

# CMScript

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## Focus on Infertility

**Infertility is a global health issue affecting millions of people of reproductive age worldwide. It is ranked as the fifth most serious disability in the world. Globally, almost 1 in 6 of the adult population experiences infertility. An estimated 17.8% of people in high-income countries and 16.5% in low- and middle-income countries suffer from infertility.**

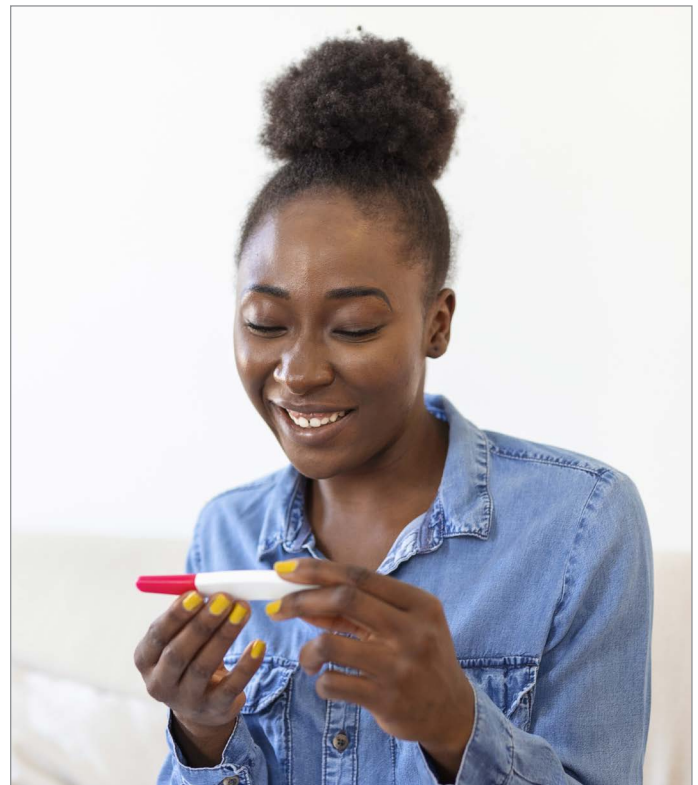
Infertility is a disease of the male or female reproductive system. It is the diminished or absent ability of a couple to achieve conception or pregnancy for at least one year of regular intercourse without contraception or the inability of a woman to carry a pregnancy to a live birth.

### What are the causes of infertility?

Infertility may occur due to male or female factors, a combination, or maybe unknown or unexplained. There are genetic, congenital, and mechanical factors that are associated with infertility that cannot be prevented, such as congenital malformations of the uterus and others.

The common causes of infertility are:

- Hormonal issues such as ovulation disorders, which affect the release of eggs from the ovaries, including disorders such as polycystic ovary syndrome, thyroid problems, or premature ovarian failure. The endocrine or hormonal system includes the hypothalamus and the pituitary gland in the brain, the main control systems of all hormonal systems in one's body.
- Fallopian tube damage or blockage, which prevents the sperm from reaching the egg, or the fertilised egg from reaching the uterus. These complications are associated with untreated sexually transmitted infections (STIs) or pelvic inflammatory diseases (PIDs), previous pelvic or abdominal surgery, endometriosis, complications of unsafe abortion, and post-delivery infection.
- Uterine or cervical abnormalities may be benign or non-malignant in nature, such as polyps or fibroids, inflammatory in nature, such as endometriosis, or congenital in nature, such as a uterus with a septum or obstruction at the cervical mouth or opening. These can interfere with the implantation of the fertilised egg and increase the risk of a miscarriage and/or implantation in the wrong area of the uterus.
- Male factor infertility may involve obstruction of the reproductive tract problems which affect sperm production, such as ejection of the semen, absence or low levels of sperm, or abnormal shape, the function, which relates to movement or motility, and delivery of the sperm.
- Genetic and chromosome defects, injury to the sexual organs, infections, the presence of a varicocele (varicose veins in the testis), and hormonal imbalances may contribute to male infertility. Hormonal and genetic factors lead to decreased testosterone production, which regulates sperm production. Anabolic steroids can cause abnormal semen parameters such as sperm count and shape.



- Lifestyle factors such as poor nutrition, smoking, excessive alcohol intake and obesity are known to have a contribution and association with higher chances of infertility.
- Exposure to certain environmental hazards and chronic diseases also play a part in the causation of infertility.
- Unexplained infertility refers to an instance where after examination and investigation, no specific cause can be identified after testing both partners.

### Types of infertility

Primary infertility describes couples who cannot have a pregnancy for at least a year.

In contrast, secondary infertility refers to couples who have been pregnant at least once but have been unable to have more children. Recurring miscarriages are included in the condition.

