
PROCEDURES -- SIU Fertility and IVF Center, SIU School of Medicine

About half of infertile couples have factors involving the female. Between 35 and 50 percent of infertile couples can trace problems to the male or to a combination of male and female factors.

Options for Treating Female Infertility

Correcting Anatomy Problems -- Problems with the fallopian tubes, uterus or cervix are diagnosed using hysteroscopy (a visual examination of the uterus) or imaging procedures including ultrasound (sound waves used to see the ovaries and uterus) and hysterosalpingogram (HSG, an X-ray technique which uses dye injected into the uterus to see if it is normal and the tubes are open). Laparoscopy (minimally invasive surgery) can correct anatomic problems or robotic surgery is used for complex cases.

Ovulation Induction -- Infertility can be related to problems with ovulation, commonly caused by polycystic ovarian syndrome (PCOS), excessive weight gain or loss, age, excessive exercise and extreme emotional stress. Medications are available to stimulate ovulation.

Tubal Reversal -- Some patients decide to have their fallopian tubes tied as a form of contraception. Occasionally, couples change their mind and would like to have more children. A tubal reversal procedure allows the removal of the blockage from the fallopian tube and reopening it to allow for the egg and sperm to meet naturally. This surgery is usually performed on an outpatient basis and can sometimes be done with minimally invasive techniques including robotic surgery, which allows physicians to place the tubes together with greater precision, less blood loss and a quicker recovery.

Intrauterine Insemination -- Intrauterine insemination (IUI), also known as artificial insemination, is a painless nonsurgical office procedure in which sperm from the male partner is placed inside the woman's uterus. Patients can resume normal activities immediately following.

In Vitro Fertilization -- In vitro fertilization (IVF) is a procedure in which eggs removed from the ovaries are fertilized in the laboratory with sperm from the male partner. The fertilized eggs develop into embryos over 2-5 days in the laboratory and then are placed inside the woman's uterus. IVF is used in cases where the fallopian tubes are blocked and in other diagnoses, where conventional medical treatments and surgery have not been successful.

- Embryo Cryopreservation -- Remaining embryos can be frozen for several years for later use. In these instances, the uterus first is prepared hormonally to accept the embryos, then the embryos are transferred back to the patient.
- Preimplantation Genetic Diagnosis -- A cell is removed from the embryo during IVF and analyzed for genetic conditions or chromosomal abnormalities.
- Blastocyst Stage Embryo Transfer -- It now is possible to develop the fertilized eggs in the laboratory for up to 5 days, the stage when embryos are referred to as blastocysts, before transfer back into the uterus. Because blastocysts are much further developed, fewer are needed and the risk of multiple births is reduced.

Oocyte (Egg) Donation -- If testing determines the female partner does not have sufficient or good quality eggs to get pregnant, the couple may choose oocyte donation as an alternative. Eggs from a donor are combined with the male partner's sperm during the IVF process. When the fertilized eggs develop into embryos, they are transferred to the female partner's uterus.

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Our patients can select from screened, healthy, young egg donors. Or they may have a friend or family member donate eggs. Donors undergo extensive genetic and medical testing and a thorough health review before being admitted as donors. There are different types of egg donation:

- Anonymous Oocyte Donation -- Couples may choose to have the oocyte donor remain unknown to them.
- Shared Oocyte Donation -- Women younger than age 35 who will undergo IVF may choose to share their eggs anonymously with women who cannot produce eggs. Each woman receives eggs fertilized with her partner's own sperm. The egg donor and egg recipient share the cost of the IVF treatment and it remains anonymous.
- Known Egg Donor -- Patients may choose a family member or friend to be the donor.

Surrogate Host (Gestational Carrier) -- Women who are under age 42 and still ovulating, but for whom pregnancy is inadvisable or not possible, may wish to consider having a surrogate carry their genetic child. Circumstances include health problems, recurrent miscarriages, absence of the uterus due to hysterectomy or being born without a uterus. Following an IVF procedure using the couple's eggs and sperm, the couple's biological embryos are placed in the uterus of the surrogate host.

Options for Treating Male Infertility

Medications -- The conservative treatment of male infertility may involve medical therapies such as hormonal stimulation, antibiotics, antihistamines or a variety of surgical procedures to improve the production, quality or motility of sperm.

Non-Surgical Sperm Aspiration -- Non-Surgical Sperm Aspiration (NSA) is a procedure to obtain sperm directly from the testicle using a needle. It is used when the sperm count is exceptionally low or when there is no sperm in the semen due to vasectomy or other types of obstructions in the reproductive tract. NSA also is an alternative to vasectomy reversal.

Intracytoplasmic Sperm Injection -- Intracytoplasmic Sperm Injection (ICSI), a unique technique for male infertility treatment, is another means of fertilizing eggs in the laboratory setting. In this procedure a single sperm is injected directly into an individual egg retrieved from the woman's ovaries. ICSI can result in pregnancy even in the most severe forms of male infertility as long as there are viable sperm available.

Diagnostic and Therapeutic Testicular Biopsy -- A simple outpatient procedure for accurate diagnosis or therapy, a testicular biopsy is invaluable for selected male factor infertility cases. Our laboratory staff is using the newest technologies and can process and analyze testicular tissue for genetic or other abnormalities in conjunction with the procedure.

Vasectomy Reversal -- Some patients decide to undergo a vasectomy (ligation of the male partner's ducts that bring sperm) as a birth control method. When patients want to have children again, physicians can reconnect the tubes together with microsurgical techniques done under a microscope. The results allow for the sperm to move through for a natural conception. The procedure is generally done on an outpatient basis, with a quick recovery.

Donor Sperm -- Male partners, in spite of undergoing multiple treatment attempts and surgeries, are sometimes still unable to produce sperm. After extensive counseling and discussion with the couple, the decision may be made to use a sperm donor to achieve the dream of a child. We have extensive lists of screened sperm donors available for these cases, and couples can choose their sperm donor in the privacy of their homes. Following the selection of a sperm donor, the female partner is monitored to determine the optimal time for ovulation and then an intrauterine insemination (IUI) is done with donor sperm on an outpatient basis. It requires a few minutes for the patient to be in the office and then she can resume her normal schedule thereafter.

