minor procedure used to take tissue samples from epididymal tubules likely to contain sperm. This method is used in combination with IVF or ICSI in men with physical obstruction of the seminal tracts.

**5.2 Fertility treatment (IVF)**

Treatment involves seven steps:

**Step one****Promoting egg maturation (ovarian stimulation)**

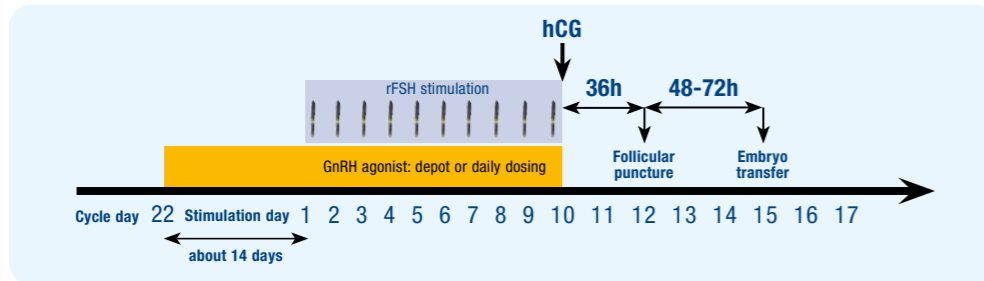
Although it's possible to have fertility treatment on the basis of a spontaneous menstrual cycle, hormonal stimulation of egg maturation makes sense. Why? In a natural cycle, normally only one egg matures. This equates with a relatively slim chance of embryo transfer during IVF or ICSI. Stimulation increases the chances because several follicles are stimulated with the aim of obtaining more eggs.

**Essentially the following stimulation methods are used:**

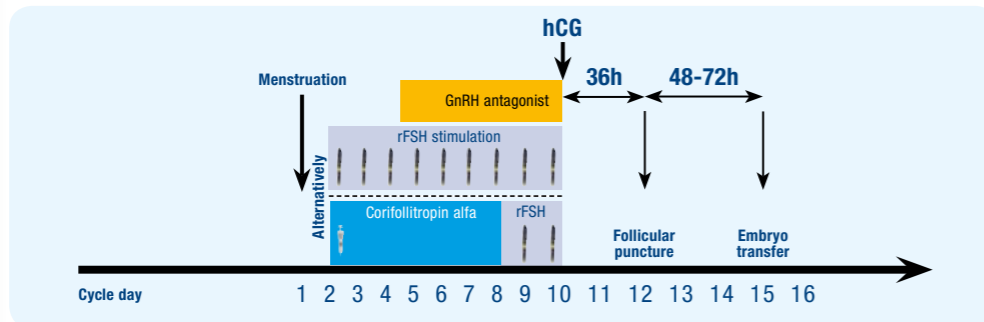
- uFSH/rFSH or hMG injections
- Combination of uFSH/rFSH or hMG stimulation with a GnRH agonist. GnRh agonist treatment starts either in the second half of the previous cycle (long protocol) or about the same time as FSH/hMG treatment (short protocol).
- Combination of uFSH/rFSH or hMG stimulation with a GnRH antagonist. This is given after starting follicle stimulation (from about the 5th or 6th day of stimulation) (antagonist protocol). Combination of corifollitropin alfa with a GnRH antagonist. This is administered from the 5th or 6th day of stimulation. Further treatment with uFSH/rFSH may be necessary.

TREATMENT EXAMPLES

Example: agonist protocol



Example: antagonist protocol



These treatment regimens are just an example. Your IVF center will work out a treatment plan specially for you which may differ from this one.

Step two

Monitoring egg maturation

An ultrasound scan will be done at the start of treatment to see whether your ovaries and uterus are ready for stimulation treatment. The growing follicles are monitored by ultrasound during stimulation treatment. The hormone levels in your blood will be measured if necessary. This approach determines the best time to induce ovulation to obtain mature fertile eggs.

