



What is IUI?

IUI, or intrauterine insemination, is one of the assisted reproductive techniques. In this method, semen is washed in specialized laboratory devices using high-speed centrifugation. The sperm with better motility and quality are separated and injected into the uterus through the cervix using a thin tube at the time of ovulation.

When is the IUI Method Recommended?

- Unexplained infertility
- Mild endometriosis
- Cervical issues
- Vaginismus
- Ovulation problems
- Premature ejaculation
- Presence of antisperm antibodies in semen
- Cervical mucus disorders
- Reduced sperm count and quality
- Ovulation issues

How is IUI Performed?

IUI (intrauterine insemination) is a simple assisted reproductive technique that can be considered an advanced form of intercourse with certain interventions. In this method, the man's washed and enhanced sperm is directly injected into the woman's uterine cavity. To increase the chances of fertility, before performing IUI, ovarian stimulant drugs are administered to the woman in specific doses to increase the number of eggs released in the cycle. After monitoring the ovaries with ultrasound and observing the size of the follicles, an HCG injection is given to induce ovulation. IUI is performed 36 to 48 hours after the HCG injection. Sometimes, based on the doctor's recommendation, IUI is done twice in consecutive days to increase the chances of successful pregnancy. After IUI, there is no need to hospitalize the patient, but some doctors may keep the patient immobile on the bed for up to 60 minutes post-procedure.

What is the Success Rate of IUI?

The success rate of this assisted reproductive technique is 25% per cycle. If the treatment is unsuccessful after 4 to 6 cycles of IUI, other assisted reproductive methods are recommended. The success rate of IUI depends on the patient's age, the severity of infertility, and the number and quality of sperm.

Increasing Success Rate Recommendations:

Do not self-medicate without consulting a doctor.

Maintain a healthy lifestyle (regular exercise, healthy and nutritious diet, avoiding smoking, reducing caffeine intake, managing stress and anxiety, having sexual intercourse after IUI).

It is also recommended that men abstain from sexual intercourse and ejaculation 2 to 5 days before IUI. Avoid using hot water during bathing.

Post-IUI Care:

After the procedure, absolute rest is not necessary. Patients can engage in their normal daily activities but should avoid consuming gassy foods, excessive saffron, and undercooked meat.

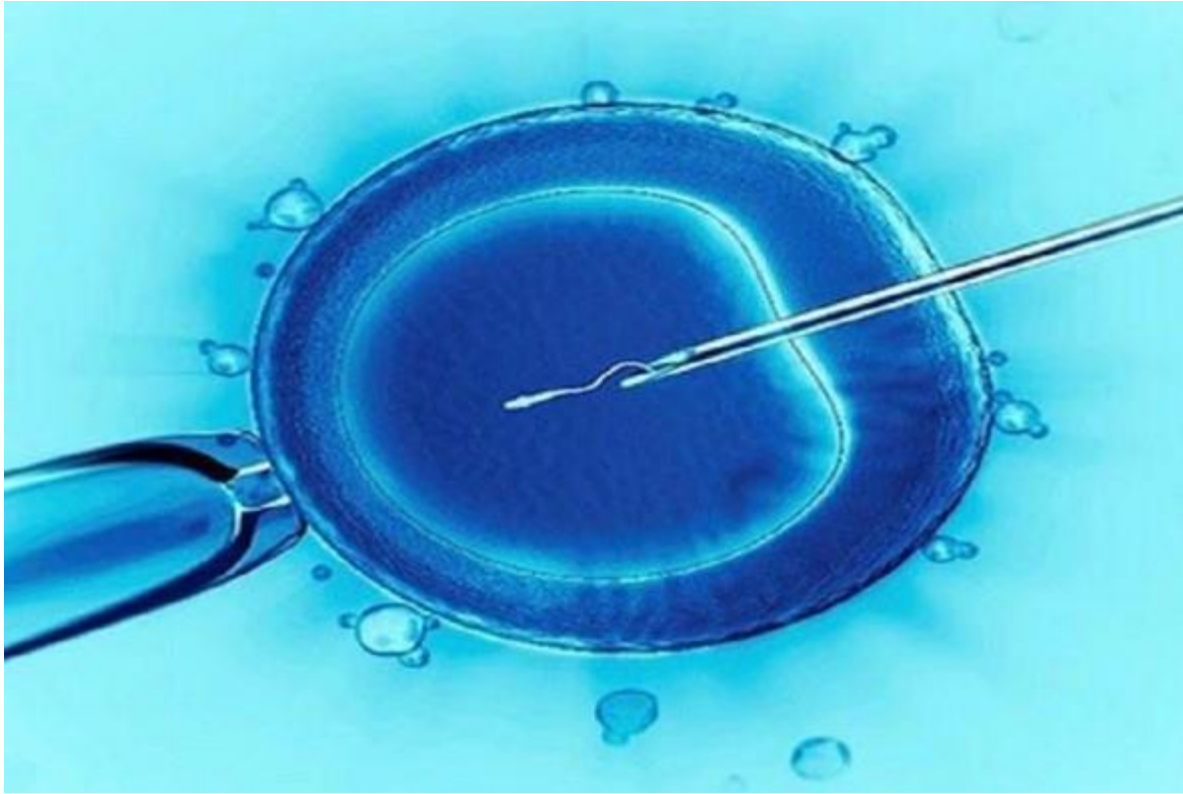
- Avoid stress and anxiety.

