In vitro fertilization (IVF) and Embryo Transfer-II

At this point, an embryo may be screened for genetic disorders. However, this being somewhat controversial is not always used. One or two of the best embryos are selected for transfer. The woman is then given **progesterone** or **human chorionic gonadotrophin (hCG)** to help preparing the lining of the womb receive the embryo.

Insemination

A semen sample is collected from the male partner. A technician will mix the sperm with the eggs in a petri dish. If fails to produce embryos, then ICSI may used.

Embryo Culture

Fertilized eggs may be monitored whether they are they are dividing and developing. The embryos may be tested for genetic conditions at this time.

Transfer

When the embryos are big enough, they are implanted. Implantation normally occurs three to five days after fertilization. Implantation involves inserting a thin tube called a **catheter** inserted into the vagina, past the cervix, and into the uterus. Then the embryo is released the uterus. Normally, the doctor transfers more than one embryo if there is no ideal embryos.

Pregnancy starts with the implantation of the embryo in the uterine wall. This may take 6 to 10 days. pregnancy is determined by a blood test.

Complications Associated with In Vitro Fertilization

there are certain risks associated with IVF. These complications may include:

1. multiple pregnancies, which increases the risk of low birth weight and premature birth
2. miscarriage (loss of pregnancy)
3. ectopic pregnancy (implantation of the eggs outside the uterus)
4. ovarian hyperstimulation syndrome (OHSS), a rare condition involving an excess of fluid in the abdomen and chest
5. bleeding, infection, or damage to the bowels or bladder (rare)

Other factors that may affect success

Apart from age, the likelihood of success depends on following factors:

1. time since when pregnancy is being tried
2. cause of infertility
3. whether or not pregnancy or a live birth has occurred before
4. the strategy that will be used

Side effects of medication

The possible side effects of IVF drugs may be:

1. nausea and vomiting
2. difficulty breathing
3. irritability
4. hot flashes
5. enlargement of the ovaries
6. difficulty sleeping
7. abdominal pain

Bruising can also result from repeated daily injections.

Health risks to the mother

Rarely, the drugs can cause **ovarian hyperstimulation syndrome (OHSS)**. This is over-production of eggs by the ovaries. Severe abdominal swelling and shortness of breath can result. In case of OHSS the whole cycle may be restarted with a lower dose of gonadotropin. Research published in the *BMJ* has linked IVF with a higher risk of pulmonary embolism, or blockage of the lung's main artery, and venous thromboembolism, or blood clots, during the 1st trimester of pregnancy.

Pregnancy loss

The leading cause of pregnancy loss, whether in IVF or in natural conception, is an abnormal number of chromosomes, known as **chromosomal aneuploidy**. Detecting aneuploidy in the egg or sperm before carrying out IVF, or in an embryo before implantation, may help increase the chance of a successful pregnancy. In 2013, scientists developed a new technology called **time-lapse imaging**. The technique may increase the chances of selecting a suitable embryo for successful IVF, though further research needs to be done.

Multiple Births

When more than one embryo is transferred into the womb, there is a higher chance of having twins, triplets, or more babies.

Pregnancies with more than one fetus can result in:

- preterm birth or low birth weight
- double the mother's risk of developing diabetes
- significant increase in the mother's blood pressure