Step three

Inducing ovulation

Ovulation is induced by administering an injection of hCG once hormone and ultrasound monitoring shows that the follicles are mature enough. The follicles are collected (by aspiration) about 36 hours after the injection. If there are problems of any kind, treatment will be stopped for your safety.

Step four

Egg retrieval procedure (ultrasound aspiration)

The follicles are aspirated under ultrasound guidance. The health care provider uses a fine needle to collect eggs from the mature follicles. To make the procedure easier for you, it is performed under brief light general anesthesia or with the aid of painkillers/sedatives. The procedure is walk-in, walk-out.

Step five

Sperm collection and processing

Collecting sperm sounds easy but may be trickier than people think. It's understandable if the thought of it makes you uncomfortable. The best policy is to be open about the topic. It is for you alone to decide where you want to masturbate – at home, in private and undisturbed in a room at the fertility center, or in a hotel bedroom. The important thing is that your sperm arrive at the lab uncontaminated as soon as possible after collection.

Motile sperm are concentrated using a special processing method and isolated from the prostatic fluid. Other processing methods are possible if the sperm quality is significantly impaired.

## Step six

### Fertilization of retrieved eggs and embryo growth

The sperm collected for IVF treatment is prepared in the lab. Motile sperm are added to the eggs in the incubation fluid several hours later.

The eggs and sperm are kept in an incubator at 37°C, then checked after a while to see if fertilization (impregnation) has taken place. If that is the case, the embryo can be transferred to the uterus.

Every step of the ICSI method is the same as for IVF with the exception of fertilization.

