

Infertility



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- Treatment



Introduction

Infertility happens when a couple cannot conceive after having regular unprotected sex. It is often defined as not conceiving after 12 months of regular sexual intercourse without the use of birth control. Lifestyle has a profound effect on fertility - obesity, smoking, alcohol and recreational drugs negatively affect the chance of conception and

Worldwide 8 to 12 percent of

Define - Infertility



- Infertility is the inability of a sexually active, non-contracepting couple to achieve pregnancy in one year. The male partner can be evaluated for infertility or subfertility using a variety of clinical interventions, as well as from a laboratory evaluation of semen.

-semen manual, 5th edition

- Infertility is a disease of the reproductive system

Types

Secondary Infertility

- Refers to couples who have been able to get pregnant at least once, but now are unable.

Primary Infertility

- Refers to couples who have not become pregnant after at least 1 year having sex without using birth control

Incidence

- Male : 35-40%
- Female : 35-40%
- Combined : 10-15%
- Unexplained : 10-15%



Risk factors

Female factors

- Hormonal factors
- Cervical factors
- Ovarian factors
- Advanced age
- Tubal factors
- Uterine factors

Male factors

- Environmental factors
- Coital frequency
- Mechanical factors
- Psychological stress
- Anti sperm antibodies
- Anatomic factors

Causes

- Many physical and emotional factors can cause infertility. It may be due to problems in the women, men or both.

Female infertility:

Female infertility can occur when,

- A fertilized egg or embryo does not survive once it attaches to the lining of the womb.
- The eggs cannot move from the ovaries to the

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- Eating disorder or poor nutrition
- Growths (such as fibroid or polyps) in the uterus and cervix
- Hormone imbalances
- Being overweight or underweight
- Older age
- Ovarian cysts and polycystic ovary

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- Scarring from sexually transmitted infection, abdominal surgery or endometriosis
- Smoking
- Surgery to prevent pregnancy (Tubal ligation) or failure of tubal ligation
- Thyroid disease
- Hypercalcemia : if prolactin levels are high and the

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Male infertility occurs due to :

- Decreased number of sperm
- Blockage that prevents the sperm from being released
- Defects in the sperm
- Birth defects
- Gonadotropin-secreting tumors, including choriocarcinoma and

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- Exposure to high heat for prolonged periods
- Heavy use of alcohol, marijuana or cocaine
- Hormone imbalance
- History of testicular Infection, STIs, injury or surgery
- Medicines such as Cimetidine, Spirinolactone and Nitrofurantoin

