

In Vitro Fertilization (IVF)

at Northwestern Medicine
Fertility and Reproductive Medicine



Introduction to IVF

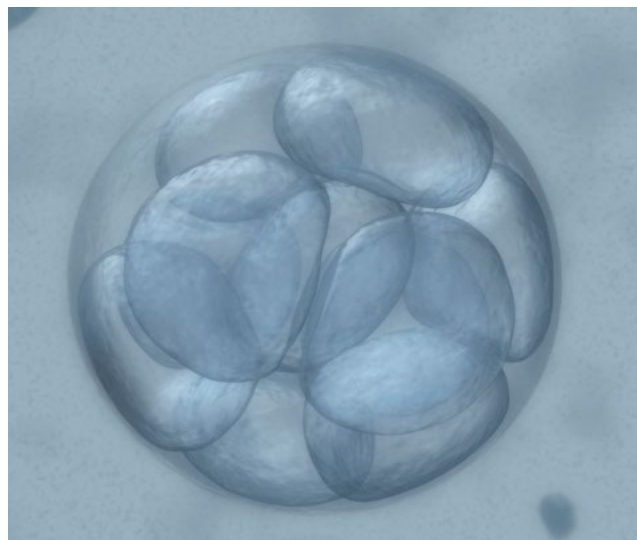
There are many treatments for infertility. In Vitro Fertilization (IVF) is the most advanced of them all. The multi-step procedure was first developed in the late 1970s to treat women with blocked or damaged fallopian tubes. Today, it is a highly effective treatment for most causes of infertility.

A few things to consider:

This may be surprising to learn but, during any given month, a healthy, fertile 30-year-old woman who is trying to get pregnant with her healthy, fertile male partner has about a 20 percent chance of success.

Almost half (48 percent) of IVF fresh embryo transfers in women younger than 35 resulted in a live birth, according to a 2013 study by the Society for Assisted Reproductive Technology (SART). Frozen embryo transfers in this age group resulted in live births 44 percent of the time.

Chance of success with donor eggs is often higher than with a woman's own eggs particularly if the intended mother is older than 35. In 2013, IVF with



embryos created from fresh donor eggs resulted in live births in 56 percent of transfers. Frozen embryos that originated with donor eggs resulted in live births in 41 percent of transfers.

The No. 1 predictor of IVF success is the age of the woman whose eggs are being used because the woman's age is associated with the quality of available eggs.

You may be a good candidate for IVF if:

You and/or your partner are infertile and have tried other fertility treatment strategies.

You are a woman with a decreased quantity or quality of your eggs and you want to build your family with the use of donated eggs.

You need the services of a gestational carrier/surrogate because the intended mother's uterus is not capable of sustaining a pregnancy or because you do not have a female partner.

You have a family history of a heritable genetic disease. You can use IVF along with pre-implantation genetic diagnosis (PGD) to identify healthy embryos to be transferred to the uterus.

You are a same-sex female couple who wants to share maternity. The eggs of one woman can be retrieved and fertilized in vitro, and inserted into the uterus of her female partner.

You have been diagnosed with cancer or will otherwise be undergoing treatment (e.g., chemotherapy, surgery, hormones) that might destroy or reduce your fertility. You can go through the first steps of IVF and store eggs or embryos for future use.

IVF is a guided, multi-step process. If you choose IVF with your own eggs, before you start, you'll need to have some preliminary testing done, including an assessment of your ovarian reserve and an evaluation of your or a gestational carrier's uterus to make sure everything is functioning properly. You'll be checked for sexually transmitted diseases as well. If you have a male partner, he will likely need to undergo a semen analysis as well as tests for sexually transmitted diseases. The medical team at Northwestern Medicine Fertility and Reproductive Medicine will help guide you through both the evaluation and treatment process of IVF.



IVF procedures

IVF has three parts:

Ovarian stimulation: You will self-administer daily medications for an average of 8 to 12 days that promote the growth of a number of follicles in the ovary. An egg is housed inside a follicle. At the end of this time period, you will administer one last hormone, human chorionic gonadotropin (HCG), the critically important last step to the maturation of the egg.

Egg retrieval: Just before they would be released through ovulation, the eggs are “retrieved” while the woman is under conscious sedation. Following this quick procedure, you’ll need to be driven home by an adult friend or family member who accompanies you to the clinic. The eggs are then fertilized in the laboratory.

Embryo transfer: Three to five days later, one or two embryos, in most cases, are transferred into the patient’s uterus through a small catheter. The procedure is quick and does not require sedation.

As you can see, IVF is an advanced, multi-step process. The woman trying to get pregnant will be monitored with ultrasounds and blood work several times during treatment and you will be in close communication with the clinic throughout the IVF cycle. The woman trying to get pregnant will be advised to limit alcohol intake,

strenuous exercise and travel. Always feel free to share your concerns and ask questions of your physician and of the IVF nurse coordinators.

Thirteen days after the retrieval of eggs, a pregnancy test will determine if IVF has been successful. If the test is positive, you’ll retake it a couple of days later. If both tests are positive, then about 1½ weeks later, an ultrasound will allow you to see the beginning of your pregnancy, though there will likely not be a heartbeat yet. After another 1½ weeks, a second ultrasound should be able to detect a fetal heartbeat.

If the initial pregnancy test is negative, the woman trying to get pregnant will stop her medications and you will touch base with your physician, either by phone or a face-to-face discussion. A negative pregnancy test is understandably upsetting and Northwestern Medicine Fertility and Reproductive Medicine has on-staff psychologists who may be able to help you cope with this news. We invite you to contact them anytime, but especially during any difficult moments in this emotional process.