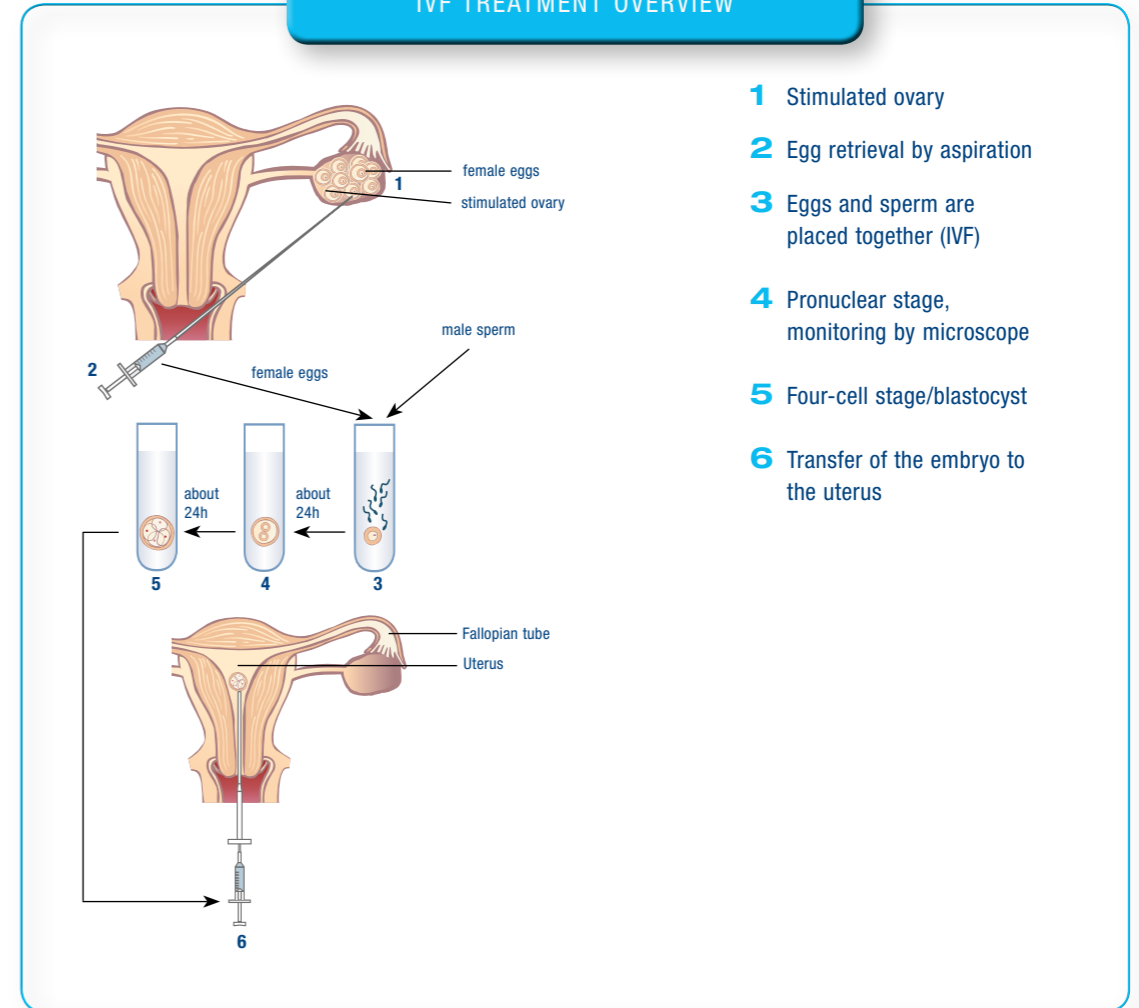
## Step seven

### Transferring the embryo(s)

If at least one viable embryo has matured in the culture medium, it is collected in a thin, flexible tube (catheter) with a tiny amount of culture medium and transferred to the uterus. The transfer procedure is generally painless. An instrument may be needed to stretch the uterus to make insertion of the transfer catheter easier.



## IVF TREATMENT OVERVIEW



## 6. Risks of fertility treatment

Fertility treatment is associated with opportunities and risks. You should be aware of them if you choose this option.

### The risks\*

#### Follicular aspiration (egg retrieval)

Follicular aspiration is a surgical procedure and thus involves risk on that account. Anesthesia brings its own risks. Ultrasound-guided follicular aspiration may be associated with complications such as injury to neighboring organs. However, this risk is low.

#### Multiple birth

Having a multiple birth is an increased health risk for the mother and her children. Multiple births and specific characteristics of couples with fertility problems (for example, the woman's age, certain sperm function disorders, an unfavorable genetic history in both parents) may be associated with an increased likelihood of birth defects.

#### Ectopic pregnancy

An embryo may migrate from the uterus into the fallopian tube, resulting in an ectopic pregnancy (pregnancy outside the uterus). Regular monitoring and immediate intervention can help reduce the risk of complications.

#### Pregnancy loss and birth defects

About 15% of all pregnancies in Germany end in miscarriage. The rate with fertility treatment is 20% – 25%, depending on the underlying problem. The risk of birth defects is also slightly higher. However, it's important to remember that women receiving fertility treatment are older on average during pregnancy than women who conceive naturally, and the risk of birth defects increases naturally with age.

\* The Risks section only contains a selection of possible events

#### Ovarian hyperstimulation syndrome (OHSS)

Treatment with hormones to stimulate egg maturation can cause ovarian hyperstimulation syndrome (OHSS). This is a serious condition in which the ovaries are overstimulated and the follicles grow to be larger than normal. In rare cases, severe OHSS may be life-threatening, so close monitoring by your doctor is very important. To monitor the effects of treatment, your doctor will examine your ovaries by ultrasound. Your doctor may also monitor the hormone levels in your blood.

OHSS causes a sudden buildup of fluid in your abdomen and chest, and blood clots may form. Call your doctor immediately if you have the following symptoms:

- major swelling of the abdomen and abdominal (pelvic) pain
- nausea (feeling sick to your stomach)
- vomiting (throwing up)
- sudden weight gain due to fluid retention
- diarrhea
- decreased urine output
- shortness of breath.

Before starting fertility treatment, tell your doctor if you ever had ovarian hyperstimulation syndrome (OHSS).

#### Pregnancy

Pregnancy is not a risk in the strictest sense of the term; you want to have a child, after all. However, a pregnancy can cause complications. As with any pregnancy, there is always a small risk of a genetic disorder, birth defect or miscarriage.

