

What is ICSI?

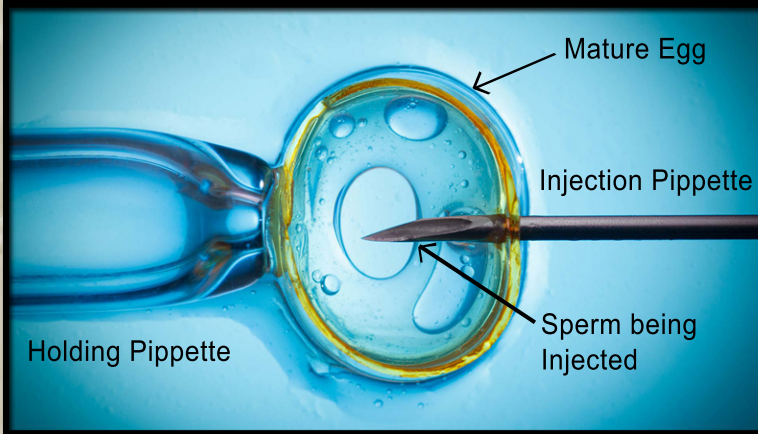
ICSI or Intracytoplasmic sperm injection is a laboratory procedure introduced in 1992 to improve fertilization in couples undergoing Assisted Reproduction due to Male Factor Infertility. ICSI, a form of micromanipulation, involves the injection of a single sperm directly into the cytoplasm of a mature egg (oocyte) using a glass needle (pipette). This process increases the likelihood of fertilization when there are abnormalities in the number, quality, or function of the sperm.

How is ICSI done?

Before ICSI can be done, mature eggs must be retrieved from the female partner during a standard IVF cycle. The male partner's semen sample is prepared in the lab to isolate as many healthy moving sperm as possible. After allowing the eggs to rest for 2 hours following their removal, the tight outer coating of cells (cumulus) is removed from each egg. Only then can we be sure the egg is mature enough to undergo ICSI.

Immature eggs cannot be injected. However, they can be incubated for a further 4-18 hours and reassessed. If they mature during that time and sperm is still available, they can undergo delayed injection. Fertilization rates with delayed injection are not as good as with usual ICSI techniques.

A special instrument is used to hold the egg in place. It is so small you can barely see the tip with the naked eye. A thinner, sharp, needle-like instrument is used to pick up a single normal appearing sperm. With great precision, the needle is inserted through the egg's outer coating (the zona pellucida) and into the egg itself. The sperm is slowly injected into the egg, and the needle is removed, leaving the sperm behind. The injected eggs are placed in an incubator overnight and checked the next morning for signs of fertilization.



What are the fertilization rates with ICSI?








Fertilization occurs in 50% to 80% of injected eggs. The ICSI process may damage a small percentage of eggs. The fertilized egg may fail to divide, or the embryo may arrest at an early stage of development. Approximately 40% of all ICSI cycles performed result in a live birth, which is comparable to rates seen with traditional IVF. Younger patients may achieve even more favourable results. Factors such as poor egg quality and advanced maternal age may result in lower rates of success.

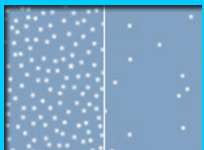
ICSI does Improve Fertilization rates with respect to IVF but once Fertilization is achieved it has no effect on the pregnancy rate.

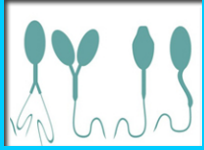
Are there any complications with ICSI?

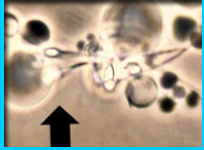
ICSI does not increase the incidence of multiple gestations as compared to standard IVF. To date, there is no convincing evidence that the incidence of birth defects is any different with ICSI or IVF as compared to those children born to other parents of similar age and health. This is an area of ongoing investigation. Because some causes of male infertility are familial and are related to genetic problems, male offspring might have reproductive problems as adults. Despite these concerns, ICSI is a major advance in the treatment of severe infertility.


What are the indications for ICSI?

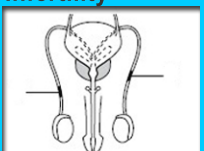
-  **Very low numbers of motile sperm.**
-  **Severe teratospermia (abnormal sperms).**
-  **Problems with sperm binding to and penetrating the egg.**
-  ***Presence of Antisperm antibodies thought to be the cause of infertility.**
-  **Prior or repeated fertilization failure with standard IVF methods.**
-  **Frozen sperm limited in number and quality.**
-  **Obstruction of the male reproductive tract not amenable to repair.**

Low sperm count


Teratospermia


Anti-Sperm Ab.*


IVF failure


Obstructive Male Infertility


Sperm may then be obtained from the epididymis by a procedure called microsurgical epididymal sperm aspiration (MESA), or from the testes by testicular sperm aspiration (TESA).

