

IVF with donor eggs

Part of the Treatment Guide series of brochures



Attention:

The information provided in this brochure should not be used as a substitute for information or advice provided by a doctor. Your doctor can help you choose the best option for you.

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Introduction

Modern treatment of diseases and other health complications often requires human organs, tissues or cells retrieved for the benefit of the recipient from a living donor, i.e. a person whose life or health is not put at risk.

Treatment with donated eggs and sperm is among the most successful infertility treatment methods. It is often, but not exclusively, used by people for whom previous treatment with their own eggs or sperm has failed.

Who is it recommended for?

Egg donation is more common than many people think. IVF with donor eggs is a suitable option for women who cannot conceive with their own eggs, provided there is no contraindication to carrying a child to term.

There was no available treatment for these women in the past, but today they can fulfil their dream of becoming mothers.



Indications for IVF with donor eggs include:

- advanced reproductive age, premature menopause
- low egg count
- premature ovarian failure, whether unexplained or caused by autoimmune disorders, chemotherapy, 'surgery' or other causes
- for women who are unable to produce their own eggs, or if their eggs are of poor quality and they are unlikely to be fertilised
- for women or men who are carriers of various genetic mutations

Mental support is crucial in your journey

Coming to terms with having to use an egg donor can be emotionally challenging. While each couple may experience the inability to have their own biological child differently, make sure you take the time to make a thoughtful decision. If you feel the need, contact us or a psychologist or psychotherapist and ask your partner to join you.

Who can be a donor?

Egg donors are young, healthy women aged 18–35, most often 20–33, who usually have at least one child of their own. They undergo full medical and genetic testing and are screened for dreaded infectious diseases such as HIV, hepatitis B and C and syphilis. All donors should be trustworthy. An egg donor is only accepted into the programme after going through the entire screening process and signing all necessary legal documents.

The screening of egg and sperm donors includes:

- ✓ a detailed medical questionnaire
- ✓ the donor's general and gynaecological medical history
- ✓ the donor's personal and family medical history
- ✓ a genetic questionnaire and genetic testing, including consultation with a geneticist

Use of donor sperm

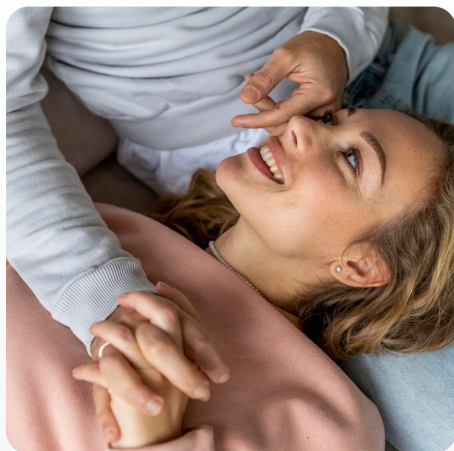
Donor sperm is used when the partner does not produce sperm, if his sperm is of very poor quality, or if there is a high risk of passing on genetic disorders. Donor sperm is used less frequently these days as sperm retrieval techniques have improved.

The donation process can only begin when all these requirements are met and after approval by a doctor.

Donation of reproductive cells in the Czech Republic is anonymous (both on part of the donor and the recipient) and free of charge. Donors may only be reimbursed for necessary and reasonable expenses incurred in the donation process, such as travel, accommodation, lost wages or childcare.

Suitable sperm donors are healthy men aged 18-40 and undergo an examination by a urologist, a semen analysis (sperm count test), a urine test for chlamydia, a blood test for infectious diseases (hepatitis type B and C, HIV, syphilis). Genetic testing to assess the genetic load in the family and blood tests to determine the karyotype are also performed.

Sperm donation is anonymous and gives couples that cannot conceive a child with the partner's sperm a chance to have a child.



Fresh or frozen?

As the success rate of IVF/ICSI with both types of donation is similar, it doesn't matter what you opt for. Frozen donor eggs are available right away, allowing you to start the IVF process sooner.