## 7. Advice for your fertility treatment

The treatment does not revolve around the medical devices and methods that make fertility treatment possible. It revolves around you, your partner and your relationship, with all your wishes, hopes, anxieties and doubts. Fertility treatment is a very personal thing for both of you. And so it should be.

Try to take a calm and relaxed approach. You'll notice that the more relaxed you are, the easier you will find the treatment process.

A big part of your doctor's job is to support you on that route, be a partner and stay attuned to your concerns. Communication with your doctor is very important. Your doctor may ask you some very personal questions during your consultations.

Some of those questions may make you feel uncomfortable but are part of the process and may give you strength when you have worked out the answers in your own mind.

Questions may include:

- Which of you suffers the most from being childless?
- What are your anxieties and fears about the treatment?
- How far are you prepared to go, where are your limits?
- What about adoption?
- Can you picture life without a child?

If you have any questions at all, medical or personal – your health care provider team is there to help. Whatever you want to know, don't hesitate to ask.

Vent once in a while if you feel like it. If the treatment is getting to be too much for you, say so!



Don't force yourself. And – be your own person! Easier said than done, but don't put pressure on yourself. It accomplishes nothing – on the contrary. Let go but don't give up!

The days following embryo transfer may be a difficult period for you, a time of hopes and fears. However hard it may be, try to be calm and relax. It's the best thing you can do.

Another thing, although it may be difficult at times: Stay spontaneous during the fertility treatment. Remember how to laugh. Don't just have sex on a schedule but make love whenever you feel like it.

It is very important to plan intervals without treatment, usually for two to three months, sometimes longer. Back-to-back treatment cycles are not a good idea. Spontaneous pregnancies sometimes occur during these interruptions.

Lead a healthy lifestyle and be good to yourself during your treatment:

- Plenty of fresh fruit, vegetables and salad, light meals several times a day instead of one big one – keep your appetite up!
- Give yourself the sleep you need.
- Enjoy a type of exercise that you love. In moderation, but regularly.
- Take a relaxing break here and there during your daily routine.
- Smoking has a negative impact on fertility treatment. Cut down on your smoking or, even better, quit outright.

## Self-help groups

Do you like the idea of sharing experiences with other involuntarily childless couples?

If so, contact:

### **Wunschkind e.V.**

c.o. Gabriele Ziegler  
Metzgeshauser Weg 20  
42489 Wülfrath

Telephone: 0180/500 21 66

Homepage: [www.wunschkind.de](http://www.wunschkind.de)

Email: [kontakt@wunschkind.de](mailto:kontakt@wunschkind.de)

They will give you useful advice and the address of a self-help group near you.



## 8. Fertility treatment and the law

### Embryo Protection Act (Embryonenschutzgesetz)

The German Embryo Protection Act is one of the most precise and extensive fertility treatment laws in the world, with a very clear description of the legal framework governing reproductive medicine.

The Embryo Protection Act forms the basis of the Preimplantation Genetic Diagnosis Regulation (Verordnung zur Regelung der Präimplantationsdiagnostik, PIDV) passed in 2013. The full wording of the laws is available here: [http://www.gesetze-im-internet.de/sgb\\_5/\\_\\_\\_5.html](http://www.gesetze-im-internet.de/sgb_5/___5.html)

### Assisted Reproduction Implementation Guidelines

The Assisted Reproduction Implementation Guidelines are set forth by the medical community and constitute the framework within which health care providers conduct assisted reproductive technology.

The current regulations are available on the relevant pages of the German Medical Association website ([www.bundesaerztekammer.de](http://www.bundesaerztekammer.de)).