IVF draws on an array of expertise and technology, and it is expensive. Be sure you know all the costs, and whether your insurance will pay for them. Thankfully, in the State of Illinois, many patients have insurance coverage for fertility treatment due to a state mandate for such coverage.



Before you try IVF, your physician may suggest some simpler treatments, including:

Intrauterine insemination (IUI). Before patients begin IVF, they often undergo IUI. This is particularly true if low sperm count is suspected as a factor or if a woman is planning to use donor sperm, sperm can be placed directly into the uterus. This technique can also be used in conjunction with other measures, including those listed below.

Ovulation induction. This uses hormone-based medications, taken orally or by injection, to stimulate the ovaries to release an egg so that a heterosexual couple can engage in timed intercourse. This treatment can be very effective in women who are not ovulating regularly.

Controlled Ovarian Hyperstimulation (COH). This may be a good option for couples with unexplained infertility, or mild male-factor infertility. The woman takes a medication, orally or by injection, that boosts the number of eggs she releases when she ovulates. That can increase the likelihood she will conceive. COH is often used together with IUI.

Other options you might want to explore include these:

Egg donation. Donated eggs are a good choice for women whose eggs have declined in quality and/or quantity due to age. Same-sex male couples and women who don't have functioning ovaries may also seek out egg donors. Egg donors undergo the usual IVF protocol. The male's sperm is then combined with the donor's eggs to create embryos. These are transferred into a female partner's or gestational carrier's uterus. Egg donor agencies also provide some information about your donor such as physical characteristics, medical history, education, and ethnic or racial background.

Gestational carriers. Women who are not able to carry a pregnancy, or same-sex male couples, might want to consider this option. Either a female partner or an egg donor will undergo standard IVF treatment to provide the eggs.

Sperm donors. If you need donor sperm, we have relationships with commercial sperm banks, where samples are tested for sexually transmitted diseases, and then frozen. Sperm banks also provide some information about your donor such as physical characteristics, medical history, education, and ethnic or racial background.

If you are seeking an egg donor or gestational carrier, we have established relationships with Alternative Reproductive Resources (ARR), ConceiveAbilities, Graceful Conceptions, and Center for Egg Options. We also work with a number of sperm banks, including California Cryobank, Fairfax Cryobank, and Xytex.

Risk factors for infertility

The cause of infertility is generally attributed to a female factor concern approximately a third of the time, to a male factor concern a third of the time, and about 10 percent of cases are caused by a combination of factors in both partners. The causes of the remaining incidence of infertility are not known.

Women need functioning ovaries, fallopian tubes and a uterus to get pregnant.

Risk factors for female infertility include these:

Age; fertility declines as women get older

Chronic diseases like diabetes or lupus

Smoking

Hormonal imbalance, which can affect ovulation, implantation and the pregnancy itself

Fallopian tube blockage or scarring

Fibroid tumors or other uterine abnormalities

Multiple miscarriages

Environmental factors – smoking, excess alcohol consumption, exposure to toxic chemicals

Excessive or very low body fat

DES taken by a woman's mother during pregnancy

Sexually transmitted diseases, which can affect the female reproductive tract

Endometriosis

The aftermath of pelvic surgery, cyrosurgery or cone biopsy to the cervix

History of chemotherapy

A fertile man is one who is able to produce enough healthy sperm that are capable of "swimming," and impregnating the egg.

A number of conditions or habits can affect a man's fertility, some of which may be easily adjusted or treated:

Hormone disorders

Varicoceles, or varicose veins around the testicles

Heavy alcohol use

Smoking

Certain medicines

The use of some recreational drugs

Too much heat in the genital area (from a hot tub, for example)

Some causes of infertility can be solved with simple measures—perhaps even a lifestyle change. Talk with your physician. You might be able to address those on your own.



About Northwestern Medicine Fertility and Reproductive Medicine

Northwestern Medicine Fertility and Reproductive Medicine is widely regarded as one of the best infertility units in the country.

Jared C. Robins, MD, division chief and the team at Northwestern Medicine Fertility and Reproductive Medicine are committed to meeting the needs of women and men affected by infertility-related conditions through multidisciplinary approach. We understand the stress caused by difficulties with fertility and reproductive medicine and will, through our personalized care, guide you through treatment with compassion and understanding. Our faculty includes two PhD clinical psychologists that will help navigate the emotional experience of treatment.

The internationally acclaimed clinician researchers at Northwestern Medicine Fertility and Reproductive Medicine are striving to develop and improve reproductive technologies. Therefore, you can be assured that, as a

patient, you will be treated with the most modern and leading-edge technologies. We also participate in many clinical trials that help us learn more about infertility issues and how to best treat them.

If you choose Northwestern Medicine for your fertility-related treatments, we will work with you to find a treatment plan that works for you.

Need a second opinion?

Our eight board-certified physicians have over 10 decades of experience and have helped thousands of individuals and couples become parents and are available for second opinion consultations on your medical and surgical treatment options for infertility.

Please call 312.694.6074 or visit [fertility.nm.org](https://www.fertility.nm.org) to arrange a second opinion consultation.

Studies cited:

SART on IVF success rates: https://www.sartcorsonline.com/rptCSR_PublicMultYear.aspx?ClinicPKID=0

30-year-old healthy woman fertility statistic / American Society for Reproductive Medicine

Visit [womenshealthcommunity.nm.org](https://www.womenshealthcommunity.nm.org) to share your stories and ask a fertility question from one of our medical experts.



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