

Infertility

Causes & Treatment



Where
Life
Begins



What is infertility?

Infertility means difficulty in becoming pregnant without using contraception.

First you must understand what is needed for becoming pregnant?

- Ovum from the woman to combine with a sperm from the man (ovary capable of ovulation)
- Ovum travels down a fallopian tube to the middle of the uterus (unblocked fallopian tube)
- Sperm in the fallopian tube then combine with (fertilize) the ovum to make an embryo.
- Embryo travels down into the uterus and attaches to the lining of the uterus. The embryo then grows and matures into a baby (Uterus capable of caring a baby)

What cause fertility problems in female ?

Ovulation Problems

- Early menopause.
- Polycystic ovary syndrome :which can also cause excess hair growth, acne, menstrual problems and is associated with obesity.
- Hormone problems : For example, too much Prolactin, or too little Thyroxin.
- Being very underweight or overweight can affect your hormone balance which can affect ovulation. In particular, women with anorexia nervosa do not ovulate.
- Excessive exercise such as regular marathon running can affect your hormone balance which can affect ovulation.
- A side-effect from some medicines is a rare cause. Medicines that sometimes cause this are anti-inflammatory painkillers, some chemotherapy medicines, and cannabis.
- Insecticides, herbicides, and fungicides may be a factor in some cases.
- Various other problems with the ovary such as ovarian cysts and certain genetic problems.

Fallopian Tube Problems

- Previous infection of the uterus and fallopian tube (pelvic inflammatory disease) is common cause. This can cause scarring and damage which can affect fertility. For example, scar tissue may block the egg (ovum) from traveling down the fallopian tubes.
- Previous surgery to the fallopian tubes or uterus can cause scarring and damage.
- Large fibroids or cysts may cause problems.

Uterine Problems

- Endometriosis causes about 1 in 20 cases of infertility. Very briefly, tissue that lines the uterus (endometrium) is found outside of the uterus. It is 'trapped' in the pelvic area and can affect the ovaries, uterus, and nearby structures. It often causes lower abdominal pain and/or painful periods.

What cause fertility problems in male?

Male problems mainly will be number of sperms or quality of it.

Some men make less sperm than normal (a 'low sperm count') for a variety of reasons which can reduce fertility. These include:

- Certain hormone problems.
- Current or past infection of the testes.
- Tumors of the testes.
- Side-effects of some medicines and drugs.
- Regular excess heat (regular saunas, hot baths, etc) is possibly a cause.
- Environmental factors may be a factor in some men. For example, a lot of exposure to chemicals, x-rays, or heavy metals.
- Varicocele may affect fertility. A varicocele is common and is like a 'varicose vein' in the scrotum (the skin that covers the testes).

Advice for couples

Female

- take folic acid each day to reduce the chance of a spinal cord problem in a baby.
- have a blood test to check that you are immune to rubella (German measles). You will be offered immunization to rubella if you are not immune.
- eat a healthy diet.

Male

- Heat and sperm production. It is often advised for men who have a low sperm count to wear loose fitting underpants and trousers and to avoid very hot baths, saunas, etc. This allows your testes to be slightly cooler than the rest of your body, which is thought to be good for sperm production.

Both

- Smoking can affect fertility in men and women. It has been estimated that in each menstrual cycle, smokers have about two thirds the chance of conceiving than non-smokers. Smoking is also harmful to a developing baby if the mother smokes.
- Alcohol in excess may affect male fertility. Also, for women expecting to become pregnant, it is advised that you drink no more than 1 or 2 units of alcohol once or twice a week. (The equivalent to one or two glasses of wine, once or twice a week.) This is because alcohol may harm a developing baby. The safe level of alcohol for an expectant mother is not clear, so a low amount, if any, is advised.
- Weight control. You have a reduced chance of conceiving if you are very overweight or underweight. For the best chance of conceiving you should aim to have your body mass index (BMI) between 20 and 30. If appropriate, see you practice nurse to measure your BMI and for advice over diet and weight control.
- Some street drugs can affect fertility and are best avoided.

SEDICO Products For Treatment Of Infertility

F.S.H & STIMU-MAX

Stimu -Max (Tablets) *Sildenafil 100 mg*



What are the indications of Stimu-Max?

Impotence (Erectile dysfunction)

What is Erectile dysfunction?

Erectile dysfunction is characterized by the inability to maintain an erection.

Erectile dysfunction is when a man keeps having difficulty getting or keeping an erection. He may then have difficulty having sex or performing other sexual activities.

How does Stimu-Max work?

Sildenafil widens the blood vessels in your penis. This lets more blood flow into the penis.

The blood fills the spaces in the penis, making it firmer. This is how it works.

On sexual thoughts, or when the penis is being touched, nerves send a signal to the penis to trigger an erection.

The nerves release a chemical called nitric oxide.

Nitric oxide travels to the blood vessels and spongy tissue in your penis.

Nitric oxide makes these parts of your penis start to make another chemical, called cyclic GMP.