Although fresh donor eggs are not available as quickly, because the donor has to undergo ovarian stimulation that naturally takes more time, they are the preferred choice for clients. We have a very wide selection of suitable egg donors.

Donor sperm is used exclusively frozen. First of all, the success rate with fresh and frozen sperm is completely identical, and the procedure for approving a donor is more complicated, taking at least 180 days.

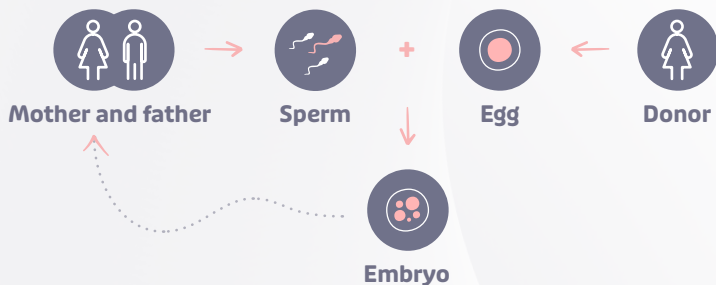
You can choose between two types of donor eggs for IVF/ICSI:

- frozen donor eggs
- fresh donor eggs

What to expect

In an IVF/ICSI cycle with a donor egg, the menstrual cycles of the donor and the recipient are synchronised. This means that one woman prepares the eggs and the other prepares to receive the embryo/s created from these eggs. The donor must undergo ovarian stimulation in order to donate eggs.

The egg donor's menstrual cycle is usually synchronised with the recipient's cycle with birth control pills.



1 Consultation with a doctor and choosing a suitable donor

Your doctor will give you all the necessary information about the programme and go over your preferences and personal requirements regarding the egg donor.

Our clinic has an extensive database of active donors (i.e. donors who can start stimulation immediately), so you won't have to wait for a donor. This allows you to align your search for a suitable egg donor with your personal life and work.

We also have a large stock of frozen eggs that are ready for immediate use.

In the past, parents mostly worried about the health of their children and how much they

would resemble their parents, but you don't have to worry, we select donors according to the following criteria.





One of the most important factors in choosing a donor is a match in the following area

- ✓ Blood group and Rh compatibility.
- ✓ Phenotypic traits – we take into account your physical traits in the search for the most suitable donor. These include ethnicity, hair and eye colour, height and overall build. The fact that Europe IVF has one of the largest databases of donors and egg banks in the Czech Republic means that we can satisfy a wide range of phenotypically different patients with either fresh or frozen eggs or embryos.
- ✓ Genetic compatibility – There is more to consider when looking for a donor and patient than just visible physical traits and facial similarity. In our genetic matching, we perform genetic tests to maximise the chances of our patients' pregnancy and to prevent potential problems, as well as to make sure that the donor is not the carrier of a genetic disorder.
- ✓ We now also use artificial intelligence biometric techniques that offer the most advanced way of matching oocyte or sperm donors with recipients, ensuring maximum similarity.

The screening of donors ensures a maximally safe system for choosing this type of treatment.

2 Synchronisation of donor and recipient cycles

Donor stimulation

The first step is hormonal stimulation of the donor with drugs to ensure that the optimal amount of eggs mature in the ovaries and to allow us to schedule their collection at the right time.

Stimulation provides a greater number of mature eggs for fertilisation.

In this first phase, the donor's response to the stimulation medication is carefully monitored for ovarian hyperstimulation syndrome (OHSS) or other complications. This gives us a clearer picture of what is happening with the follicles so that we can determine the correct dose and time the retrieval.

3 Egg (oocyte) retrieval

Eggs are usually retrieved 24 to 36 hours after ovulation induction with injections. The doctor will retrieve as many mature eggs as possible.

Not every follicle contains an egg, and some may contain mature eggs that cannot be fertilised. The average number of eggs collected is between eight and fourteen, which is considered an optimal egg yield.

On the day of the egg retrieval, the patient's partner provides a sperm sample if there is no available frozen sperm. If no sperm are present in the fresh ejaculate, we can attempt to collect them surgically.

