

## Dr. Pandit Palaskar

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Specialist: Gynecological Endoscopic Surgeon, IVF-ICSI Infertility Specialist

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### Infertility FAQ

When it comes to various issues of assisted reproduction, it is very normal that person has lots of queries. These queries are related to various facets like causes of infertility, when couple should consult doctor, success rate of treatment, safety of the mother, legal issues etc. We try our best to provide maximum guidance with regards to these questions and have selected some most often asked questions and have tried to answer them for your ready reference. Should you have any further queries, please feel free to discuss with us or email us, we will try to respond as best as possible.

#### **When should the couple start their investigation and treatment after marriage?**

It is estimated that about 90% of couples will achieve pregnancy in the first year & 95% in two years. Therefore, a couple should start investigation and treatment if there is no pregnancy within one year of unprotected intercourse.

#### **When does ovulation occur in female?**

Timing of ovulation depends upon the duration and regularity of menstrual cycle of female partner. If cycles are regular i.e. 28 to 30 days, usually, in normal circumstances, ovulation occurs fourteen days prior to expected periods. If cycles are irregular then prediction of ovulation is difficult, in such cases you can take help of ovulation tests or consult your gynecologist.

#### **Which tests are available for detection of ovulation?**

Normal ovulation is defined as rupture of the ovarian follicle with release of an oocyte. The most common means of assessing ovulation in the menstruating woman include basal body temperature (BBT) recordings, cervical mucus changes, testing of luteinising hormone (LH) surge and serial ultrasound scans.

#### **What should be the time of intercourse to achieve a pregnancy?**

Timing of intercourse depends upon the duration and regularity of menstrual cycle of female partner. Usually, in normal circumstances, ovulation occurs fourteen days prior to expected periods. So, in general if a female partner is having a regular cycle of 28 to 30 days, she should have intercourse daily or alternate day from day 12 to day 16 of menstrual cycle to have a pregnancy. If cycles are irregular then prediction of ovulation is difficult, in such cases you can take help of ovulation tests or consult your gynecologist.

#### **After intercourse why semen comes out of vagina?**

Normally vagina can accommodate upto half to one milliliter semen which is sufficient for normal reproduction. When husband's semen volume is more than this amount, the remaining semen may come out of vagina after intercourse. This will be not the cause of your infertility.

#### **What is male factor infertility?**

It is a condition where the male partner has low sperm count or sperms are non-motile or their motility is poor or they are abnormally shaped. The male may also have problem with delivering sperms in the female genital tract.

#### **What is azoospermia?**

It is a condition in men who lack live or dead sperms in their ejaculate. It may be due to testicular causes (testicular atrophy, testicular failure, etc) or vasectomy (blocked seminal ducts) i.e. obstructive azoospermia, or it may be due to spinal cord injury or neurological conditions like multiple sclerosis, those who have had their prostates removed or those who produce dead sperms i.e., non-obstructive azoospermia. For such men testicular biopsy is performed to aspirate sperms from the testicles.

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#### What constitutes female infertility?

Females are termed infertile when they are unable to ovulate or when they have obstructed or damaged fallopian tube or uterus. Pelvic inflammatory diseases like tuberculosis or sexually transmitted diseases (STD), endometriosis, fibroids or tumors, surgeries like appendectomy, birth defects or abnormally shaped uterus like bicornuate or septate uterus can cause infertility in females.

#### What is unexplained infertility?

When there are no obvious causes of infertility in the couple even after complete investigation, it is termed as unexplained infertility.

#### What is the success rate of IUI treatment?

Success rate of IUI treatment varies greatly depending upon the age of both partners, cause of infertility, duration of infertility, type of treatment and sperm parameters. On an average the success rate of IUI is 10 to 20% depending on the couple's profile.

#### What is the success rate of pregnancy after IVF?

The success of conception depends on causes of infertility in a couple, age of female partner, number and grade of embryos transferred, experience of treating doctors, IVF lab standard and many other factors. In our center, the rate of fertilization with ART is 100% with 40 to 45% pregnancy having attained with ICSI, practically over-riding male factor. 30 to 35% is the current rate of pregnancy in our center with conventional IVF procedures. This success rate is comparable with worldwide success rate of IVF. There is of course no specific age limit for couples who may be considered for IVF in our institute.

