

Application of Single Embryo Transfer for Reducing the Risk of Multiple Pregnancies

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DESCRIPTION

In Vitro Fertilization (IVF) is a medical procedure that has revolutionized the field of reproductive medicine. It provides millions of individuals all around the world who are battling with infertility and want to have their own child. IVF involves the fertilization of an egg with sperm outside the body, in a laboratory setting, and the subsequent transfer of the embryo into the uterus for implantation and pregnancy. This technique has opened up new possibilities for conception, but it also raises ethical, social, and legal concerns.

IVF begins with the stimulation of the ovaries to produce multiple mature eggs. This is done using hormonal medications that help to control the timing and development of the eggs.

Once the eggs are deemed ready, they are retrieved from the ovaries using a minor surgical procedure. The male partner provides a sperm sample, which is then processed to isolate the healthiest and most active sperm.

In a laboratory dish, concurrent fertilization of recovered eggs and sperm has been observed. This process may involve either conventional IVF, where the sperm is placed directly with the eggs, or Intracytoplasmic Sperm Injection (ICSI), where a single sperm is injected directly into an egg. After fertilization, the embryos are cultured in the laboratory for a few days to allow for further development. During the culture period, the embryologists assess the quality of the embryos and select the most viable ones for transfer. The number of embryos transferred depends on various factors, including the age of the woman, the quality of the embryos, and the couple's preferences. The remaining embryos can be cryopreserved (frozen) for future use.

The embryo transfer is a relatively simple procedure that involves placing the selected embryos into the woman's uterus using a thin catheter. One or more of the transplanted embryos are expected to implant in the lining of the uterine cavity and result in a healthy pregnancy. Following the transfer, the woman may undergo hormonal supplementation to support implantation and

early pregnancy. Many people suffering from infertility owing to a variety of factors such as obstructed fallopian tubes, low sperm count or motility, endometriosis. It has also allowed couples of the same gender and single individuals to have biological children.

Despite its numerous benefits, IVF also raises ethical and social concerns. One major ethical consideration is the fate of surplus embryos. During the IVF process, multiple embryos are often created, but not all of them are transferred. The legal status of embryos has been a topic of debate, with conflicting perspectives on when life begins and what moral obligations exist regarding their disposal.

Another ethical concern is the potential for multiple pregnancies. To increase the chances of success, multiple embryos are sometimes transferred, which can lead to the birth of twins, triplets, or even higher-order multiples. Multiple pregnancies carry a higher risk of complications for both the mother and the babies, including preterm birth, low birth weight, and developmental issues. Medical guidelines now recommend Single Embryo Transfer (SET) in most cases to reduce the risk of multiple pregnancies.

IVF is also a financially and emotionally demanding procedure. It can be expensive, and the costs may not be covered by insurance, making it inaccessible to some couples. The treatment process itself can be regular injections, monitoring screenings, and the uncertainty of success are physically and emotionally exhausting. For *In Vitro* Fertilization (IVF) partners, their feelings of dissatisfaction and anticipation can prove extremely difficult. Legal issues surrounding IVF vary across countries. Laws regarding IVF differ in terms of access, regulation, and restrictions. Some countries have strict regulations, such as limiting the number of embryos that can be transferred or prohibiting certain procedures like surrogacy. Others have more liberal policies, allowing for greater flexibility and options in fertility treatments.

The legal framework aims to strike a balance between safeguarding

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the well-being of patients, ensuring the ethical use of reproductive technologies, and respecting individual rights and choices. *In Vitro* Fertilization has revolutionized the field of reproductive medicine. *In Vitro* Fertilization (IVF) having the ability to conceive and have biological children, overcoming previously insurmountable barriers. However, *In Vitro* Fertilization (IVF) has ethical, social, and legal problems that must be carefully

considered. The long-term impact of surplus embryos, the possibility of having several pregnancies, the financial and emotional stress on couples, and the legal rules around IVF are all critical issues to consider as we continue to investigate the potential and consequences of this incredible medical development.