Stimulation (preparation) of the recipient

Your doctor will schedule the stimulation (preparation) with you to synchronise your menstrual cycle with the donor's cycle. Your cycle will be adjusted with medication in order to prepare your endometrium to receive the embryo. Synchronising your cycle with the donor's cycle will ensure that your endometrium is in the best possible condition on the day of the embryo transfer.

Ultrasound

The doctor will schedule an ultrasound for the donor with regard to the most optimal course of ovarian stimulation, allowing the doctor to monitor the effects of the treatment.





Surgical sperm retrieval

If there are no sperm in the partner's semen and this procedure is recommended by an andrologist, sperm can be retrieved from the epididymis or testicles surgically. Our clinic's sperm retrieval procedures include:

- ✓ **Microsurgical epididymal sperm aspiration (MESA):** MESA is performed in the operating room under general anaesthesia; it involves opening the ducts of the epididymis and extracting the fluid to obtain live sperm.
- ✓ **Testicular sperm extraction (TESE):** This procedure is used when there is no sperm in the epididymis. TESE is performed in the operating room under general anaesthesia; it involves making a small incision and removing a piece of testicular tissue to extract the sperm.

You may experience some pain and bruising after surgery, which can be generally managed with common painkillers and rest.

4 Fertilisation

On the day of the egg retrieval, the sperm is processed to select the 'strongest and most active' sperm.

The egg is most often fertilised by injecting sperm directly into the egg with a thin needle (ICSI). The eggs are checked, their maturity is confirmed and they are prepared for injection. In a gentle laboratory procedure, one sperm is placed directly

into the cytoplasm (the centre of the egg). Then, the eggs are placed in an incubator that is set to the temperature of a woman's body. The following day/days the resulting embryos are checked under a microscope. Your treatment coordinator will inform you by phone or in writing how many eggs have been fertilised, i.e. how many embryos you have developing, the day after the retrieval.

5 Embryo development

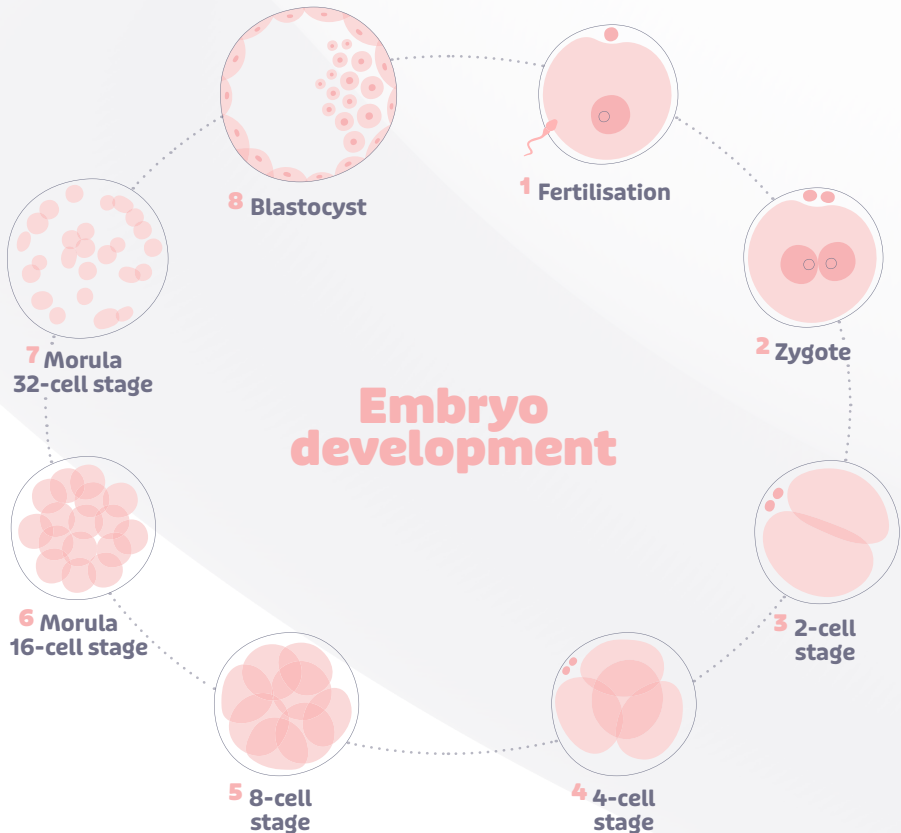
Under laboratory conditions, it usually takes 3-5 days for an embryo to develop from a fertilized egg.

