

# **ABOUT IN VITRO FERTILIZATION (IVF)**

### What is in vitro fertilization?

In vitro fertilization is the process of combining sperm and eggs in a laboratory dish (also called a petri dish) in order to create a fertilized egg, or embryo. The embryo is then transferred into the uterus where, when successful, it will implant and develop into a fetus and then into a liveborn baby.

## Who should use IVF?

Women whose fallopian tubes are blocked and men with significant sperm anomalies are classic candidates for IVF. However, there are many other individuals that can use IVF with successful outcomes including (but not limited to) those with unexplained infertility, recurrent pregnancy loss or age related infertility.

### How many eggs will you remove? Will I have any left for the future?

Each month the ovaries bring up multiple eggs from the large resting pool that was established at the time of birth. Each egg grows within a small cyst called an egg follicle. Although most of these eggs will not survive the journey towards maturation, about 10-20 egg follicles are typically seen within the ovary at the time of menstruation. From there, only one - the so-called dominant follicle - will mature and is released at the time of ovulation. Our goal during a typical IVF cycle is to stimulate many of these eggs to mature so that we can retrieve and fertilize them. It is common for only some of the retrieved eggs to be mature and then to fertilize. Two important factors a woman's age and her "ovarian reserve" will usually determine how many eggs and embryos will result from this procedure.

# Is IVF safe? What are the risks?

IVF is considered a low risk procedure. Some risks include ovarian hyperstimulation syndrome (OHSS) and complications from the egg retrieval itself, such as bleeding. While vaginal bleeding is common and usually mild and self-limited, bleeding within the pelvis is a much more serious complication. Fortunately, it is very rare. OHSS is more common and happens when the woman's ovaries produce many follicles and very high levels of estrogen. This may be followed by bloating, abdominal discomfort, constipation and weight gain. Significant OHSS is generally avoidable as long as a woman does not conceive in the same cycle during which the ovaries have been stimulated. This is the reason that, under certain circumstances, we will recommend cryopreservation (freezing) of embryos and performing the transfer in a subsequent cycle. This option depends on many individual factors. There are other risks that might be potentially more dangerous that are very unlikely but can

be increased based on your medical history. You should speak to your doctor to see if you have any of these risk factors.

#### How do you take out the eggs?

To prepare for the egg retrieval, the ovary is stimulated to grow multiple follicles. During this process, patients need to be closely monitored with blood tests and sonograms in order to assess the development of the eggs and to optimize the time of retrieval. A trigger shot is a medication used at the end of the IVF cycle that will stimulate the ovary to prepare the eggs for removal and ready them to be mixed with the sperm. Once the trigger shot is given, the egg retrieval procedure will be scheduled about 35 hours later. The procedure is done in a New York State licensed and certified surgery center in our facility. While the woman is under anesthesia, the doctor, using ultrasound guidance, will pass a narrow needle into each follicle in the ovary and retrieve the egg inside. Our trained embryologist will then locate the eggs under a microscope and prepare them to be fertilized later that day.

# What is ICSI and should we do it?

Intracytoplasmic sperm injection is the process of injecting a single sperm into a mature egg. This is generally done when the sperm count is very low or the sperm itself is abnormal in some way. Occasionally it is done when the number of available eggs is low, a couple has unexplained infertility or when prior cycles without ICSI have demonstrated poor fertilization.

# What is assisted hatching and when is it done?

Assisted hatching is the process of making a small opening in the outer area of the embryo called the zona pellucida. It is usually done with a laser while the embryo is developing in the lab and prior to transfer. It is sometimes recommended when a couple has multiple failed transfers or when the patient is 38 years old or over.

# What are PGT, PGT-A and PGT-M?

Preimplantation Genetic Testing (PGT) is a general term used to denote any type of genetic testing done on an embryo prior to that embryo being passed into the uterus. PGT-A screens for "aneuploidy", which is an imbalance of chromosomes within the embryo that would decrease the chances for successful pregnancy.

PGT-M is used exclusively for patients known to be at risk for passing a significant genetic Mutation (hence the M) to their offspring.

The test is usually done on day 5 or 6 after the egg retrieval, when the embryo has reached the

blastocyst stage and can be biopsied. The biopsy is sent to a specialized lab while the embryo is frozen. The embryo can be thawed and transferred into the uterus during a subsequent cycle if the results show that it is healthy.

# Do I need an egg donor?

An egg donor is an option for women who have severely diminished egg reserve or are in menopause. This is either because of natural loss of eggs due to age or because of premature ovarian failure. Young, healthy women with a good egg reserve who choose to donate eggs go through a very thorough evaluation both physically and psychologically before donating their eggs.

# Can I exercise during IVF?

In general, low impact exercise is OK while going through IVF treatments. High impact exercises such as weight lifting, running, jumping and even advanced yoga positions can increase the risk for ovarian torsion, or twisting, which can lead to excruciating pain and is considered a surgical emergency.

#### Will the treatments cause mood changes?

Mood changes are common in patients going through IVF treatments. The fertility journey and the IVF process can be very stressful, and the physical work that a woman must do in the course of an IVF cycle will compound that. This stress will often express itself as anger, resentment or mood changes.

# How many embryos will be transferred?

In general, our goal is to transfer one healthy embryo. There are very specific guidelines on the ideal number of embryos to be transferred based on embryo quality and patient age that are published by ASRM. Transferring multiple embryos in many cases does not significantly increase the chance of long term success, but will increase the chance of poor outcomes such as miscarriage and preterm delivery.

### How much does IVF cost?

Every patient's situation is unique, and the optimal treatment for each is also unique. IVF has a wide range of potential cost, from less than \$10,000 to greater than \$20,000. Insurance may cover all or part of a fertility treatment. If not, there are many programs we have to reduce or finance the costs of treatment.

# Can I select the gender of my child?

PGT-A technology will reveal the sex of the embryos. However, some cycles only yield female or male embryos. If there are healthy embryos of both sexes, you can choose which embryo will be transferred.

