**Treatments**

**1.IUI Treatment**

IUI Treatment Procedure & Success Rate

**IUI** means **Intra Uterine Insemination**. This procedure relies on the natural ability of sperm to fertilize an egg within the reproductive tract. It is useful in cases where infertility is caused by **Cervical Mucus Incompatibility, Elevated ASA, Low Sperm Survival, High Seminal Viscosity, Poor Sperm Morphology, Unexplained Infertility, Impotence or Premature Ejaculation**.

The **IUI treatment centre is located in Allahabad, Uttar Pardesh(U.P.), India** and the aim is to introduce a quantity of sperm into the uterus in order to encourage fertilization. The procedure is simple. We induce ovulation in the female partner by fertility drugs. Then place a prepared semen sample high in the uterus through a fine catheter. It is important here that at least one of the fallopian tubes of the female partner is open.

**2.IVF - ET TREATMENT**

In Vitro Fertilization & IVF Embryo Transfer

In Vitro Fertilization or IVF (Test Tube Baby)

In simple terms **IVF** means fertilisation outside the body. After ovarian stimulation, eggs are collected from the women's ovaries and then fertilized by the husband's sperms in a petri dish or a test tube in a controlled laboratory environment. The resulting embryos are deposited into the women's uterus by embryo transfer. If the process is successful, one or more embryos will implant in the lining of the womb and the woman will become pregnant.

This treatment in [Arpit Test Tube Baby Centre](http://arpitivf.com/)is done and indicated for the following situations.

* Both fallopian tubes are absent, blocked or irreparably diseased.
* Reduced sperm count and motility
* Moderate to high elevated ASA
* Endometriosis
* PCOD unexplained infertility
* Tubal Transport mechanism is disturbed.
* In short IVF procedure consists of :
* Controlled Ovarian stimulation
* Monitoring of follicles and egg development
* Oocyte or egg retrieval under short anesthesia
* Fertilization of the egg with the sperm
* Embryo formation 2 to 5 days after fertilization
* Embryo transfer

Egg Pickup & Embryo Transfer (ET)

This procedure is carried out under aseptic conditions through the vagina by ultrasound guidance under mild anesthesia. A needle is inserted into the ovaries through the back wall of the vagina. The follicles are aspirated and the eggs are immediately identified in the culture room. The eggs are then inseminated with washed motile sperms of the husband and placed in the incubator for fertilization to take place. Embryos take 48 hours to develop into 4 cell stage and the best 1-3 embryos are placed in the uterine cavity of the female partner. Embryos are usually placed in the wife's uterus 2 or 3 days after egg retrieval, often under ultrasound guidance.

**Note:-**Patients are advised rest for 14 days at home, no admissions in the hospital is required. A pregnancy test after 14 days is recommended.

**3. ICSI Treatment**

ICSI Treatment for Male Infertility Allahabad

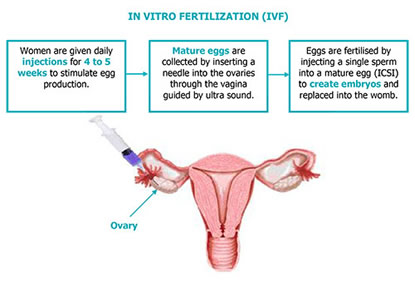
**ICSI** stand for **Intra Cytoplasmic Sperm Injection** also known as **Micro Manipulation**. The Approach to male fertility management has changed over the last few years. Patients who had compromised semen samples had to undergo years of medication and surgical manoeuvres and only few patients benefited. Now with advancement of ART techniques, **conventional methods of treating male infertility** has been replaced by ICSI, a proven and wholly acclaimed scientific procedure. This revolutionary technique performed by us has given fresh hope to many men whose chance for fathering their own children were slim.

ICSI is indicated when few sperms are available or no sperms are available or IVF is not possible or unexplained fertilization failure or low fertilization in previous IVF cycles. Total azoospermia (total absence of sperm in the ejaculate) can be due either to a blockage, absence of the vas deferens or to a failure of the testes to produce spermatozoa. The degree of this failure can be variable. 90% of patients with azoospermia can be benefited by ICSI after confirming the presence of sperms in the testicular biopsy. However, the sperm that is collected is not able to fertilize the egg in the natural way and ICSI is always necessary. This leads to a fertilization rate of around 85% Sperm can be recovered either by open surgery needle or aspiration. During **Microepididymal Sperm Aspiration (MESA)** - the scrotum is opened and under microscope sperm is aspirated from the epididymis. Percutaneous Sperm Aspiration (PESA) is a less invasive technique whereby a small needle is inserted through the skin directly into the epididymis to aspirate sperm.