'Embryo cultivation' is the term used for the process following egg retrieval and fertilisation. Your doctor will discuss the length of embryo development and their quality with you.

The embryo transfer is performed on the fifth day of embryo development (blastocyst

stage) due to a higher chance of pregnancy, and sometimes also between the second (2-4 cell stage) and the fourth day (morula stage) of development. Monitoring the development of embryos in the laboratory will help us select the embryo with the best chance of a successful pregnancy.

The resulting embryos are either transferred to the uterus (embryo transfer) or frozen for later transfer (cryopreservation).



Preimplantation genetic testing

Preimplantation genetic testing (PGT) in IVF allows embryos to be tested for genetic disorders before they are transferred to the uterus, reducing the risk of serious hereditary disorders. It can detect disorders such as Down syndrome, cystic fibrosis, hemophilia A, Tay-Sachs disease, and Turner syndrome. PGT prevents the transmission of specific developmental defects and hereditary diseases, improves the results of assisted reproduction and reduces the risk of miscarriage. However, PGT can only detect the defects it is targeted at and does not cover all possible disorders.

6 Embryo transfer

Unless arranged otherwise with the doctor, on the sixth day the patient visits our clinic for an embryo transfer – the introduction of the embryo into the uterus with a thin cannula through the cervix. An embryo transfer is not a complicated procedure and can be performed without anaesthesia. The embryo is placed in a catheter (flexible tube) and transferred into the uterus through the vaginal opening.

In the vast majority of cases, one embryo is transferred to the uterus. If additional quality embryos are available, they can be frozen for later use.

EmbryoGlue

EmbryoGlue is a special transfer medium that can increase the chances of embryo implantation and pregnancy. As the name suggests, this medium works a bit like a tissue glue.

It contains all the nutrients needed for the embryo's development and mimics the natural environment in a woman's womb, and it also contains a large number of substances that provide optimal conditions for the growing embryo and supply energy for further development and growth.

EmbryoGen/BlastGen

These are special culture media that contain a specific substance, GM-CFS (granulocyte – macrophage colony-stimulating factor/protein). This helps the early embryo to take in nutrients, accelerating its growth and increasing the chance of it reaching the blastocyst stage. It should also protect a healthy embryo from cell stress and apoptosis.

EmbryoGen/BlastGen media are especially helpful for women who suffer from repeated failure of healthy embryo implantation (failed embryo transfers), repeated miscarriages, age factor (40+ years) or idiopathic infertility.

7 Embryo cryopreservation

The freezing of quality embryos is a process we call cryopreservation.

Our clinic uses vitrification, which is a modern method of cryopreservation.

We put the embryo in a protective substance called cryoprotectant. We quickly cool the drop of cryoprotectant with the embryo to the temperature of liquid nitrogen – 196°C,

preventing ice crystals from forming in the protective substance and the embryo.

We keep the embryo in liquid nitrogen in a sealed case for as long as you wish. Before use, the embryo is quickly warmed to body temperature and the protective material is washed off, and just a few short hours later it is ready for transfer.

How to survive the two-week wait

After the embryo transfer, it will take about two weeks to get an accurate pregnancy test result. This 'two-week wait' is often a time of great anxiety, worry and frustration for couples trying to conceive.

- ✓ We know it's hard, but try not to obsess over 'pregnancy symptoms' – feeling pregnant doesn't always mean you're pregnant. Some medication may have side effects similar to pregnancy symptoms.
- ✓ Get busy. Plan meaningful or fun distractions.
- ✓ Give yourself just 15 to 30 minutes a day to think about pregnancy, write down your thoughts, search for information on the Internet, or discuss it with your partner or supportive friends/family members, if they support you and share your journey.
- ✓ Avoid pregnancy tests earlier than 14 days after the embryo transfer. The chance of a positive result before your period is late is very small. An hCG shot is administered to help ripen and release the eggs and as a booster, and it could cause a false positive.

