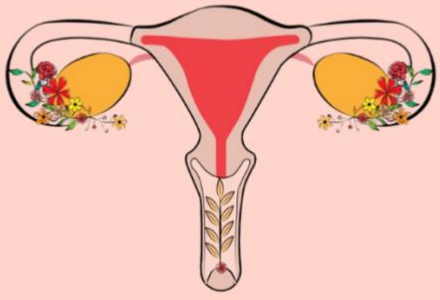
UNFERTILITY



IVF Process

What is In Vitro Fertilization (IVF)

In an ideal world, an egg and sperm are fertilized inside a woman's body. If the fertilized egg attaches to the lining of the womb and continues to grow, a baby is born about 9 months later. This process is called natural or unassisted conception.

When natural conception doesn't occur, for whatever reason, In Vitro Fertilization is an option that can be used. In Vitro Fertilization is an assisted reproductive technology (ART) technique commonly referred to as IVF.

It is the process of fertilization by manually combining an egg and sperm in a laboratory dish, and then transferring the embryo to the uterus.

When is IVF used?

IVF is used as a treatment for couples dealing with infertility.

Infertility is a disease of the male or female reproductive system defined by the failure to achieve a pregnancy after 12 months or more of regular unprotected sexual intercourse.

IVF is generally used after a less invasive method has been tried like Intrauterine insemination (IUI) where appropriate. IVF is sometimes offered as a primary treatment for infertility in women over age 40, as well as in the following cases:

Fallopian tube damage or blockage.

Fallopian tube damage or blockage makes it difficult for an egg to be fertilized or for an embryo to travel to the uterus.

Ovulation disorders.

If ovulation is infrequent or absent, fewer eggs are available for fertilization.

Premature ovarian failure.

Premature ovarian failure is the loss of normal ovarian function before age 40. If your ovaries fail, they don't produce normal amounts of the hormone oestrogen or have eggs to release regularly.

Endometriosis.

Endometriosis occurs when the uterine tissue implants and grows outside of the uterus – often affecting the function of the ovaries, uterus, and fallopian tubes.

Uterine fibroids

Fibroids are benign tumours in the wall of the uterus and are common in women in their 30s and 40s. Fibroids can interfere with implantation of the fertilized egg.

Male factor infertility.

Your partner's semen analysis is one of the first steps in the medical assessment of infertility, and may show below-average sperm concentration, weak movement (motility) of sperm, or abnormalities in sperm size and shape (morphology).

A genetic disorder.

If you or your partner is at risk of passing on a genetic disorder to your child, you may be candidates for preimplantation genetic diagnosis – a procedure that involves IVF. After the eggs are harvested and fertilized, they're screened for certain genetic problems, although not all genetic problems can be found. Embryos that don't contain identified problems can be transferred to the uterus.

Fertility preservation for cancer or other health conditions.

If you're about to start cancer treatment that could harm your fertility, IVF for fertility preservation may be an option. Women can have eggs frozen in an unfertilized state or the fertilized and frozen as embryos for future use.

What is the procedure for IVF?

Please note this is the typical process for guidance only. Everyone's treatment is different, and it is important to follow the protocol you are prescribed.

Step 1: suppressing the natural menstrual cycle

You're given a medicine that will suppress your natural menstrual cycle. This can make the medicines used in the next stage of treatment more effective. The medicine is given either as a daily injection that you'll be taught to give yourself, or as a nasal spray. You continue this for about 2 weeks.

Step 2: helping your ovaries produce more eggs

Once your natural cycle is suppressed, you take a fertility hormone called follicle stimulating hormone (FSH). FSH increases the number of eggs your ovaries produce. This means more eggs can be collected and fertilised.

Step 3: checking progress

The clinic will keep an eye on you throughout the treatment. You'll have vaginal ultrasound scans to monitor your ovaries & in some cases, blood tests. Before your eggs are collected, you'll have an injection of a hormone called human chorionic gonadotrophin (hCG) that helps your eggs to mature.

Step 4: collecting the eggs

You'll be sedated and your eggs will be collected using a needle that's passed through your vagina and into each ovary under ultrasound guidance. This is a minor procedure that takes about 15 to 20 minutes. Some women experience cramps or a small amount of vaginal bleeding after this procedure.

Around this time your partner will be asked to produce a fresh sperm sample. The sperm are washed and spun at a high speed so the healthiest and most active sperm can be selected. If you're using donated sperm, it's thawed before being prepared in the same way.

Step 5: fertilising the eggs

The collected eggs are mixed with your partner's or the donor's sperm in a laboratory to fertilise them. In some cases, each egg may need to be injected individually with a single sperm. This is called intra-cytoplasmic sperm injection or ICSI. The fertilised eggs (embryos) continue to grow in the laboratory for up to 6 days before being transferred into the womb. The best 1 or 2 embryos will be chosen for transfer.

After egg collection, you'll be given hormone medicines to help prepare the lining of your womb to receive the embryo. This is usually given either as a pessary placed inside your vagina or rectum, an injection, or a gel.

Step 6: embryo transfer

A few days after the eggs are collected, the embryos are transferred into your womb. This is done using a thin tube called a catheter that's passed into your vagina. This procedure is simpler than egg collection and similar to having a cervical screening test, so you won't usually need to be sedated.

The number of embryos that will be transferred should be discussed before treatment starts. It usually depends on your age:

Women under 37 in their 1st IVF cycle should only have a single embryo transfer. In their 2nd IVF cycle, they should have a single embryo transfer if 1 or more top-quality embryos are available. Doctors should only consider using 2 embryos if no top-quality embryos are available. In the 3rd IVF cycle, no more than 2 embryos should be transferred.

Women aged 37 to 39 years in their 1st and 2nd full IVF cycles should also have a single embryo transferred if there are 1 or more top-quality embryos. Double embryo transfer should only be considered if there are no top-quality embryos. In the 3rd cycle, no more than 2 embryos should be transferred.

Women aged 40 to 42 years may have a double embryo transfer.
If any suitable embryos are left over, they may be frozen for future IVF attempts.

Finding out if you're pregnant

Once the embryos have been transferred into the womb, you'll be advised to wait around 2 weeks before having a pregnancy test to see if the treatment has worked. Some clinics may suggest carrying out a normal urine pregnancy test at home and letting them know the result, while others may want you to come into the clinic for a more accurate blood test.

This 2-week wait can be a very difficult period because of the anxiety of not knowing whether the treatment has worked. Some people find it the hardest part of the treatment process. During this period, you may find it useful to speak to a counsellor through the fertility clinic, or to contact other people in a similar situation.

If you do become pregnant, ultrasound scans will be carried out during the following weeks to check things are progressing as expected.

You'll then be offered the normal antenatal care given to all pregnant women.

Unfortunately, IVF is unsuccessful in many cases, and you should try to prepare yourself for this possibility. You may be able to try again if treatment doesn't work, although you shouldn't rush straight into it. You may find counselling or fertility support groups helpful during this difficult time.