Given the intricate nature of the human reproductive system, it's not surprising that approximately one in every six couples will be unable to conceive a child after trying for one year. Cleveland Clinic fertility experts provide the full range of state-of-the-art services for the diagnosis and treatment of infertility, including in vitro fertilization. Patients are seen in a caring environment, where the major emphasis is not only technological excellence, but also accessibility, personal attention and emotional support. We have locations throughout Cleveland. (See page 7 for a complete list.)

Please use this guide as a resource as you explore your options for achieving pregnancy.

Cleveland Clinic’s gynecology program is #1 in Ohio and #6 in the nation according to U.S. News and World Report.
WHAT CAUSES INFERTILITY?
Infertility can be caused by a number of different factors. In the female, they may include ovulation dysfunction, tubal blockage, endometriosis or structural abnormalities of the uterus such as fibroids. The male partner may have anatomic or hormonal problems that reduce the number and quality of sperm. In many cases, even with the most comprehensive evaluation, no single factor can be identified as the cause. Fortunately, when the cause of infertility cannot be determined, effective treatments are still available.

WHEN SHOULD A COUPLE SEEK HELP?
Generally, if a couple has not conceived within one year of trying, it’s time to consider seeing a fertility specialist. Some couples should seek help sooner, including:
• Women who have irregular or absent menstrual cycles
• Women age 35 and older
• Women with a history of endometriosis, pelvic adhesions or pelvic infections
• Women who need to reverse a tubal ligation or have known tubal diseases
• Men with abnormal semen analysis, or erectile or ejaculatory problems
• Men who need surgery to remove blocked tubes (vas deferens or epididymis)
• Men who need microsurgery to reverse a vasectomy or obtain sperm
• Lesbian or single women requiring donor sperm

HOW CAN PROBLEMS BE DIAGNOSED?
Standard testing includes a semen analysis to assess the number and quality of the sperm. A hysterosalpingogram (HSG) X-ray dye test is performed to evaluate the uterine cavity and the fallopian tubes. The HSG is performed in the X-ray department by injecting dye through the cervix while observing on a monitor to confirm that the cavity of the uterus is normal and both tubes are open.

After thorough consideration of the patient history, physical exam and previous testing, additional tests may be recommended by the fertility specialist. The additional evaluation may include hormone levels, ultrasound of the uterus and ovaries, hysteroscopy and or laproscopy.

Laparoscopy is an outpatient procedure that involves placing a thin scope through the navel to diagnose and treat conditions such as endometriosis, pelvic adhesions (scar tissue), fibroid tumors and tubal disease.
WHAT TREATMENTS ARE AVAILABLE FOR INFERTILITY?

Treatment options include medical therapy, reproductive surgery, intrauterine insemination and assisted reproductive technologies including in vitro fertilization.

**Medical therapy**
Medical therapy is used to correct ovulation dysfunction (irregular or infrequent periods). If there are no underlying causes of ovulation problems (such as a thyroid disease), the first line of treatment is an oral medication. These drugs may be used to induce regular menstrual cycles.

If oral medication fails to correct the problem, or conception does not occur within six ovulatory cycles, the couple should consider other treatment options.

Gonadotropin therapy is the next line of medical therapy. This is very effective in inducing ovulation when oral agents do not work. It can enhance fertility by stimulating more than one egg to ovulate during the cycle. This therapy may also be offered for unexplained infertility or when other factors have been corrected but pregnancy has not occurred. It is given as a daily injection, like an insulin shot, for approximately one week. During this time, the patient is monitored with blood tests and ultrasound to optimize timing and reduce the risk of a multiple pregnancy, and to prevent over-stimulating the ovaries.

**Reproductive surgery**
Surgery is sometimes required to treat conditions associated with infertility. The vast majority of surgical procedures used to address infertility can now be performed on an outpatient basis using a laparoscope (a type of endoscope) inserted through the naval. The surgeon can remove scar tissue, treat endometriosis, remove cysts from the ovaries, remove fibroids and unblock the fallopian tubes. For some patients, an instrument called a hysteroscope may be placed into the uterus through the cervix to remove polyps and fibroid tumors, divide scar tissue, and open blocked tubes.