Donation legislation

Reproductive cell donation is anonymous on both sides in the Czech Republic. Donors may not receive any remuneration for donated eggs or sperm, only compensation for expenses incurred in connection with the donation.

Donors are selected according to very strict criteria stipulated by the EU Tissue Directive and Czech legislation, which is even stricter in many respects.

In the Czech Republic, reproductive cell donation is permitted and regulated by Act No 422/2008 Coll., as amended. Our donation programme is fully compliant with this Act and applicable standards.

According to Czech legislation, the woman who gives birth to a child is considered its mother. From a legal perspective, it doesn't matter in maternity whether the child was conceived from the egg of the mother

who gave birth or from the egg of a donor. The donor has no legal claim to the child conceived from her egg through IVF/ICSI. This also applies to donated sperm, where the partner/husband of the woman receiving this treatment is considered the father of the child.



What is the success rate of this treatment?

The success rate of treatment with donor eggs is higher than that of conventional IVF/ICSI. This is mostly due to the age, egg quality and fertility of the donor. The success of treatment with donor eggs is largely unrelated to the recipient's age. For this reason, the success rate of treatment with donor eggs will be much higher than if you were to use your own eggs.

What you should know

Don't delay treatment until advanced maternal age. Successful treatment doesn't just mean a positive pregnancy test, but also a healthy complication-free pregnancy and birth.

Epigenetic effect

Will my child look like me? Will it have my DNA?

These are common questions people ask themselves before opting for the donation programme.

You've surely heard of 'genetics' before. This refers to the unique information stored in our DNA (which is made up of genes) that determines certain characteristics or traits passed on from parents to offspring. However, your health and physical traits are not just influenced by your genes, your behaviour and environment also play an important role. Our environment can influence how our genes work from the moment we are conceived. During pregnancy, the mother and the developing embryo exchange information through epigenetics. The mother can influence how the embryo uses its genetic material, which affects how the child develops into adulthood. This early educational influence can have a lasting impact on a child's development, and the mother plays a significant role in shaping it.

This environment influences the building blocks that shape our physical appearance and health, and ultimately influences our future growth and development. Research shows that the quality of an embryo's life in the womb has a lasting effect on the well-being of the child, so the mother's womb is the first and most important environment. Imagine that your future child is the house you want to build. The donor will give you the bricks to build it, but you ultimately decide the final appearance, shape and size of the house with your placement of the bricks.

Do children conceived from a donated egg have common with the woman who carries and gives birth to them?

Even if you use donor eggs for IVF/ICSI treatment, your baby may have some of your traits. This is because factors such as stress, diet and behaviour can affect how your child's genes are expressed. Your child may have more of you than you think! This can be really reassuring news for those using donor eggs.

It is true that with a donor egg, the baby's genes will come from the donor and they cannot be changed, but how these genes are used (or 'expressed') depends on the person carrying the child. This is called the 'epigenetic effect'.

So even if you use eggs come from a donor, the embryo can still communicate with the mother on a genetic level.

Pregnancy can be an incredible journey, and it is no different for those who conceive a child through egg donation. Even if you use donor eggs or donor embryos, you play a vital role in your baby's development. It's incredible how strong the physical and emotional bond between a mother and her child can be. This bond is only strengthened during birth, breastfeeding and care, and at every stage of the child's growth until adulthood. More importantly, DNA isn't what makes a family.

We understand that you may have certain worries about egg donation, and we are here to provide the best possible support.

Are you ready to take the first step?

If you are ready, book your first appointment at our clinic.

Our coordinators can offer you in-person, phone or video appointments.