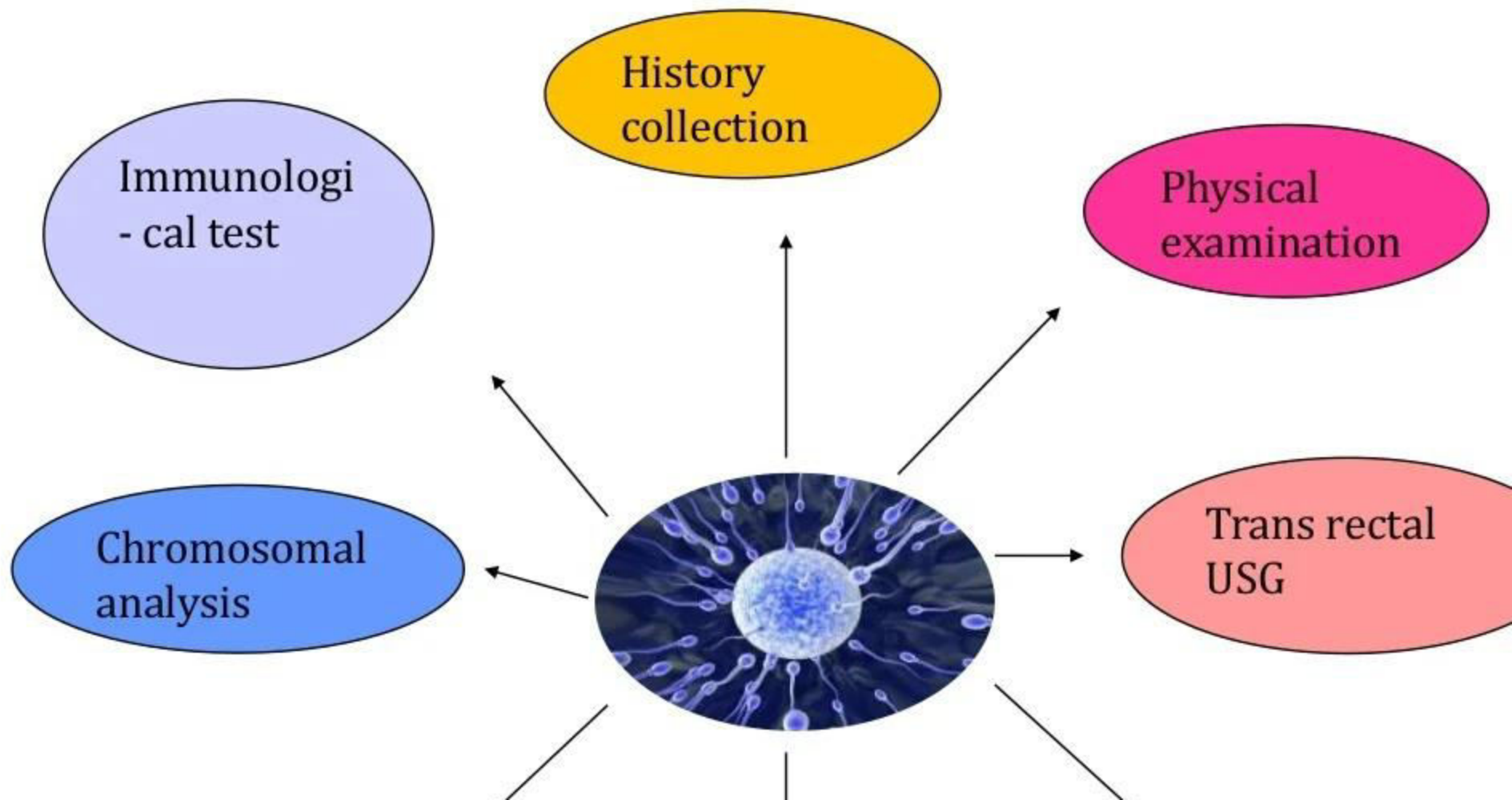
Diagnosis



Diagnosis

Infertility test for men :

- Medical history, medications and sexual habits
- Physical examination : the Testicle will be checked for lumps or deformities and the shape and structure of the penis will be examined for abnormalities.
- Semen analysis : A sample may be taken to test for sperm concentration, motility, color, quality, and



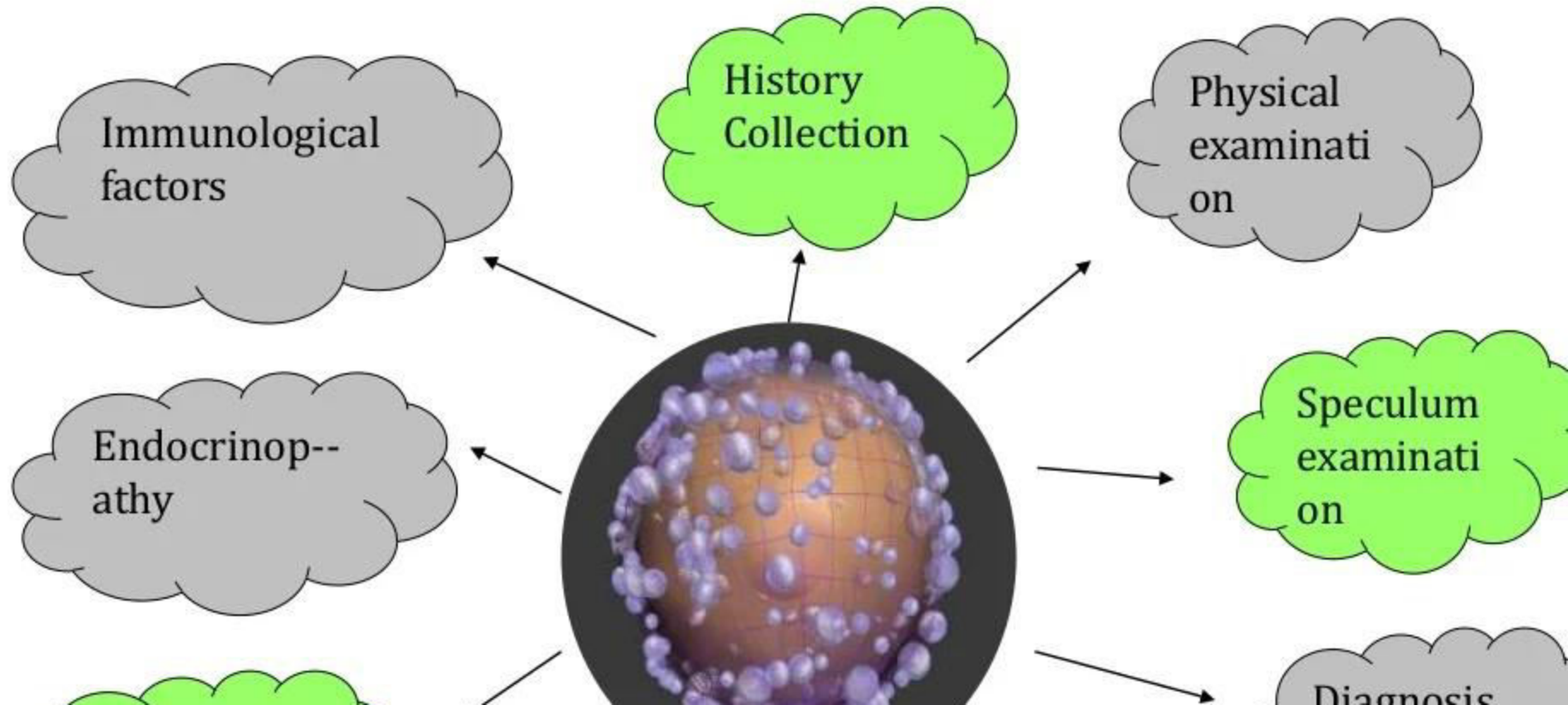
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Characteristics	Normal values
Volume	2-5ml
ph	7.2 – 7.8
Sperm concentration	20 million/ml or more
Total sperm count	Greater than or equal to 4 million /ejaculation
Motility	50% are more progressive towards motility