In this procedure, eggs are retrieved (as in IVF) from the female partner and under an inverted microscope each egg is injected with a single sperm isolated from the male partner's semen sample by MESA/ TESE/PESA. Broadly in patients with obstructive azoospermia, **Dr.A.K.Bansal** who is specialised in these surgeries at **Jeevan Jyoti Hospital Allahabad** is able to collect enough sperm for ICSI.

Patients with non obstructive azoospermia like mumps, orchitis, testicular disfunction, history of long standing ailments during anti cancer drugs etc. same procedure is followed.

**4. IVM Treatment**

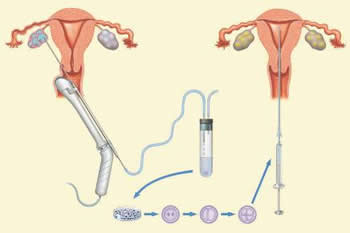


IVM- In Vitro Maturation Treatment Uttar Pradesh

IVM - New ART Procedure

In **Vitro Egg Maturation or IVM** - Instead of removing fully mature eggs from the ovaries and then fertilizing them,[IVF Specialists](http://arpitivf.com/Our-IVF-Team.aspx) remove immature eggs, ripen them in a lab dish, then add sperm. Rest of the procedure is same as IVF, time required for stimulation is reduced greatly. This may be particularly useful for women who suffer from polycystic ovarian syndrome, a hormonal disorder that disrupts ovulation.

5. IMSI Treatment



IMSI IVF Treatment & Procedures Allahabad

Intra-Cytoplasmic Morphologically Selected Sperm Injection (IMSI)

A new break through in **IVF treatment- IMSI**, now at Arpit Test Tube Baby Centre.

Sperm morphology evaluation plays a crucial role in the diagnosis of male fertility potential and it has demonstrated a predictive value for fertilization and pregnancy outcomes in [IVF treatments](http://arpitivf.com/IVF-ET-Treatment.aspx).

A new technique has recently been developed within the in vitro fertilization (IVF) field. A new microscope that will allow infertility specialists to pick the best sperm while carrying out the specialized test-tube baby procedure of ICSI. The IMSI method was first developed in 2004 by a team led by Benjamin Bartoov, of Barilan University in Israel, who used IMSI to select those sperms with a shape and size that indicated good genetic quality. The pregnancy rate in patients jumped from 30 % to 66 %.

In ICSI technique, an egg is held and injected with a husband sperm, with the help of a machine called micromanipulator. If the husband has no sperms, then sperms are obtained by doing a testicular biopsy. The fertilization occurs outside the woman’s body. The embryo is created outside the body of the mother and then placed inside the mother’s womb.

Intra-Cytoplasmic Morphologically Selected Sperm Injection (IMSI) helps magnify the image of the sperm 7,200 times, thereby allowing doctors to pick the best quality sperms. The machine is an advanced version of the earlier technique of Intracytoplasmic Sperm Injection (ICSI), having the magnification capacity of 16 times higher than ICSI. IMSI is a real-time method where sperms are selected just before the microinjection takes place.

The higher rate of magnification allows for a view of the internal morphology of the sperms – invisible to conventional inverted microscopes – and makes it possible to avoid choosing those that show anomalies on this level and that might compromise the success of the treatme nt.

IMSI helps improve the success rate among men with the worst prognosis and is said to be more beneficial than ICSI in patients with previous IVF or ICSI failures. It is also useful in couples with unexplained infertility. It has been shown that IMSI resulted in better egg fertilization rates, better quality embryos, better rate of blastocyst formation and therefore better pregnancy rates.

The technique has been tested on men that have serious sperm anomalies and also in cases of repeated miscarriages as well as repeated IVF failures.

Studies have already demonstrated that patients who underwent IMSI obtained significantly better advantage of over the conventional IVF-ICSI procedure in terms of pregnancy rate and miscarriage rates. This will be a promising technique in daily IVF practice when applied to severe [male infertility](http://arpitivf.com/ICSI-Treatment.aspx) and repeated failure cases.

**In short IMSI is:-**

* Benificial for previous IVF failed patients
* IMSI results in a higher pregnancy rates
* Lower miscarriage rates

**6. Embryo Monitoring**

Embryo Monitoring Advanced Fertility Treatment

**New IVF technology with 24/7 embryo monitoring**

**Time-lapse monitoring of embryos and their development as the latest breakthrough in IVF.**

Time-lapse technology basically involves as a series of 5000 or more snapshot images, which are then fast forwarded to provide a video-sequence of the embryos developing. You may have seen this on natural history programmes where it is used to show a plant growing of flower blossoming.