We are available during normal business hours if you request, at a time that suits your preferences

Book a consultation with one of our leading fertility specialists



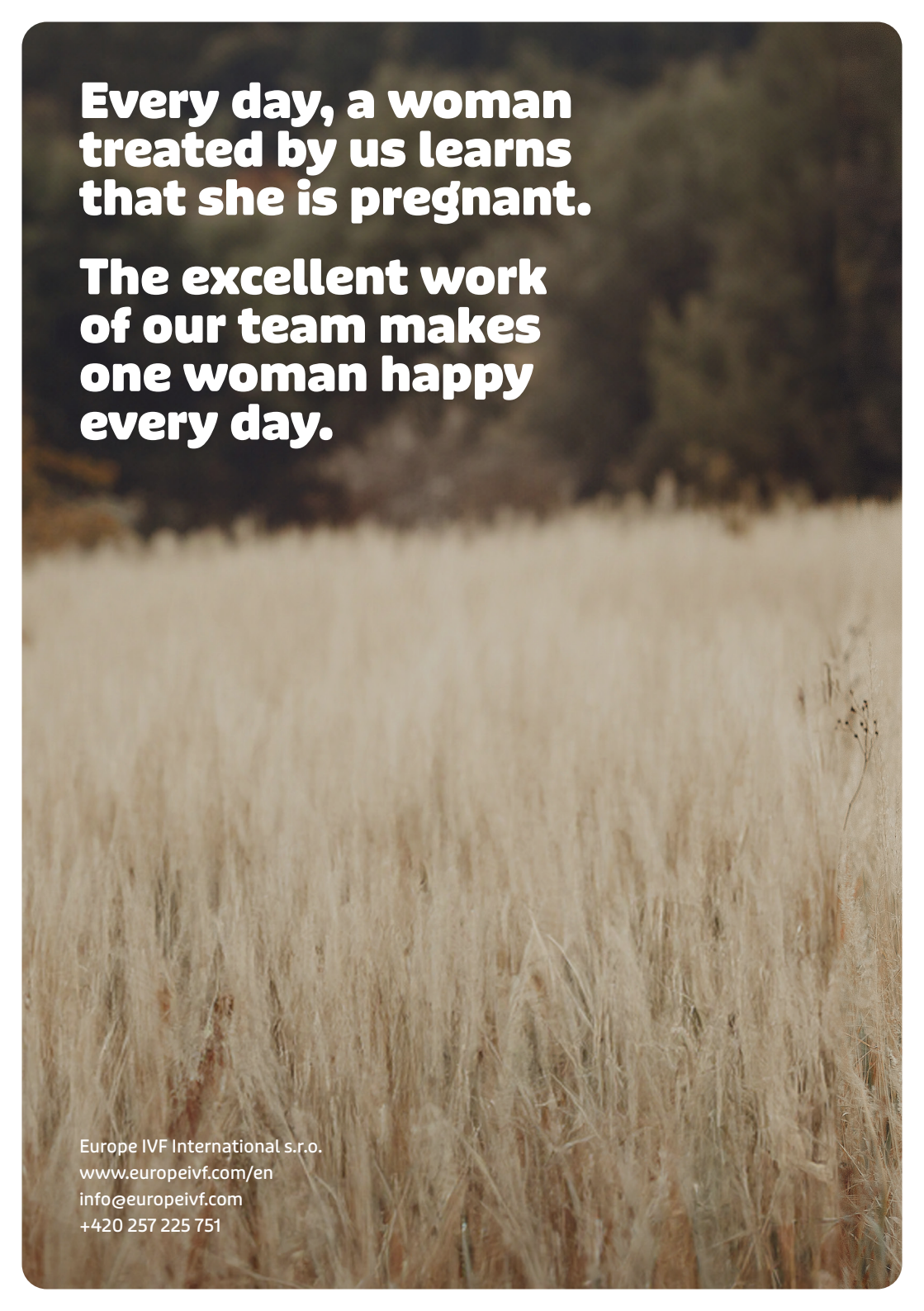
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**If you have any questions,
ask us.**



You dream. We care.

You can find lots of information adapted to various stages in a couple's journey on our website www.europeivf.com/en.



**Every day, a woman
treated by us learns
that she is pregnant.**

**The excellent work
of our team makes
one woman happy
every day.**

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