The advantages of these endoscopic procedures include reduced cost, quicker recovery, fewer complications, less pain, better cosmetic results, and success rates as good as, if not better than those performed by laparotomy (open surgery). Cleveland Clinic infertility physicians are internationally recognized for their expertise in laparoscopic treatment and performed the world’s first totally robotic surgery. Laparotomy may still be required for reversing tubal ligations and removing large fibroid tumors, but even these procedures can usually be performed through a small incision as an outpatient.

**Intrauterine insemination**
Intrauterine insemination refers to an office procedure in which semen undergoes a “washing” process and the sperm are then placed into the uterus using a slender plastic catheter inserted through the cervix. Intrauterine insemination may be performed in patients with mildly abnormal semen analyses, as well as those with unexplained infertility in combination with fertility drugs. Intrauterine insemination using anonymous donor sperm is an option in cases when the male partner has severely low or no sperm at all, as well as for single women and lesbian couples.
In Vitro fertilization

In vitro fertilization (IVF) is the treatment of choice for couples with nonreparable tubal disease or severe male factor infertility. It also is an option for all other causes of infertility, when conventional treatment has not been successful.

During the IVF process, the ovaries are stimulated with injectable fertility medications to mature multiple eggs. Once monitoring with ultrasound and blood tests indicate that the eggs are ready, they are collected nonsurgically with an ultrasound-guided needle under deep sedation. The egg collection procedure takes about 15 to 20 minutes.

Fertilization is accomplished by exposing the eggs to sperm in a culture dish, or by directly injecting a single sperm into each mature egg (intracytoplasmic sperm injection – ICSI). After fertilization, embryo development is monitored over the next three to five days, at which time usually two to three embryos are placed into the uterus with a small catheter through the cervix. Any additional embryos that are developing normally may be frozen for future use.

Cleveland Clinic’s IVF laboratory offers cutting-edge technology and is actively involved in research on embryo growth factors, novel culture systems to improve in vitro embryo development and sperm, egg and embryo freezing.

Egg donation and surrogacy

Cleveland Clinic offers both egg donation and gestational carrier services. Egg donation may be considered by those who are unlikely to have success with IVF because the woman does not produce enough healthy eggs. Cleveland Clinic specialists work closely with patients, utilizing all options for obtaining donor eggs including known donors, anonymous donors and donor egg agencies. For women who produce an adequate number of healthy eggs but have no uterus, a damaged uterus or a medical condition that precludes carrying a pregnancy safely, a gestational carrier may be considered. While the technology for both of these programs is readily available, it is essential that couples be comfortable with the use of “third party reproduction” before proceeding with these programs.

Egg and ovarian tissue freezing

Cleveland Clinic’s IVF laboratory is involved in leading-edge research on ovarian tissue and oocyte (egg) freezing. These innovative options are now offered to cancer patients who wish to preserve fertility before undergoing treatments such as radiation and chemotherapy that may cause early menopause. Frozen ovarian tissue can be reimplanted, resulting in the production of new eggs. Or eggs can be frozen in much the same way that men bank sperm for later use. Freezing of ovarian tissue is highly experimental. Egg freezing is improving rapidly but is also still considered to be experimental. Cleveland Clinic infertility specialists have reported several successful pregnancies from frozen eggs.
WHAT ARE THE OPTIONS FOR MALE INFERTILITY?

A male factor plays a role in at least 40 percent of infertile couples. For this reason, both the male and female partners should be assessed during a fertility evaluation. Rapid research advances in the area of male reproduction have brought about dramatic changes in the ability to both diagnose and treat male infertility. Cleveland Clinic male fertility specialists, dedicated to understanding and treating men who are unable to initiate pregnancy, are key members of the infertility team.

We offer a full range of services, including evaluation, medical treatment and surgical procedures. The surgical procedures most commonly performed include:

- Microsurgical vasectomy reversal (reversal of sterilization)
- Microsurgical correction of obstruction in the epididymis
- Microsurgical varicocele ligation
- Testicular and epididymal sperm extraction for in vitro fertilization. This procedure allows some men who have no sperm in the ejaculate, and paralyzed men who don’t ejaculate to be able to father a child.