- Refrain from alcohol and smoking.
- Avoid wearing tight clothing.
- Prevent contact with chemicals and chemical exposure.
- Use one progesterone suppository daily for 15 days after IUI.

Due to the risk of contracting contagious diseases, it is advised to avoid crowded places. Having a proper diet and consuming fresh vegetables and fruits are recommended for preventing constipation by avoiding straining during defecation and reducing abdominal pressure. In case of abdominal pain or vaginal bleeding, the individual should contact their treating physician. The process of embryo transfer is painless and anesthesia-free, and the individual can be discharged after half an hour of embryo transfer. A pregnancy test is conducted two weeks after embryo transfer to assess the outcome of the procedure.

Complications of IUI include:

- Ovarian Hyperstimulation Syndrome (OHSS) may occur following excessive ovarian stimulation.
- Mild bleeding and abdominal pain are other potential side effects.
- There is a risk of sexually transmitted infections (STIs) due to contaminated inseminated sperm.
- Increased risk of multiple pregnancies, which may result in higher-risk pregnancies.



What is ICSI?

In vitro fertilization (IVF) is a procedure where sperm and egg are fertilized in a laboratory dish. However, microinjection (ICSI) is a technique used when the sperm are not of sufficient quantity or motility to fertilize the egg on their own. ICSI is also known as intracytoplasmic sperm injection.

Conditions for using microinjection (ICSI):

- Low egg quality
- Low egg count
- Advanced maternal age or proximity to menopause
- Lower than expected fertilization rates
- Sperm obtained through testicular biopsy
- Low sperm count

Steps of Microinjection Procedure

1. Ovulation Stimulation
2. Egg Collection
3. Sperm Preparation
4. Egg Fertilization Using Microinjection

Method Fertilization often occurs 12 to 15 hours later and is detected under a microscope.