The systems of microscopic monitoring are the newest development in the field of Assisted Reproduction and are expected to provide important information and answers for the embryo development and the possibility of embryo implantation in IVF programmes.

And this is because they monitor and record the development of each embryo 24 hours a day!

Special microscopic lenses are incorporated in the incubators. The embryos are placed in appropriate places in the incubators which are connected with these lenses and it is not necessary to move them outside of the incubator for monitoring as the observation of their development is done with external monitors.

It is like there is a microscope inside the incubator watching night and day the development of each embryo separately.

Their use does not have any negative influence on the development of the embryos since the embryos are not affected by their presence. On the contrary, there are many important advantages like;

* The embryos are not exposed to external lab conditions. Therefore, there is constant culture and incubation achieving the maximum of quality for the developing embryos.
* Even more essential is the fact that there is constant and continuous record that allows us to know important details of the cell development like for example;
* the exact time between cell division (that is to say how many hours after the fertilization each embryo was at 2 cells, 3 cells, etc.)
* how much time was needed to complete each cell division
* if each cell was divided properly, as well as other very important details that complete the puzzle of each embryo.

It is worth mentioning that these details were impossible to record with the traditional ways of monitoring of the embryos.

What is it?

* Time-lapse embryo monitoring basically comprises of equipment which allow embryologists to record the development of the embryos inside at timed intervals.
* By watching when and how the embryos divide it is possible to tell whether development is taking place normally.
* Without the embryo monitoring equipment embryologists are still able to view and record the embryo’s development. However, these activities will be undertaken at longer intervals, and information relating to exactly when the embryo divided will be missing.
* Also, it is necessary to remove the embryos from the incubator in order to inspect them. This in turn exposes them to a change in temperature and humidity which is not ideal.

Why do I need it?

Embryos containing the incorrect amount of chromosomes in each of their cells (known as aneuploid) may divide abnormally even though they look normal to the naked eye. Embryologists will grade embryos on the number of cells, their shape, level of fragmentation, thickness of the outer shell etc. Without embryo monitoring equipment embryologists may assess an aneuploid embryo to be normal and decide that it is suitable for transfer. But, of course, it may not be normal. If it is abnormal, it may not implant or may lead to a miscarriage. With embryo monitoring, an embryologist has lots of information on how the embryo divides, what it looks like whilst dividing etc. This information can be used to assess whether a normal looking embryo is indeed 'normal'. Time-lapse embryo monitoring can also sometimes determine early on which embryos are most likely to make it to the blastocyst stage. This may mean that we can transfer embryos earlier in the knowledge that the best ones have been chosen.

Embryos grow slowly and the technology is perfect to observe them in a laboratory environment over two to five days. Selecting the right embryos.

Single embryo transfer (SET) is the predominant procedure as in many other countries, which makes techniques for selecting the most viable embryo even more important.

Primo Vision gives detailed information on the development of embryos over time and, together with the Arpit Test Tube Baby centre’s experience, provides increased support in selecting the embryo that is most likely to implant and result in pregnancy.

Embryo evaluation with less stress – embryo safety first

Using Primo Vision Time-Lapse Embryo Monitoring System inside your incubator provides maximum safety in your culture environment. The system allows you to observe all embryos without the disturbing incubation conditions or altering your daily routine.

The Primo environment is free of any kind of electromagnetic field effect, the embryos are not moved and outstanding quality images are captured with minimal light exposure by Hoffmann modulation contrast.

The Time-Lapse technology enables to objectively assess embryo development in order to transfer or freeze the best quality embryo and to increase your chances of becoming pregnant.

**7. Laser Assisted Hatching**

LAH- Laser Assisted Hatching Allahabad

Significant improvement in pregnancy rate is achieved through laser assisted hatching. It benefits patients with failed IVF cycles, patients over the age of 38, and who have previous poor implantation results.

Assisted zona hatching in the ART laboratory consists of creating a hole in the zona pellucida (embryo covering) to facilitate the hatching process. Indications/criteria for AZH include those patients with the following characteristics:

* Poor prognosis embryos as deemed by the IVF laboratory;
* Advanced age (usually >38 years) in which the zona may be thicker or harder;
* Borderline or elevated FSH levels;
* Repeated failure of embryo implantation in IVF;
* Frozen embryos (since the zona may be hardened as a result of freezing/thawing procedures).