The specialists in the Cleveland Clinic Center for Male Fertility understand your concerns from an emotional perspective as well as the medical one. We offer a unique, comprehensive, team approach to diagnosing and treating male infertility to help you achieve your personal goals and dreams for the future.
For the past 30 years, our state-of-the-art Andrology Laboratory and Reproductive Tissue Bank has been providing the highest quality services to couples being evaluated for infertility. The laboratory features state-of-the-art testing using the latest, most effective diagnostic tools and analyses. The laboratory is certified by CLIA in the state of Ohio and accredited since 1994 by the College of American Pathologists (CAP) Reproductive Laboratory Program. The laboratory offers comprehensive semen analysis with a computerized system that allows for the quality of the semen to be thoroughly studied. Other tests include direct and indirect immunobead testing to detect antisperm antibodies in serum, sperm or seminal plasma. Special stains can be utilized for the presence of sperm in azoospermic specimen. A post-vasectomy screen is available for those patients who have recently had a vasectomy.

Services also include the processing of sperm for intrauterine insemination; providing frozen donor semen for artificial insemination; and sperm freezing for patients prior to cancer treatment or vasectomy. Services to freeze ovarian and testicular tissue are available as well.

WHERE CAN I GO FOR TREATMENT?
Infertility services are available at Cleveland Clinic’s main campus; Fairview Hospital Fertility Center; and Beachwood, Solon, Strongsville and Youngstown fertility centers. Arrangements also have been made with facilities in Erie and Pittsburgh, Pennsylvania, and several other cities to provide convenient monitoring for patients who are undergoing treatment with fertility shots and/or IVF. Cleveland Clinic staff will help you find a center near your home if you require monitoring. All IVF procedures are performed in Beachwood.

WHERE CAN A COUPLE FACING INFERTILITY TURN FOR EMOTIONAL SUPPORT?
The emotional stress of infertility can be overwhelming. The physicians and infertility nurses at Cleveland Clinic are all very experienced in providing ongoing emotional and educational support and guidance for couples going through infertility evaluation and treatment. Our Integrative Medicine Department offers stress reduction therapies including acupuncture, guided imagery and Reiki.

We work closely with psychiatrists and mental health professionals for patients requiring their support.
Contacting Cleveland Clinic

READY TO SCHEDULE AN APPOINTMENT WITH A SPECIALIST?
If you would like to set up a consultation with a Cleveland Clinic specialist, please call 216.444.6601.

STILL HAVE QUESTIONS?
A Cleveland Clinic infertility nurse will be happy to help. Please call 216.444.8360.

INFERTILITY SPECIALISTS

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LOCATIONS

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Cleveland, OH 44195
Ob/Gyn & Women’s Health Institute:
216.444.6601

Beachwood Family Health and Surgery Center
Fertility Center
26900 Cedar Road, Suite 220 South
Beachwood, OH 44122
216.839.3150

Fairview Hospital
Fertility Center
18101 Lorain Ave. Suite 212
Cleveland, OH 44111
216.671.0380

Solon Family Health Center
Fertility Center
29800 Bainbridge Road, 2nd Floor
Solon, OH 44139
440.519.6960

Strongsville Family Health and Surgery Center
Fertility Center
16761 SouthPark Center, 1st Floor
Strongsville, OH 44136
440.878.2500

Fertility Center in Youngstown
3660 Stutz Drive, Suite 202
Canfield, OH 44406
330.702.1950

For more information about our staff including complete profiles, visit clevelandclinic.org/infertility
The Ob/Gyn & Women's Health Institute is one of 26 institutes at Cleveland Clinic that group multiple specialties together to provide collaborative, patient-centered care. The institute is designed to meet the unique and changing medical needs of women from adolescence to mature adulthood. Our team offers coordinated and supportive care for the problems that affect women's lives, from breast cancer to infertility, incontinence, pelvic floor disorders and more. Cleveland Clinic is a nonprofit, multispecialty academic medical center. Founded in 1921, it is dedicated to providing quality specialized care and includes an outpatient clinic, a hospital with more than 1,000 staffed beds, an education institute and a research institute.

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