#### Can we have intercourse after embryo transfer in IVF cycle?

It is better not to have intercourse after embryo transfer in IVF cycle. Intercourse can cause implantation failure or abortion.

#### How many cycles of IVF are required to get pregnant?

Number of cycles required depends on the age of the patient, general health of the patient, cause of infertility, quality of the oocyte, quality of the semen, etc. Usually two to five cycles are tried.

#### What are causes of IVF failure?

Success rate of IVF depends upon the age, general condition of female partner, cause of infertility in couple, response to fertility drugs, number of eggs retrieved and fertilized, number of embryos transferred, condition of uterus, laboratory standard and experience of center.

**a) Maternal age:** Success rate of IVF decreases with increasing maternal age as number of eggs produced and their fertilization rate decreases with increasing age. Success rate of IVF is 53% for women in age group of 25 to 35 years, where as it is 18% for woman in the age group of 40 to 44 years.

**b) Cause of infertility:** This is another important factor deciding the outcome of IVF cycle. Highest success rates are found in patients having tubal damage with good uterine cavity and lowest among those with male factor infertility. Infection of uterus causes adhesions or scarring in uterine cavity or decreased endometrial thickness that can cause implantation failure. Also general ill health, debility and systemic diseases decrease the chance of conception.

**c) Failure of response to drugs:** In spite of giving daily injections of fertility drugs some patients respond poorly to produce sufficient number of eggs. This can be due to increasing age of patient or resistance to the drugs.

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- d) Failure of fertilization:** Failure of fertilization may be due to poor quality oocytes, sperms, genetic diseases or improper culture conditions in the laboratory.
- e) Number and grade of embryos transferred:** Pregnancy rate increases with increasing number of grade 1 embryos transferred. But this also increases the risk of multiple pregnancies. Good quality grade 1 embryos have good potential for implantation and further development than grade 2, 3, 4 embryos.
- f) Embryo cryopreservation:** Cryopreservation of excess embryos increases the cumulative pregnancy rate in a given IVF cycle. It also decreases the cost of treatment and risk of multiple pregnancies. Now day's embryo freezing is an integral part of IVF.
- g) Genetic disease:** Genetic diseases in a couple can cause fertilization failure, cessation of growth of embryo or abortion. Karyotyping of couple, at least in high risk cases, is necessary before IVF, ICSI treatment to rule out genetic diseases.
- h) Male factor infertility:** Extremely low sperm count, impaired motility or poor sperm morphology represent main causes of failed fertilization in conventional IVF. Now days these factors are tackled by ICSI to some extent.
- i) Excessive mental stress:** Excessive stress can cause hormonal imbalance and altered body response to fertility drugs. This can lead to reduced number of oocytes, implantation failure or abortion. So during treatment the couple should be mentally and physically relaxed and should have positive thinking and attitude towards their treatment.
- j) Unexplained causes:** Some times failure can occur even if everything goes uneventful during whole treatment cycle. Here we are at the end of the beginning rather than at the beginning of the end. We need more research in this area to rule out much more causes.

#### For how long the sperms and embryos can be cryopreserved?

Sperms and embryos can be cryopreserved for decades in liquid nitrogen for future use. In some countries there is legislation regarding the time period for embryo cryopreservation.

#### What are the after effects of hormonal treatment?

Hormonal treatment at the most influences weight gain by half to one kilogram; other than that there are no drastic hormonal effects incurred in the patient.

#### What precautions are taken to prevent mixing up of the semen and oocyte samples in the laboratory?

Semen samples of every male patient are washed in separate tubes that are labelled with their first and second names at every step. Oocytes retrieved after ovum pick-up are stored in disposable plastic petri-dishes labelled with the female patient's name and surname and the stage of the oocyte or embryo that results in culture. Throughout the procedure honest and accurate identification of the specimen is maintained.

