

After thoroughly testing both partners and identifying potential factors contributing to a couple's infertility, treatment options will be recommended based on their individual needs.

For those women with ovulation disorders, Polycystic Ovarian Syndrome, or irregular menstrual cycles, an oral hormone medication such as Clomiphene Citrate (Clomid) may be prescribed. These medications are designed to stimulate ovulation. Clomid is often combined with ultrasound to monitor the ovaries and blood tests to monitor hormone levels. Clomid can be used in conjunction with both timed intercourse or intrauterine insemination.

Gonadotropins are injectable fertility medications that work directly on the ovaries to produce follicles/eggs. The injections are given daily for approximately 10-12 days. During gonadotropin treatment, frequent monitoring with ultrasounds and blood hormone levels is necessary to closely monitor egg/follicle development. If a couple does not conceive after 3-6 cycles of gonadotropins, it is time to re-evaluate and move on to alternative treatments.

For those women whose tubes are not severely damaged and have a normal HSG, the dye study

explained earlier, **intrauterine insemination (IUI)** may be an option. In this fairly simple procedure, sperm is placed within the uterus around the time of ovulation. The woman's eggs are allowed to travel down her tubes on their own. Ovulation induction combined with IUI is often the first course of treatments. IUI alone offers a 3-6%* conception rate per cycle while combining clomid with IUI may boost this up to 9%*. Gonadotropins combined with IUI offers a 15-20%* per cycle conception rate (*minimal to mild tubal damage, normal to mild sperm abnormalities and women less than 40 years old.)

In Vitro Fertilization (IVF) offers a much higher chance of success per cycle for tubal damage than can surgery. Tubal scar tissue is often inside the fallopian tube but laparoscopic surgery can only repair the outside of the tube. During IVF ovaries are stimulated to develop eggs and then the eggs are collected. Then the eggs and sperm are left together in an incubator overnight to fertilize. The resulting embryos are incubated for up to 5 days and are placed in the woman's uterus.



For couples and individuals who experience a lack of eggs or sperm, or whose eggs or sperm will not allow development into viable embryos, using donated eggs or sperm (or both in some cases) is a course of treatment worth consideration. Donors are usually anonymous, though not necessarily so – as in cases using family members or significant others.

Egg donation is a viable option for women whose ovaries no longer produce eggs or whose eggs cannot develop into viable embryos. It is also an option for these couples who wish to maintain a biological link, using the partner's sperm.

Sperm donation has been around for many years and has been socially acceptable for some time. Not only can a single woman, or women who do not have male partners, become pregnant using donated sperm, but males who

have severe sperm abnormalities, or no sperm at all, or even potentially serious genetic traits he does not wish to pass on, can benefit. Donors are screened for STDs, heredity and genetic diseases and blood disorders. Donors can be found who closely physically and mentally match the recipient.

Embryo Donation is now another option available to our clients seeking to either create, or expand their families. Often when families undergo IVF treatments, they are left with remaining fertilized eggs (embryos). This can place the parents in a difficult position when they begin to discuss what to do with the remaining embryos. The previous options available have been to donate the remaining embryos to research, keep them frozen, or to dispose of them. We are now able to add a fourth option, Embryo Donation.

In cases of moderate to serious sperm abnormalities IVF may be combined with ICSI.

Assisted Hatching (AH)

Prior to embryo transfer, the embryologist creates a small opening in the embryo's zona pellucida using a specially designed laser which attaches to the microscope. Embryos must hatch from the zona pellucida prior to implanting in the uterus. Some evidence suggests that assisted hatching may make it easier for hatching to occur, and therefore may improve implantation rates. Although some centers have reported a slight increase in identical twinning as a result of assisted hatching process, we have not observed this at our facility.

Assisted hatching is offered to all couples/individuals. In our center, we perform assisted hatching on nearly all of our cases as we feel it enhances implantation and pregnancy rates. It is most commonly recommended in conjunction with IVF for:

- Couples/Individuals undergoing IVF with the female partner's age 37 or older.
- Couples/individuals undergoing IVF that have had one or more previous failed IVF cycles.
- Couples/individuals undergoing IVF whose embryos have a thicker than usual zona pellucida.

Intracytoplasmic Sperm Injection (ICSI)

ICSI is a method to fertilize eggs which was originally developed to circumvent male factor infertility. Currently, it is widely used in many IVF centers including ours, as the dominant fertilization technique even when semen parameters are normal.

Invitro fertilization with ICSI is offered to all couples/individuals undergoing IVF- yet it is specifically recommended for:

- Couples with severe male factor infertility opting to use the male partner's sperm rather than donor sperm. Male factor infertility may be characterized by low sperm concentrations, low sperm motility, or very poor sperm morphology. Men who do not have sperm in their ejaculate often can undergo an office procedure under local anesthesia to remove sperm directly from the testes or epididymus
- Couples who have previously undergone IVF cycles with no fertilization or a low rate of fertilization.
- Couples who have a low yield of eggs at egg retrieval.
- Cycles in which PGS or PGD will be performed.



Since ICSI requires direct manipulation of the woman's egg, she must be stimulated with medications and undergo an egg retrieval. Utilizing a powerful microscope, the embryologist is able to select and pick up a single sperm with a small glass needle specially designed for the ICSI process. The needle is advanced through the egg's outer shell (zona pellucida) and the sperm is deposited into the inner portion known as the cytoplasm of the egg.

For very severe sperm abnormalities, donor sperm from a sperm bank may be a consideration. The donor sperm is then introduced through IUI, IVF or IVF/ICSI.

One of the most frustrating times in a fertility treatment program occurs when a couple's evaluation show no explainable reason why they haven't become pregnant. Treatment options include all the techniques described above. Which treatment to choose is usually based upon experience.

While technology is constantly advancing, going through fertility treatments can be physically stressful and mentally/emotionally exhausting. In time, there is the possibility that a couple may realize that fertility treatments will not work. Adoption is perfectly viable and in some ways an equally rewarding alternative to fertility treatments. The end goal is the same, creating a family. We at CNY Fertility & Healing Arts are here to assist you on your journey, whatever the outcome may be.