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- Blood test : To know the levels of testosterone and the other hormones
- Ultrasound : This may reveal issues such as ejaculatory duct obstruction or retrograde ejaculation
- Chlamydia test :Chlamydia can affect fertility but antibiotics can treat it.

Infertility test for women



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- A women under a general physical examination, h
medical history,medications,menstruation cycle a
sexual habits will be collected.
- Gynecological examinations
- Blood test : this can access hormonal levels and wh
a women is ovulating.
- Hysterosalpingography :
Fluid is injected into the women's uterus and

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- Laparoscopy :

A thin, flexible tube with a camera at the end is inserted into the abdomen and pelvis, allowing a doctor to look at the fallopian tubes, uterus and ovaries. This can reveal signs of endometriosis, scarring, blockages, and some irregularities of the uterus and fallopian tube.

Management

- Treatment will depend on many factors, including age of the person who wishes to conceive, how long infertility has lasted, personal preferences and the general state of health.
- Frequency of intercourse
- The couple may be advised to have sexual intercourse more often around the time of ovulation.

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Fertility test for men :

- Treatment depend on the underlying cause of the fertility.
- Erectile dysfunction or premature ejaculation medication, behavioural approaches or both may help improve fertility.
- Varicocele: surgically removing a varices vein in the

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- **Retrograde ejaculation** :sperm can be taken directly from the bladder and injected into an egg in the laboratory.
- **Surgery for epididymal blockage** :
a blocked epididymis can be surgically repaired
the epididymis is a coil-like structure in the testicle

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Fertility treatment for women :

- Fertility drugs might prescribe to regulate or induce ovulation. They include

- **Clomiphene (clomid, serophene)**



This encourages ovulation in case of PCODS etc. makes the pituitary gland release more follicle stimulating hormone(FSH)and luteinizing hormone(LH)

- **Metformin(Glucoophage)**

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- Human menopausal gonadotropin or HMG(repronex)
This contains both FSH and LH. Patients who do not ovulate because of a fault in the pituitary gland.



- Follicle – stimulating hormone (gonal-F,Bravelle):

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- Human chorionic gonadotropin(oveidrel,pregnyl):
Used together with clomiphene,HMG and FSH.
This can stimulate the follicle to ovulate.



- Gonadotropin releasing hormone (Gn-RH) analogue
These can help women who ovulate prematurely

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➤ Bromocriptine (parlodel):

This drug inhibits prolactin production. Prolactin stimulates milk production in lactating women with high levels of prolactin.



➤ Reducing the risk of multiple pregnancies:

Surgical procedure for women

- If the fallopian tubes are blocked or scarred, surgical repair may make it easier for eggs to pass through.
- Endometriosis may be treated through laparoscopic surgery.



