TECHNOLOGY

How IVF works: every stage of the programme, step by step

1 September 2026 · 9 min read

How long IVF takes, and how stimulation, egg retrieval, fertilisation and embryo transfer happen. Every stage of the programme, explained in plain language.

For most couples the words “in vitro fertilisation” sound like something huge and hard to grasp. In reality IVF is a sequence of very concrete steps, and almost every one of them fits in a single sentence. Once you understand what happens and when, the anxiety drops noticeably: you stop guessing and start finding your way around your own treatment.

Below is the route of an IVF programme from the first consultation to the pregnancy test, with realistic timelines and answers to the questions patients at the Ekstramed clinic in Ivano-Frankivsk ask most often.

What IVF is and who needs it

IVF (in vitro fertilisation) is a method in which fertilisation happens not in the woman’s body but in the laboratory: eggs and sperm meet in a dish with a culture medium, and the embryo that forms is transferred into the uterine cavity.

The indications for IVF vary:

- blocked or absent fallopian tubes — the classic indication, where natural conception is physically impossible
- a pronounced male factor — low sperm concentration or motility, when the chances of reaching the egg unaided are close to nil
- endometriosis of moderate or severe degree

- diminished ovarian reserve and age over 35–38, when time matters
- failed attempts with simpler methods — ovulation induction or intrauterine insemination
- genetic indications, when embryos need to be tested before transfer
- unexplained infertility — when the work-up has found no cause, yet there has been no pregnancy for over a year.

If you are still at the “why isn’t it working” stage, start with the article on the causes of infertility in men and women — it will help you understand which tests you need first.

How long one IVF programme takes

One full cycle is roughly 4–6 weeks from the start of stimulation to the pregnancy test. Add the preparation and the work-up, and it is realistic to plan on 2–3 months from the first consultation to the result.

This is worth saying straight away, because the expectation of “I’ll come in and we’ll have it all done in a week” is the main source of disappointment. IVF is tied to your cycle, and some test results are only valid for a limited time.

Stage 1. Consultation with a fertility specialist and the work-up

The first visit is a conversation. The doctor takes your history: how long you have been trying, previous pregnancies and losses, operations, the results of earlier tests and treatment attempts. Bring all your old records, even five-year-old ones — they save time and money.

Then the tests are prescribed. The standard set for a woman: a hormone profile (AMH, FSH, LH, oestradiol, TSH, prolactin), a pelvic ultrasound with an antral follicle count, an assessment of the uterine cavity and endometrium, swabs and PCR for infections, tests for HIV, hepatitis B and C and syphilis, a full blood count and biochemistry, and a coagulation profile.

For a man the basic work-up is a semen analysis with morphology, plus a MAR test and a sperm DNA fragmentation test where needed, along with tests for infections. If the results deviate substantially, the couple is referred to an andrologist: some problems can be corrected before the programme even begins.

Based on the results, the doctor chooses a stimulation protocol. There is no “best” protocol — there is the one that suits your particular ovarian reserve, age and response to medication in previous attempts.

Stage 2. Ovarian stimulation

In a natural cycle one egg matures. IVF needs more: the more mature eggs there are, the more embryos, and the higher the chance of getting at least one of good quality.

Stimulation means daily subcutaneous injections of gonadotropins for about 8–12 days. The patient gives the injections herself, at home, with a fine needle into the abdomen or thigh; most women get the hang of it the first time.

In parallel there is ultrasound monitoring — usually 3–4 visits, during which the doctor measures the follicles and the thickness of the endometrium, and sometimes checks blood oestradiol. The medication dose is adjusted on this basis: stimulation is not a fixed plan, it adapts to your response.

When enough follicles reach 17–20 mm, the trigger for final maturation is given — a single injection at a precisely specified time. Retrieval is scheduled roughly 34–36 hours later, which is why precision is critical here: a two-hour error can change the outcome.

Worth knowing: the best-known complication of stimulation is ovarian hyperstimulation syndrome. Modern protocols, dosing guided by AMH, the choice of trigger and the “freeze all” approach (freezing every embryo and transferring in a later cycle) have made severe forms rare. But that is exactly why monitoring should not be skipped.

Stage 3. Egg retrieval

Retrieval is a short procedure under intravenous sedation, lasting 15–20 minutes. Through the vagina, under ultrasound guidance, the doctor draws the fluid from the follicles together with the eggs using a fine needle. There are no incisions.

On the day of retrieval you come in on an empty stomach. Afterwards the patient rests in the clinic for 1.5–2 hours and goes home the same day. A pulling discomfort in the lower abdomen for a few days is normal; severe pain, a temperature or a sudden swelling of the abdomen are reasons to contact the clinic at once.

That same day the partner provides a sperm sample (or a previously frozen sample or donor sperm is used).

It is important to understand the arithmetic: the number of follicles `the number of eggs `the number of embryos. Ten follicles may yield 8 eggs, of which 6 are mature, 5 fertilise and 2 become blastocysts. That is not "something went wrong" — it is the normal natural attrition at every step.