ICSI Summary

- ICSI is a safe procedure and an effective therapy for the treatment of **male factor** infertility.
- ICSI can increase fertilization rates when **lower than expected or failed fertilization** has previously occurred with conventional insemination.
- ICSI may improve fertilization rates in subsequent cycle following **total failed fertilization in a prior IVF/ conventional insemination cycle**, although fertilization failure seems to correlate with poor ovarian stimulation.
- ICSI may benefit patients with **unexplained infertility**, since its usage may by-pass potential fertilization barriers that could be the cause of unexplained Infertility.
- ICSI may be of benefit for patients undergoing **IVF with Pre-Implantation Genetic Screening (PGS)**, **in vitro matured oocytes** and **previously cryopreserved oocytes**.
- ICSI is commonly used for **Low oocyte yield**, to increase the number of embryos achieved compared to that expected with conventional In-Vitro Fertilization.
- ICSI is recommended for the oocytes retrieved from older women since with **advanced maternal age**, oocytes will have structural defects of the zona pellucida or cytoplasm that might reduce the fertilization rate with conventional In-Vitro Fertilization.
- ICSI is also practiced if both **egg and sperm qualities are poor**. In case of poor egg quality but normal sperm parameters a mix of ICSI and Conventional In- Vitro- fertilization in 50:50 ratio is the norm.

Services

- Pre Conception Counseling
- Infertility Workup
- IUI Or Intra Uterine Insemination
- IVF Or In Vitro Fertilization
- ICSI Or Intra Cytoplasmic Sperm Injection
- Oocyte Donation And Egg Sharing Programs
- Surrogacy
- Embryo Freezing And Oocyte Freezing
- Cryo-Preserved Semen Bank
- Andrology Clinic
- TESA And PESA
- Basic And Advanced Endoscopic Surgery
- Hormone Analysis
- Genetic Counseling
- Pre Implantation Genetic Diagnosis (PGD)
- Pre Implantation Genetic Diagnosis (PGS)
- Recurrent Miscarriage Clinic
- Nutrition Clinic
- Care Pharmacy



766 866 66 33

- ① Care IVF Lansdowne: 88 B, Sarat Bose Road, Kolkata - 700 026. Ph - 033 40707001, 9674 304767
- ② Care IVF Salt Lake: AC 12, Sector - I, Salt Lake City Kolkata - 700 064. Ph - 033 40053085
- ③ Care IVF Jamshedpur: Micheal John Tower Southern Town Area - 06, K Road, Bistupur. Ph - 0833 4950664
- ④ Care IVF Siliguri: Tilak Road, Hakim Para Siliguri - 734 001. Ph - 700 3822488, 9073 304279



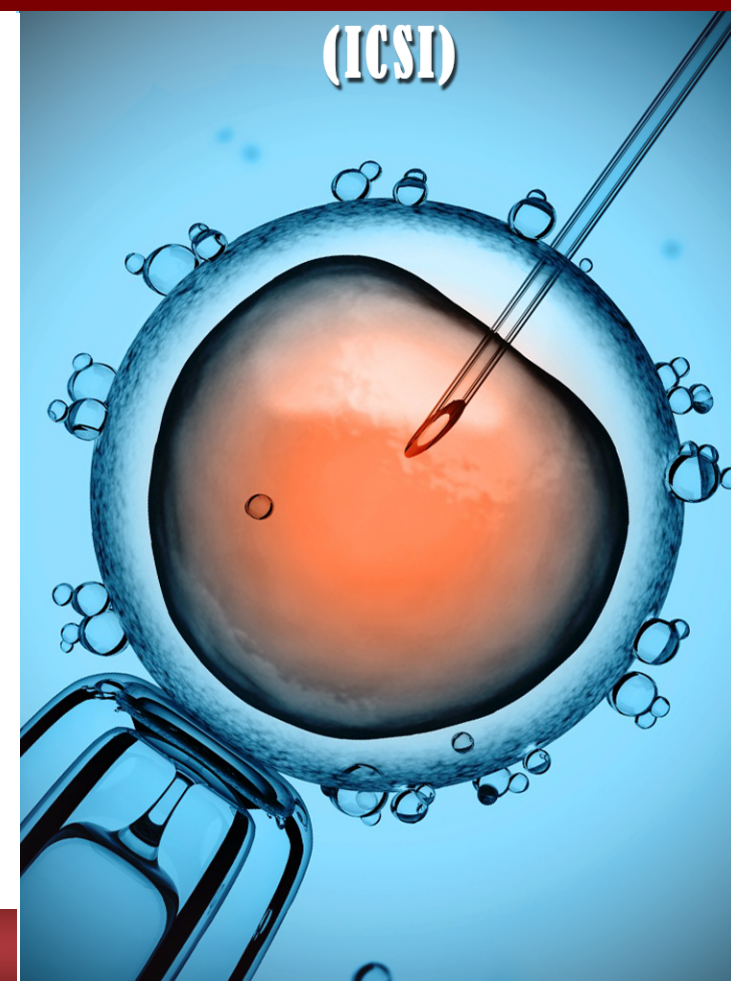
babies@careivfkolkata.com



/CareIVF



/CareIVFKolkata



Improves Fertilization Rates



Care IVF