### Health insurance

Article 27a of the SGB V (German Social Security Code Book 5) determines the entitlement of insureds to co-payment benefits in the statutory health insurance system. Private health insurance companies apply their own criteria for co-payment of fertility treatment. The benefit plan may differ between providers. More information is available at: [www.gesetze-im-internet.de/bundesrecht/sgb5/gesamt.pdf](http://www.gesetze-im-internet.de/bundesrecht/sgb5/gesamt.pdf)

### Federal Joint Committee (Gemeinsamer Bundesausschuss) directives on medical procedures for assisted reproduction

These directives describe all the medical details and criteria regarding the type and quantity of fertility treatments paid for by statutory health insurance providers. The directives are available at: [www.g-ba.de/informationen/richtlinien/1/](http://www.g-ba.de/informationen/richtlinien/1/)

More about the legal requirements is also available at: [www.kinderwunsch.de](http://www.kinderwunsch.de)

## 9. Glossary

Some of the terms commonly used in the context of fertility treatment are explained here.

<b>Adrenal cortex</b>	The outer layer of the adrenal gland; produces certain hormones
<b>Agonist</b>	An agonist is a substance that causes activation of a receptor.
<b>Andrology</b>	The medical discipline dealing with male health
<b>Antagonist</b>	An antagonist counteracts or does the opposite of a substance (agonist).
<b>Antibody</b>	A naturally occurring protein in the immune system
<b>Anti-sperm antibody</b>	An immune system protein directed against sperm
<b>Ascites</b>	Fluid in the abdominal cavity, for example due to ovarian hyperstimulation
<b>Autoimmune sterility</b>	Infertility due to an immune response by the body
<b>Blastocyst</b>	An early embryo in an advanced stage of cell division
<b>Cannula</b>	A hollow needle for injection
<b>Catheter</b>	A thin tube for insertion into body cavities
<b>Cervical mucus</b>	The fluid secreted in the cervix (neck of the womb)



<b>Cervix</b>	Neck of the womb
<b>Chromosomes</b>	The structures in the cells of living organisms that contain DNA
<b>Clomiphene</b>	Clomiphene is a drug taken to stimulate egg (follicle) maturation and induce ovulation.
<b>Culture medium</b>	A liquid or gel in which cells can grow in the lab
<b>Corifollitropin alfa</b>	A fertility hormone with sustained FSH activity
<b>Corpus luteum (“yellow body”)</b>	Formed in the ovary from the ruptured follicle
<b>Cryopreservation</b>	Freezing for preservation
<b>Cyst</b>	A fluid-filled cavity
<b>Ectopic pregnancy</b>	When the embryo implants in the fallopian tubes
<b>Embryo</b>	The unborn child in the first 12 weeks
<b>Embryo transfer</b>	Transfer of an embryo to the uterus (ET)
<b>Endometriosis</b>	When uterine tissue grows outside the uterus
<b>Endometrium</b>	Lining of the uterus
<b>Estrogen</b>	A female hormone mainly produced in the ovaries
<b>Extracorporeal fertilization (ECF)</b>	Fertilization of an egg outside the body (see in-vitro fertilization)
<b>Extrauterine</b>	Outside the uterus
<b>Fallopian tubes</b>	A tube-like passage connecting the ovaries to the uterus in which the sperm is transported to the egg and the fertilized egg is carried to the uterus.
<b>Fetus</b>	The unborn child after 12 weeks

<b>Fertilization</b>	Fertilization is when sperm and egg meet to produce a cell called a zygote.
<b>Fimbriae</b>	Funnel-like fringed end of the fallopian tube that sweeps the egg from the ovary into the tube
<b>Follicle</b>	Fluid-filled sac containing the egg
<b>Follicular aspiration</b>	An egg retrieval method
<b>FSH (follicle-stimulating hormone)</b>	A fertility hormone that promotes egg growth and development
<b>Gametes</b>	Germ cells (eggs and sperm)
<b>GnRH (gonadotropin-releasing hormone)</b>	Gonadotropin-releasing hormone causes FSH and LH to be released from the pituitary gland.
<b>GnRH agonists / GnRH antagonists</b>	These substances prevent a premature LH or FSH surge (see GnRH) and in that way stop premature ovulation.
<b>hCG (human chorionic gonadotropin)</b>	A hormone produced during pregnancy. hCG can also be injected to bring about ovulation (see ovulation induction injection).
<b>hMG (human menopausal gonadotropin)</b>	hMG is made from the urine of postmenopausal women and is used to stimulate maturation of the egg.
<b>Hormone</b>	A naturally occurring protein
<b>Hypothalamus</b>	Part of the diencephalon of the brain
<b>ICSI</b>	Intracytoplasmic sperm injection – injection of a sperm into an egg
<b>Idiopathic infertility</b>	Infertility of unknown cause with no medical explanation

