

In Vitro Fertilization (IVF) Today

By Dr. Marjorie Dixon, MD, FRCS(C), FACOG | Articles | 0 comment | 1 June, 2016 | 1

Today, In Vitro Fertilization (IVF) is one of the most commonly used treatments for infertility, because it maximizes the chances of conception.

Natural conception occurs when an egg has been released from an ovary and is fertilized by sperm in a female's fallopian tube. Through IVF, the process of fertilization occurs in a lab, where embryologists combine the eggs and sperm. Successfully fertilized eggs are then transferred into the woman's uterus for further development.

When buying groceries at the grocery store, a dozen eggs might just be the right amount. When a woman is undergoing IVF, studies show that 15 eggs are ideal. It is fine to retrieve less than 15, as quality is more important than quantity and depending on the situations, more than 15 eggs are fine too. It is also important to note that retrieving a large amount of eggs does come with more risks; hyperstimulation and egg quality. When an IVF retrieval results in obtaining 15 eggs, you can expect approximately 30 – 40 percent blastocyst development rate (4.5 – 5 Day 5 embryos). A Day 5 embryo transfer (blastocyst stage), is the final and most successful stage before the embryo hatches and is implanted.

A successful transfer can also occur on a Day 3, when there are between 6 – 8 cells to the embryo. This is known as the embryonic stage or cleavage stage embryo. During this embryonic stage there is less of implantation when compared to expected success with a blastocyst transfer.

There are multiple stimulation protocols and gonadotropin preparations to choose from. Stimulation is typically tailored to the patient's needs and individualized based on age, ovarian reserve markers, ultrasound findings, body mass index, and response to previous stimulation. In addition, a desired egg yield has to be determined that will lead to good clinical outcome with minimum risk and reduced costs.

Additionally, IVF allows future parents to take advantage of the genetic testing, Preimplantation Genetic Screening (PGS) & Diagnosis Testing (PGD). The genetic testing done on embryos for specific genetic diseases that can be transmitted from the parents. PGS screens all 23 pairs of autosomal chromosomes as well as the 2 sex chromosomes for abnormal traits and PGD is the diagnosis of a single gene defect (i.e.: cystic fibrosis, muscular dystrophy, thalassemia, etc.) in the embryo for couples that are known to have a single gene mutation. Parents with a known recessive disorder have a chance of transmitting the medical illness to their child. The purpose for genetic testing is to ensure that parents' offspring have the option of being spared of hereditary diseases.

In December 2015, the province of Ontario experienced a big triumph in infertility support. The Ontario Government created a new Fertility Service Program to assist families with the cost of assisted reproductive

technologies. This Program gives patients with a valid Ontario health card the ability to receive subsidized IVF and/or Fertility Preservation treatment at any fertility clinic in Ontario that participates in the Program. Anova Fertility & Reproductive Health is a proud participant in the Fertility Program.

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