#### What is egg donation? Who can be the donor / recipient?

Egg donation is performed when a female patient has ovulation problems or if she produces bad quality oocytes after ovulation induction as for IVF. This procedure is done after the oral and written consent of the donor, and the recipient and her husband. This procedure is performed in absolute confidentiality with the physicians and the staff and the donor and the recipient. The recipient's menstrual cycle is coordinated with that of the donor's to enable fresh embryo transfer. All the eggs produced by the donor are inseminated with the recipient's husband sperms and the resulting embryos are transferred to the recipient's uterus. Excess embryos are cryopreserved so that they may be used for following attempts when in case pregnancy fails at the first attempt. Healthy women can opt for egg donation. They should be not more than 40 years of age. They are required to undergo psychological, medical and genetic

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testing. The centre maintains the data of the donor's height, hair color and type, blood type, ethnic background including caste and religion, educational qualifications, occupation, etc. The centre also accepts donor's that have been chosen by the recipients. The egg recipient is a woman whose medical and / or genetic tests indicate the use of donor eggs for achieving pregnancy.

#### Who can be semen donors?

Men with sound medical health and known fertility can donate their semen for IUI, IVF or ICSI procedures after submitting his written consent for the same. They should be between 25 to 45 years of age and should not have had any past history of infectious diseases. They are required to submit their infectious diseases evaluation report, semen analysis and general health analysis report, which should include a complete physical examination done and certified by a registered medical practitioner. For infectious disease evaluation, the donor is required to be tested negative for Hepatitis B, C antibodies, HIV 1 and 2 antibodies, Trichomonas, Candida, Cytomegalovirus and HTLV-I. Three semen samples of the donor is taken at regular intervals of 3-4 weeks and is tested for volume, pH, count, motility, abnormality, pus cells, agglutination and particulate matter. His semen analysis is required to match with the normal semen parameters of WHO. The donor semen tested should maintain the quality standards in his three trial attempts and only then he is recruited on our lists of semen donors. The donor should be willing to undergo the infectious diseases evaluation tests as well as semen analysis tests every three months. If he fails to do so or if the results tend to become substandard, he is eliminated from our list of regular donors.

#### When and for whom is cryopreservation necessary?

Firstly, cryopreservation is of utmost advantage to couples whose male partner is not always available during his spouse's ovulation period i.e., when the husbands work away from their homeland or when the husbands are unable to produce semen sample when it is required. It is also beneficial to those husbands who have to undergo chemotherapy. In such situations freezing of husband's semen is beneficial so that during his wife's ovulation time his frozen semen after thawing can be used for IUI, IVF, or ICSI as the case may be.

Secondly, after the process of super ovulation, women tend to develop oocytes that are more than sufficient for one cycle. Usually one to three embryos are replaced per IVF cycle. In centers which do not have cryopreservation facilities, the remaining would remain non-utilized and hence wasted. With cryopreservation, excess embryos can be preserved so as to transfer them for future embryo transfer cycles. In this way the female can avoid undergoing frequent ovarian stimulation, avoid the risk of multiple gestation and it would also prove cost beneficial. Frozen specimen is also easy to transfer to other locations if the patients prefer to get embryo transfer done at their new location.

#### What is the survival rate of the specimen after the freezing procedure?

Freezing and thawing does reduce the number of viable cells and so, the total count of the spermatozoa tends to become less after thawing. At our center, 70-80% of fertilization has been attained using cryopreserved spermatozoa. Cryopreserved embryos also have the tendency to get degraded; however, we regularly cryo-preserve the embryos and we are getting good pregnancy and take home baby rate. Pregnancy rates of 50% per IVF cycle can be achieved with use of frozen thawed embryos which is comparable with pregnancy rate of fresh embryo transfer cycle.

#### What is host uterus and surrogacy?

For those biological mothers (egg donors) who are capable of ovulating and forming normal embryos but are diagnosed medically unfit to carry out the gestation (absent uterus, uterine synechie, damaged uterus) can hire/borrow gestational carrier (host) for her embryos to develop into a fetus. In this process,

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eggs from a biological mother is retrieved and fertilized in vitro, after which it is transferred to host uterus to complete gestation (gestational surrogacy).

#### **Who can be a gestational host?**

A gestational carrier can be a friend, a relative, or an unknown woman who is willing to serve as a gestational host under some financial arrangements. She should be under the age of 40 years and preferably of proven fertility. All appropriate medical tests should be performed of the gestational carrier before she is recruited for the purpose and the evaluation should compare well with the normal standards of gestation.