

# Infertility

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# Definition

**Infertility** is the inability of a couple to become pregnant ( regardless of cause) after 1 year of unprotected sexual intercourse ( using no birth control method).

@Infertility affect men and women equally.

@85-90 % of infertility cases are treated with medication or surgery.

@Advanced technologies include IVF, ICSI and other similar procedures improve fertility rate in general.

## Types of infertility:

**Primary infertility**: A couple that has never been able to conceive a pregnancy, after at least 1 year of unprotected intercourse.

**Secondary infertility**: A couple who have previously been pregnant at least once, but have not been able to achieve another pregnancy.

- Infertility affects 10-15 % of couples at reproductive age.
- Female factors has prevalence of 40-55 %.-
- Tubal factor 30-40%
- 14% of all infertility cases are related to tubal factor.



# Causes in either sex (Both male and female).

1-Genetic causes: Any abnormal translocation.

2-General factors:

- \*D.M.

- \*Thyroid diseases.

- \*Adrenal diseases.

3-Hypothalamic- pituitary causes:

- \*Kallmann syndrome.

- \*Hyperprolactinemia.

- \*Hypopituitarism.

# Female infertility

## Causes:

1-General factors: Significant liver, kidney disease, thrombophilia.

2-Hypothalamic- pituitary factors: Hypothalamic dysfunction.

3-Ovarian factors:

- \*PCOS.

- \*Anovulation.

- \*Diminish ovarian reserve.

- \*Premature menopause.

- \*Menopause.

- \*Luteal dysfunction.

- \*Gonadal dysgenesis (turner syndrome).

- \*Ovarian cancer.

# Female infertility

## 4-Tubal and peritoneal factors

- \*Endometriosis
- \*Pelvic adhesion.
- \*PID (chlamydia).
- \*Tubal occlusion.
- \*Tubal dysfunction.

## 5-Uterine factors:

- \*Uterine malformation.
- \*Uterine fibroids.
- \*Asherman's syndrome.



# Female infertility

## 6-Cervical factors:

- \*Anti sperm antibodies.
- \*Cervical stenosis.
- \*Insufficient cervical mucus for travel and survival of sperm.

## 7-Vaginal factors:

- \*Vaginismus.
- \*Vaginal obstruction.

**8-Genetic factors:** Intersexed conditions (androgen insensitivity syndrome).

# Male infertility

## Causes:

**1-Pretesticular causes:** Hypogonadism due to drugs, alcohol, smoking.

## **2-Testicular causes:**

- \*Bad semen quality.
- \*Abnormal sperm morphology.
- \*Azoospermia (complete lack of sperm in semen).
- \*Y- chromosome microdeletions.
- \*Kline Felter syndrome.
- \*Neoplasm (seminoma).
- \*Idiopathic failure.
- \*Varicocele.
- \*Hydrocele.
- \*Mumps and malaria.
- \*Testicular dysgenesis syndrome.

# Male infertility

## 3-Post testicular causes:

- \*Vas deference obstruction.
- \*Lack of vas deference.
- \*Infection (prostitis).
- \*Retrograde ejaculation.
- \*Impotence.
- \*Acrosomal defect (egg penetration defect).

## 4-Immunological causes:

- \*Anti sperm antibody.

@Combined infertility: Both male and female are infertile.

@Unexplained infertility in 15% of cases.

@Joint infertility problems: Frequency of intercourse not appropriate.

@Sperm can live about 48 hours in woman's reproductive tract.

@Medical history in infertility is very important.

# Clinical evidence of ovulation

- \*Basal body temperature.
- \*Observation of the cervical mucus.
- \*Exfoliative vaginal cytology.
- \*Transvaginal sonography (ovarian follicle).
- \*Pituitary and ovarian hormone assays.
- \*Laparoscopy and direct observation of the ovaries.



# Clinical evidence of normality of internal genetic tract

- \*HSG.
- \*Transvaginal sonography.
- \*Hysteroscopy.
- \*Laproscopy.

# Post coital test

Involve sampling of your cervical mucus between 4-10 hours after intercourse to determine whether the mucus in your cervix is hostile to sperm.

**Note:** Don't use any lubricants, douche or bathe.

## Conclusions of the test:

- \*Ferning.
- \*Amount of cervical mucus production increase.
- \*Clarity (watery).
- \*Cellularity (should few cells other than sperm).
- \*Spinn barkiet: Stretchiness of mucus should be elastic and stretch 10 cm or more.

# Post coital test

Poor test due to:

- 1-Infection.
- 2-Poor timing.
- 3-Prior freezing or laser to cervix.
- 4-Medications (clomiphene).

*It's used since 1860.*

*Abnormal test mean that other treatments will be needed to help you conceive like IVF and IUI.*

# Routine laboratory tests

## 1-Semen analysis:

Volume	2 or more than 2 ml
PH	7.2-7.8
Concentration	More than $20 \times 10^6$ ml (40 million/ml in ejaculate).
Motility	More than 50 %
Morphology	More than 30%
WBC	Less than $1 \times 10^6$ /ml

# Routine laboratory tests

## 1-Semen analysis:

@At least 25% of spermatozoa should be swimming with rapid forward movement.

@At least 50% of the spermatozoa should be swimming forward, even if only sluggishly.