Stage 4. Fertilisation in the laboratory

Now the embryologist takes over. There are two main approaches:

- conventional IVF — the egg and the prepared sperm are placed in the same medium, and fertilisation happens "on its own"
- ICSI — the embryologist injects a single selected sperm cell directly into the egg with a micro-needle. It is the method of choice for a male factor, a small number of eggs, or failed fertilisation in a previous attempt.

There are also additional sperm-selection techniques, in particular PICSI, where sperm are selected by their ability to bind hyaluronic acid — a marker of maturity.

If there are no sperm in the ejaculate (azoospermia), they can be retrieved surgically from the testis or the epididymis — the TESA, TESE, PESA and MESA procedures. These options are also available in Ekstramed's programmes.

Stage 5. Embryo culture

Over the next 3–5 days the embryos develop in an incubator that imitates the conditions of the body: temperature, humidity and gas composition. The embryologist assesses them every day.

Most modern programmes take the embryos to the blastocyst stage (day 5). That makes it easier to choose the most promising one: weak embryos stop developing precisely in this window, and it is better to learn that in the laboratory than after a transfer.

Where indicated, this is the stage for preimplantation genetic testing (PGT/PGD) — a few cells are taken from the embryo and the chromosome set or a specific hereditary disease is checked. It is most justified where there is a known genetic condition in the family or a carrier of a chromosomal rearrangement. For testing "because of age", in recurrent pregnancy loss or after several failed transfers, the evidence is contradictory: large reviews do not confirm that it raises the cumulative live birth rate, so the decision is made individually after a conversation with the doctor. More in the section on genetic diagnostics.

Embryos that are not transferred now are frozen by vitrification. They stay viable for years, and they are what gives you a second and a third attempt without another stimulation.

Stage 6. Embryo transfer

The transfer is the shortest and calmest stage: a thin catheter, a few minutes, no anaesthesia, and sensations similar to an ordinary gynaecological examination. Afterwards the patient rests for 20–30 minutes and goes home.

Today the standard is to transfer a single embryo. The reason is simple: transferring two raises not so much the chance of pregnancy as the risk of twins, and a multiple pregnancy carries real risks for the mother and the babies.

A transfer can be done in a fresh cycle (on day 3 or day 5 after retrieval) or in a frozen cycle — the following month or later. A frozen transfer often gives results that are no worse, and sometimes better: the body is not under the influence of stimulation, and the endometrium is prepared calmly.

After the transfer, luteal-phase support is prescribed — mostly progesterone preparations.

Stage 7. The wait and the pregnancy test

About 10–14 days after the transfer (earlier after a blastocyst transfer, later after a day-3 embryo) blood is taken for ²hCG. It is the only reliable way to learn the result: home tests at this stage are often wrong in both directions, and "listening to your body" is impossible — progesterone preparations mimic the symptoms of pregnancy.

These two weeks are psychologically the hardest part of the programme. The most useful things you can do: live your usual routine, move moderately, don't google symptoms and don't take a test every day.

If the ²hCG is positive — a first ultrasound 2–3 weeks later to confirm the pregnancy is in the uterus, and then pregnancy care. If the result is negative — it is not the end of the road. The doctor goes through the cycle step by step: how the ovaries responded, what the embryo quality was, what state the endometrium was in. The next attempt builds on those data, and it is often the second programme that succeeds.

What the chances of success are

The honest answer: it depends above all on the woman's age. Roughly, the pregnancy rate per embryo transfer is about 35–45% under 35, drops noticeably after 38 and falls substantially after 42 — with the

woman's own eggs. Note that the pregnancy rate and the live birth rate are different figures, and the second is always lower, so ask your doctor which one is being quoted. Cumulatively, over 2–3 transfers from one stimulation, the chances are considerably higher than for a single attempt.

So the right question for the doctor is not "what are your percentages", but "what are my chances, with my AMH, my age and my test results, and what will we do if it doesn't work the first time".

Frequently asked questions

Is egg retrieval painful? It is done under intravenous sedation, so you feel nothing during the procedure. Afterwards there may be a pulling discomfort in the lower abdomen for 1–3 days.

How many times can IVF be done? There is no medical "limit on attempts"; the decision is made individually, based on your health and the response to previous programmes. Often frozen embryos remain after one stimulation, so the next attempts are just transfers.

Are IVF children different from children conceived naturally? Decades of follow-up of millions of children born after IVF show no difference in intellectual or physical development. At the same time, such pregnancies somewhat more often involve preterm birth and lower birth weight — and that is largely linked to the infertility itself and to multiple pregnancies, not to the method. Which is exactly why a single embryo is transferred today.

Can I work during the programme? Yes. There are no restrictions on ordinary work, apart from the day of retrieval (sedation) and heavy physical exertion in the second half of stimulation.

Is ICSI compulsory? No, it depends on the semen analysis, the number and quality of eggs and the results of previous attempts. The decision is made by the doctor together with the embryologist.

Where do I start? With a consultation with a fertility specialist and a basic work-up of both partners. You can book an appointment at Ekstramed by the phone numbers in the contacts section; the current programme packages and prices are in the prices section.

This article is for information only and does not replace a consultation with a doctor. Treatment is decided by a fertility specialist after a personal examination and work-up.