5. Embryo Transfer into the Uterus:

Screening of the couple and investigation of infertility causes are conducted during initial visits. Hormonal status evaluation and ovarian reserve testing, semen analysis, and screening for underlying diseases, sexually transmitted, and infectious diseases are performed. Additionally, ultrasound, hysteroscopy, or hysterosalpingography is used to check for inflammation or blockage in the female reproductive tract. Lifestyle assessment, nutritional status improvement, and treatment of underlying conditions are also carried out. The individual is then placed in an ovulation stimulation cycle, and the prescribed medications are administered according to the doctor's recommendation. Follicular status is monitored, and egg retrieval is performed at a specific time in the cycle. In the operating room, eggs are collected using special needles through the vagina and sent to the embryology lab for maturity and quality assessment. Fertilization of the sperm can be done by artificial or natural insemination under laboratory conditions. The resulting embryos are kept under laboratory conditions for 3 to 5 days, during which their growth quality is assessed by an embryologist. If the woman is suitable for embryo transfer, the embryos are transferred into the uterus through the cervix using a special plastic tube (catheter) guided by ultrasound. If the conditions for embryo transfer are not suitable, the embryos will be frozen.

Embryo Transfer:

The embryo transfer may take place between 3 to 5 days after fertilization, or, at the doctor's discretion, it may be delayed for several months following embryo freezing. It is necessary to prepare the uterus before performing the embryo transfer. For this purpose, the gynecologist uses progesterone medication. This hormone not only strengthens the uterine lining but also reduces uterine contractions, playing a crucial role in implantation and the continuation of pregnancy. Therefore, the use of this medication, as recommended by the gynecologist, continues in the form of progesterone injections or suppositories. Continuing the use of medications for the treatment of

underlying conditions, as well as taking supplements such as multivitamins or Vitamin D3, is mandatory based on the doctor's discretion.

Post-Embryo Transfer Care:

After the embryo transfer, it is necessary to avoid stressful and anxious situations and to try to create a calm environment as much as possible. It is advisable for the individual to refrain from heavy activities and intercourse until the pregnancy test result is received. Additionally, avoiding crowded environments is recommended.

The success rates of microinjection are as follows

- 30 to 35 percent for women under 35 years old
- 25 percent for women aged 35 to 37.
- 15 to 20 percent for women aged 38 to 40.
- 6 to 10 percent for women over 40 years old.

The difference between IVF and ICSI (Intracytoplasmic Sperm Injection) lies in the method of fertilizing the eggs:

In IVF (In Vitro Fertilization), fertilization of the egg and embryo formation occur through the natural penetration of sperm into the egg. However, in the ICSI procedure, this process is facilitated using a laboratory tool called a micropipette. During ICSI, a single sperm is injected directly into the cytoplasm of the egg using the micropipette.

Embryo cryopreservation, or embryo freezing, is employed in several scenarios:

- When there is a high yield of formed embryos.
- In cases of excessive ovarian stimulation.
- If there is vaginal bleeding during or before embryo transfer.
- When uterine fibroids are present, hindering embryo transfer.
- When genetic testing is necessary before embryo transfer.

Embryos are frozen under the supervision of a reproductive specialist and embryologist. Additionally, individuals undergoing hormone therapy or cancer treatment, which may

compromise fertility, may opt for embryo cryopreservation to preserve their fertility potential. The frozen embryos are thawed at the appropriate time and utilized for embryo transfer. This eliminates the need for further ovarian stimulation or egg retrieval procedures in subsequent treatment cycles.

Drawbacks of the ICSI method include:

- Increased risk of multiple pregnancies.
- Higher likelihood of Ovarian Hyperstimulation Syndrome (OHSS).
- Elevated risk of embryo miscarriage.
- Breast sensitivity, fatigue, nausea, and spotting are common symptoms following ICSI. These side effects may stem from medication, particularly progesterone, or pregnancy itself. In most cases, discontinuing medication leads to symptom improvement. In rare instances, symptoms such as abdominal bloating, weight gain, reduced urine output, and shortness of breath may indicate severe Ovarian Hyperstimulation Syndrome. In such cases, the treating physician will decide on appropriate management, including potential hospitalization and treatment.
- Blood tests to confirm pregnancy typically occur 14 days post-ICSI.
- Sexual intercourse the night following ICSI is recommended.
- Minimal bleeding or spotting post-ICSI is considered normal.