### How can you prevent infertility?

- By protecting yourself from sexually transmitted infections (STIs/PID).
- Keeping your weight healthy as there is evidence that being over- or underweight does reduce both male and female fertility.
- Be aware that fertility decreases with age.
- Refrain from using illicit drugs, excessive alcohol, or cigarette products.
- Males should avoid anabolic steroids (used to increase muscle size) for recreational use since these could influence semen parameters.
- Access safe termination of pregnancy through the healthcare system

### Risk factors

- Auto-immune disease
- Exposure to diethylbestrol (DES)
- Chronic diseases such as diabetes
- Endometriosis
- Blood clotting disorders
- Uterine defects
- Anovulatory menstrual cycles

### What are the symptoms of infertility?

#### **Females:**

The main symptom of infertility is the inability to become pregnant after one year of unprotected sex and after six months in women over age 35. It may present as too long a cycle (35 days or more) or too short a cycle (21 days), an irregular or absent cycle which means one may not be ovulating.

#### **Males:**

There may be no obvious symptoms. Men may present with signs of hormonal problems, such as:

- Problems with sexual function — for example, difficulty with ejaculation or small volumes of fluid ejaculated, reduced sexual desire, or difficulty maintaining an erection (erectile dysfunction).
- Underdeveloped testis
- Abnormal breast growth (gynaecomastia).
- Decreased facial or body hair or other signs of a chromosomal or hormonal abnormality.
- A lower-than-normal sperm count (fewer than 15 million sperm per millilitre of semen or a total sperm count of less than 39 million per ejaculate).

### When and how do you diagnose and evaluate infertility?

Fertility care encompasses the prevention, diagnosis, and treatment of infertility. Equal and equitable access to fertility care remains a challenge in most countries, particularly in low and middle-income countries. Fertility care is rarely prioritised even in countries that provide national universal health coverage benefit packages.

Seeking care is dependent on one's age.

- Age 35 - a treating doctor will recommend trying to fall pregnant for at least a year before testing and treatment.
- Age 35-40 discuss your concerns with the treating doctor after 6 months of trying.
- Older than 40 - the treating doctor will suggest treatment immediately.

The diagnostic evaluation starts with a physical examination and a thorough health history. It is normally followed by tests to confirm ovulation and blood tests to determine normal ovulation physiology. Ovulation dysfunction is normally associated with hormonal deficiencies, congenital defects, and age. The second step assesses ovarian reserve by stimulating follicle-stimulating hormone (FSH) to determine the quality of eggs in the woman's ovary. The hormone levels may identify other conditions linked to the hormone imbalance and resulting infertility. Another test is the post-coital test, to analyse the cervical mucus after intercourse to see how well the sperm survives in the women's reproductive tract. A biopsy of the endometrium may also be taken to investigate problems with ovulation or hormones.

## Infertility testing

If you decide to undergo testing and possible infertility treatment, remember that it will take commitment from both partners. It will also involve questions about your health and sexual habits and uncomfortable tests and procedures that can continue over several months. After all this, there is, unfortunately, still no guarantee that you will become pregnant.

Infertility testing and treatment are extremely expensive, and for most couples, the main question and concern is whether they can afford it. Therefore, it is important to determine how infertility is covered by the prescribed minimum benefits.

## What is included in the PMB Regulations for Infertility?

The PMB regulation includes infertility but state that the medical and surgical management shall be limited to certain procedures and interventions. These procedures and interventions include:

1. **Hysterosalpingogram** - This test evaluates the condition of your uterus and fallopian tubes to determine physical problems like blockages of the fallopian tubes.
2. **Blood tests:**
  - a. **Day 3 FSH/LH** – FSH stands for follicle-stimulating hormone and LH stands for Luteinizing hormone. These hormones are released by a gland in the brain. In women, FSH stimulates production of eggs and a hormone called estradiol during the first half of the menstrual cycle. LH triggers ovulation in females and stimulates the production of testosterone in males.
  - b. **Oestradiol** – Oestradiol, also called estrogen, is the predominant sex hormone present in females and acts as a growth hormone for tissue of the reproductive organs.
  - c. **Thyroid function (TSH)** - common problems caused by thyroid dysfunction are anovulation (no ovulation, or release of an egg) and menstrual irregularities.
  - d. **Prolactin** - A hormone secreted by the pituitary gland in the brain. Prolactin stimulates lactation (milk production). High prolactin can delay puberty, interfere with ovulation in women, decrease libido in men, and decrease fertility. Low prolactin can cause menstrual disorders and lead to inadequate lactation.
  - e. **Rubella** – the German measles virus can cause severe abnormalities in babies if the mother contracts it during pregnancy.
  - f. **HIV** – women with HIV may find it more difficult to fall pregnant. HIV infected women experience reduced pregnancy rates and higher rates of miscarriages. HIV/AIDS may induce sterility, increase foetal mortality, decrease production of sperm and sometimes decrease frequency of sexual intercourse, all contributing to declining fertility.
  - g. **VDRL** – this is the abbreviation of the laboratory test for syphilis. Syphilis is one of the leading sexually transmitted diseases causing infertility.
  - h. **Chlamydia** – this is a sexually transmitted disease that often leads to reduced fertility.
  - i. **Day 21 Progesterone** – progesterone is a female hormone produced mainly in the ovary and by the placenta. Progesterone prepares the lining of the uterus (the womb) to receive and sustain the fertilized egg and so permits pregnancy.
3. **Laparoscopy** – this surgical procedure is used to determine whether there are any physical problems such as scar tissue, tumours and other abnormalities of the uterus, fallopian tubes and ovaries
4. **Hysteroscopy** – this is a surgical procedure in which a scope instrument is inserted through the vagina and cervix into the cavity of the uterus to determine if there are any physical problems inside the uterus.
5. **Surgery (uterus and tubal)** – surgery covers rectifying any physical problems that are present like blocked fallopian tubes, removal of growths etc.
6. **Manipulation of ovulation defects and deficiencies** – manipulation of ovulation defects through “chemical” treatment like medication to induce
7. **Semen analysis (volume; count; mobility; morphology; MAR-test)** – this test is extremely important and may be done more than once. The test checks the volume of semen, count of sperm in the semen, the movement and structure of the sperm and whether antibodies are present.
8. **Basic counselling and advice** on sexual behaviour, temperature charts, etc.
9. **Treatment of local infections.**

The medical scheme may request that a designated service provider (DSP) is used to investigate and treat infertility.

## References:

1. Fertility.com. 2022. Infertility. Available at <https://www.fertility.com/en/understanding-fertility/fertility-overview/infertility-explained.html> [Accessed 12 May 2023]
2. Johns Hopkins Medicine. (2019). Infertility. Available at: <https://www.hopkinsmedicine.org/health/conditions-and-diseases/infertility> (Accessed: 16 May 2023).
3. Kumar, K. (2022). What is the main cause of infertility? female & male infertility. MedicineNet. Available at: [https://www.medicinenet.com/what\\_is\\_the\\_main\\_cause\\_of\\_infertility/article.htm](https://www.medicinenet.com/what_is_the_main_cause_of_infertility/article.htm) (Accessed: 13 June 2023). Gore ,A.C., Chappell, V.A., Fenton, S.E., Flaws J.A., Nadal, A., Prins, G.S., Toppari, J. & Zoeller, R.T. 2015. Endocrine Reviews, 36(6): E1–E150. [Accessed 12 May 2023]
4. Mayo Clinic. (2022). Male infertility. Available at: <https://www.mayoclinic.org/diseases-conditions/male-infertility/symptoms-causes/syc-20374773> [Accessed 12 May 2023]
5. National Essential Medicines List Committee (NEM- LC) bulletin. (2019). National Clinical Guidelines for Safe Conception and Infertility. Available at: [https://knowledgehub.health.gov.za/system/files/elibdownloads/2023-04/NEMLC%2520Bulletin\\_31March2022\\_final.pdf](https://knowledgehub.health.gov.za/system/files/elibdownloads/2023-04/NEMLC%2520Bulletin_31March2022_final.pdf) (Accessed: 16 May 2023).
6. National Institute of Health. (2017). What are some possible causes of female infertility? Available at: <https://www.nichd.nih.gov/health/topics/infertility/conditioninfo/causes/causes-female> [Accessed 12 May 2023]
7. National Health Service. 2020. Infertility:causes. Available at: <https://www.nhs.uk/conditions/infertility/causes/> [Accessed 12 May 2023]
8. Pennmedicine.org. (no date). Female infertility. Available at: <https://www.pennmedicine.org/for-patients-and-visitors/patient-information/conditions-treated-a-to-z/female-infertility> [Accessed: 13 June 2023].
9. Segal, T.R. & Giudice, L.C. Before the beginning: environmental exposures and reproductive and obstetrical outcomes. Fertility and Sterility, 112(4):613-621. Infertility.
10. World Health Organization. 2023. 1 in 6 people globally affected by infertility: WHO. Available at: <https://www.who.int/news/item/04-04-2023-1-in-6-people-globally-affected-by-infertility#:~:text=Around%2017.5%25%20of%20the%20adult,prevalence%20of%20infertility%20between%20regions.> [Accessed 13 June 2023].

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