Anatomic abnormalities are treated by

- Surgical treatments
 - Lysis of adhesion
 - Septoplasty
 - Tuboplasty
 - Myomectomy
- Surgery may be performed
 - Laparoscopically

Artificial Reproductive Techniques



Intra Uterine Insemination(IUI)

Invitro Fertilization(IVF)

Gamete Intra Fallopian Transfer(GIFT)

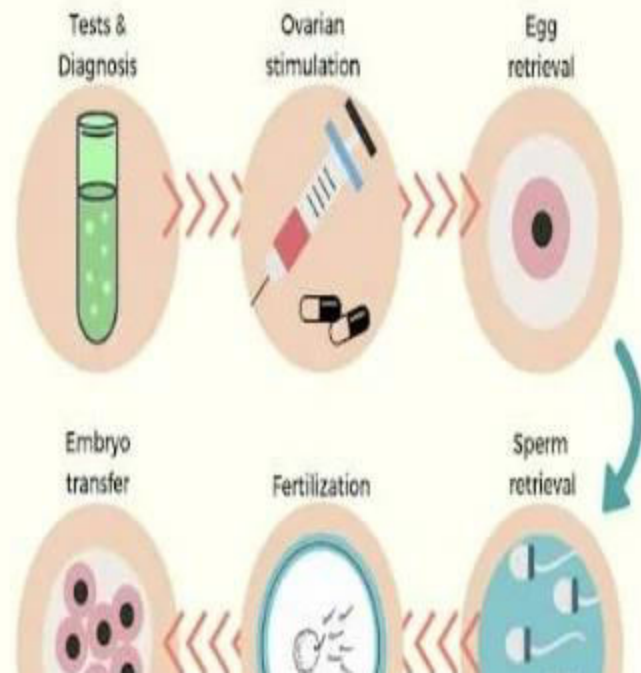
Intrauterine insemination

- It is indicated as a first line management where there are problems such as:
 - Hostile cervical mucus
 - Anti sperm or male fertility problem (low sperm count or premature ejaculation)
 - Although tubal patency of female partner must be assured



Invitro Fertilization

IVF PROCESS



- It is indicated in case where the female partner has
 - Uterine tube occlusion
 - Endometriosis or cervical mucus problems or where male factors are main problems
- Stimulation of the ovaries to produce more than one egg is

Gamete Intra Fallopian transfer and Zygote Intra Fallopian transfer

- Both the technique offer the clinical advantage over in vitro fertilization and are no longer recommended.

GIFT

With GIFT, sperm and eggs are placed in a fallopian tube to allow fertilization in the natural site. The woman must have at least one normal, open fallopian tube.



Intra Cytoplasmic Sperm Injection

- Developed in 1992
- It is a highly specialized variant of IVF treatment that involves the injection of a single sperm into the cytoplasm of an egg with a fine glass needle.
- It is useful technique when sperm motility is poor.
- In azoospermia man sperm can be obtained surgically from the epididymis or by extraction

Third party assisted ART

- When couples do not achieve pregnancy from the infertility treatments or traditional ART they may choose to use a third party assisted ART method to have a child.

Sperm donation

Egg donation

Surrogacy

Sperm donation

- Couples can be donated sperm when a man does not produces sperm or produces very low no of sperm and if he has a genetic disease
- Donated sperm can be used with intra uterine insemination or with IVF

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Egg donation

- This can be used when a women does not produce healthy egg that can be fertilized
- An egg donor undergoes ovary stimulation and egg retrieval steps of IVF
- Donated egg can then be fertilized by sperm from the women's partner and resulting embryo is placed into women uterus.



Surrogacy

- Legal arrangements for surrogacy require the commencing couple to both over the age of 18, married to each other and the child genetically related to at least one of them.
- Surrogate mother acts as a host as the embryo is placed in her uterus



Infertility counselling

- Infertility counselling deals with the psycho social impact of fertility in terms of:
- Intervention
- Treatment and
- After-effects of both successful and unsuccessful treatments.
- It also involves therapeutic work to help patient cope



Objectives and need of fertility counselling

- Informed consent
- To offer coping strategies to couples
- To facilitate decision making
- To offer preparation for procedures
- To help client in achieving a better quality of life
- To provide genetic counselling.

Counselling services

- IVF – group discussion by staff
- Third party reproduction for both donors & recipient.
- Therapeutic counselling
- Crisis counselling
- Assessment & follow up.



Advantages of Infertility counselling

- Helps to deal with the emotional stress.
- Provide extra support.
- Allow the client in exploring all possible for family.
- Help the couples in overcoming the dilemmas & deciding the right fertility treatment.
- Explains about the infertility management &



Role of nurse in infertility counselling

- Receiving the patient & family and make them accessible & comfortable for counselling.
- Fertility nurse specialist provide care for the individuals and couples before, during and after fertility treatment.



Nurse need to obtain history as prenatal, family and other

Cont..

- Nurse has to perform primary physical examination and collect other relevant information regarding patient of reports.
- Give psychological support throughout the counselling.
- Collect other information about tests, reports and documents.

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- Maintain privacy and confidentiality of all cases.
- Performing inseminations
- Performing embryo transfers.
- Ensure follow up & supportive services to individual and family during counselling.