<b>Immune system</b>	The body's natural defense system
<b>Implantation</b>	When the embryo attaches to the lining of the womb
<b>Intrauterine insemination (IUI)</b>	Transfer of processed sperm in a thin tube straight into the uterus, timed to coincide with ovulation
<b>In-vitro fertilization (IVF)</b>	Joining of egg and sperm in a (glass) dish/fertilization outside the body (Latin: vitrum – glass)
<b>Luteinizing hormone (LH)</b>	A hormone whose effects include inducing ovulation
<b>MESA</b>	Microsurgical epididymal sperm aspiration – sperm collection by taking tissue samples from the epididymal tubules
<b>Miscarriage</b>	Fetal loss
<b>Ovarian hyperstimulation syndrome (OHSS)</b>	A potential complication of infertility treatment. It can be caused by hormonal stimulation of the ovaries and may be mild. Severe forms require hospital treatment.
<b>Ovaries</b>	Female reproductive organs in which fertile eggs and sex hormones are produced
<b>Ovary</b>	The organ that produces eggs
<b>Ovulation</b>	When the ovary releases an egg
<b>Ovulation induction (OI)</b>	Drug treatment to induce ovulation
<b>Ovulation induction injection</b>	Injection of hCG to induce ovulation
<b>Pituitary</b>	A gland in the brain
<b>Placenta</b>	The placenta is an organ attached to the lining of the womb during pregnancy.

<b>Progesterone</b>	A female hormone produced after ovulation during the second half (luteal phase) of the menstrual cycle. Among other effects, it helps the lining of the uterus to build up in preparation for implantation of a fertilized egg.
<b>Recombinant FSH (rFSH)</b>	Ultrapure follicle-stimulating hormone produced by biotechnology. It is used in infertility treatment as a fertility hormone to stimulate egg maturation.
<b>Semen</b>	A fluid that contains sperm
<b>Spermiogram</b>	The results of semen analysis; used to assess the man's fertility
<b>Sterility</b>	Infertility
<b>Stimulation</b>	A process to boost follicle maturation, for example using hormones
<b>TESE</b>	Testicular sperm extraction. A method to collect sperm from the testicles
<b>Transuterine</b>	Through the uterus
<b>Tube</b>	Fallopian tube
<b>Urinary FSH (uFSH)</b>	FSH extracted from the urine of postmenopausal women and purified. It is used to stimulate egg maturation in infertility treatment.
<b>Uterus</b>	Womb



### **Kinderwunsch- und Hormonzentrum Frankfurt**

Prof. Dr. med. Stefan Kissler  
Gräfstraße 97 (at Palmengarten)  
60487 Frankfurt am Main

Phone: +49 (0) 69 5060 6865-0

E-Mail: [info@kinderwunschzentrum-frankfurt.de](mailto:info@kinderwunschzentrum-frankfurt.de)  
[www.kinderwunschzentrum-frankfurt.de](http://www.kinderwunschzentrum-frankfurt.de)



### **You can find parking close by:**

- Parkhaus Ladengalerie Bockenheimer Warte, Adalbertstr. 10
- REWE Supermarkt, Gräfstraße 92
- Parkhaus Palmengarten, Siesmayerstraße 62

### **Tram and further information:**

**Underground station "Bockenheimer Warte"** – U4, U6, U7,  
bus line 16 (100 m)

**Tram station, Kasseler Str. 20** – S3, S4, S5, S6 (300 m)

**Central station Frankfurt** (2,3 km)

**Airport Frankfurt** (11 km)

**Highway connection** – A66, A648 (1 km)

We're looking forward to your visit!