



Vitro Fertilization (IVF)

Vitro Fertilization (IVF) literally means ‘fertilization in glass’ in Latin. This is a procedure where eggs and sperm meet in the Petri Dish in the lab, as opposed to the fallopian tube. It is a very safe and very effective treatment. It was initially developed for women that had blocked fallopian tubes, but is now used for many reproductive problems.

IVF is physically very easy. A woman is given medication to produce multiple eggs, usually around 20 eggs, depending on the woman and the ovulation induction protocol. The woman’s response to medication is monitored with ultrasounds and blood work. The ultrasounds measure the size of the follicle (the fluid filled cyst which the egg develops in), as the size of the follicle correlates to the maturity of the egg. Blood tests are done to measure the hormones which the eggs are producing (estrogen). The number and size of the follicles and the level of estrogen are evaluated, and the amount of medication may be adjusted so that the eggs develop at a proper rate. When a cohort of eggs is mature (the follicles measure a certain size which correlates to mature eggs) a medication is given to start the process of ovulation. This medication, HCG, starts the process where the egg reduces the number of chromosomes from 46 to 23. Two days after HCG the woman has a trans-vaginal oocyte (egg) aspiration. The woman is under a very light general anesthesia, and using a trans-vaginal ultrasound, with a needle guide attached, the needle is passed through the vaginal wall, into each follicle. The needle is connected to suction, and the fluid in each follicle is collected in test tubes. The test tubes are given to the embryologist, where the eggs are identified in the follicular fluid.

While the woman is having the eggs retrieved, her partner produces a specimen. As it is not unusual for a man to experience performance anxiety, we ask that there is a specimen which has been previously produced and cryopreserved (frozen) available for this unforeseen event.

The embryologist puts a few eggs with a certain amount of sperm, together in a Petri Dish where fertilization occurs. The woman is now started on a different medication, progesterone, which helps support the uterine lining. Several days after the egg retrieval embryos are transferred through the cervix, into the uterus. This is referred to as the embryo transfer (ET). The ET is done with ultrasound guidance. A trans-abdominal ultrasound is used, and the embryos are placed at the exact location in the uterine lining. This is a very fast and painless procedure, but is extremely important.

Prior to the actual ET, a mock embryo transfer (MET) is performed prior to the start of the IVF cycle. The same catheter which is used at the time of the ET, is passed through the cervix, into the uterus. The position of the opening of the uterus, the amount of curve needed in the catheter, the depth of the uterine cavity, are all carefully evaluated and documented. This provides a 'map' for the actual ET, ensuring that the ET is easily performed