Cyclic GMP makes the blood vessels wider, so more blood flows into your penis.

Spaces in the spongy tissue open up and fill with blood, making your penis firm.

Cyclic GMP is destroyed (usually after sex is over) by an enzyme called phosphodiesterase type 5.

Sildenafil stops phosphodiesterase type 5 working, so cyclic GMP stays around.

This keeps your erection firm for longer.

What is the Dosage of Stimu-Max?

For most patients the recommended dose is 50 mg taken as needed approximately 1 hour before sexual activity.

Based on effectiveness and toleration, the dose may be increased to a maximum recommended dose of 100 mg or decreased to 25 mg.

The maximum recommended dosing frequency is once per day.

What are the Contraindications of Stimu-Max ?

Sildenafil is contraindicated with organic nitrates as it may potentiate their hypotensive effects (Hypotension (low blood pressure).

In men for whom sexual intercourse is inadvisable due to cardiovascular risk factors . Severe hepatic impairment (decreased liver function) . Severe impairment in renal function . Recent stroke or heart attack .Hereditary degenerative retinal disorders (including genetic disorders of retinal phosphodiesterases).

What are the Drug interactions ?

Concomitant administration of Sildenafil with drugs that inhibits cytochrome P450 isoenzyme CYP3A4 as Cimetidine, Erythromycin, Itraconazole, Ketoconazole and HIV protease inhibitors may reduce Sildenafil clearance which may need a reduction in its dose.

What are the side effects of Stimu-Max?

Stimu-Max was well tolerated with recommended doses

Dyspepsia, headache, flushing, dizziness, visual disturbances, nasal congestion or priapism are rare but occasionally reported

F.S.H
Follicle Stimulating Hormone Injection
Follicle Stimulating Hormone (F.S.H) 75 IU



F.S.H is one of the potent human menopausal gonadotropic hormones secreted by the anterior lobe of the pituitary gland together with luteinizing hormone .

F.S.H stimulates the secretion of sex hormones in both men without primary testicular failure and women without primary ovarian failures so it induces spermatogenesis in men as well as ovulation in women.

Why F.S.H. SEDICO?

F.S.H. has the highest quality purification according to the European community specification (Germany):

- ▶ Highest purity
- ▶ Higher pregnancy rate
- ▶ High tolerability
- ▶ No risk of OHSS
- ▶ No batch to batch inconsistency
- ▶ Excellent cost effectiveness

What is the medical applications of F.S.H.?

F.S.H stimulates the secretion of sex hormones in both men without primary testicular failure and women without primary ovarian failures so it induces spermatogenesis in men as well as ovulation in women, used in:

- ▶ Fertility disorders in males and females.
- ▶ Assisted reproductive technology program for ovulatory patients.

How does F.S.H. work?

Follicle-stimulating hormone (FSH) is a glycoprotein gonadotropin secreted by the anterior pituitary in response to gonadotropin-releasing hormone (GnRH), which is released by the hypothalamus. The same pituitary cell also secretes luteinizing hormone (LH), another gonadotropin. FSH and LH are composed of alpha and beta subunits. The specific beta subunit confers the unique biologic activity. FSH and LH bind to receptors in the testis and ovary and regulate gonadal function by promoting sex steroid production and gametogenesis.

In Men, LH stimulates testosterone production from the interstitial cells of the testes (Leydig cells). FSH stimulates testicular growth and enhances the production of an androgen-binding protein by the Sertoli cells, which are a component of the testicular tubule necessary for sustaining the maturing sperm cell. This androgen-binding protein causes high local concentrations of testosterone near the sperm, an essential factor in the development of normal spermatogenesis. Sertoli cells, under the influence of androgens, also secrete inhibin, a polypeptide, which may help to locally regulate spermatogenesis. Hence, maturation of spermatozoa requires both FSH and LH.

In Women, LH stimulates estrogen and progesterone production from the ovary. A surge of LH in the mid-menstrual cycle is responsible for ovulation, and continued LH secretion subsequently stimulates the corpus luteum to produce progesterone. Development of the ovarian follicle is largely under FSH control, and the secretion of estrogen from this follicle is dependent on both FSH and LH. The granulosa cells of the ovary secrete inhibin, which plays a role in cellular differentiation.

FSH and LH secretion are affected by a negative feedback from sex steroids. Inhibin also has a negative feedback on FSH selectively. High-dose testosterone or estrogen therapy suppresses FSH and LH. Primary gonadal failure in men and women leads to high levels of both FSH and LH, except in selective destruction of testicular tubules with subsequent elevation of only FSH, as in Sertoli-cell-only syndrome.

Similarly, any process leading to a low FSH level also simultaneously results in a low LH level, except in rare instances of isolated FSH deficiency or isolated LH deficiency in fertile eunuch syndrome.

In Both Males And Females, FSH Stimulates The Maturation Of Germ Cells.

In females: FSH initiates the follicular growth, specifically affecting granulosa cells. With the concomitant rise in inhibin B FSH levels then decline in the late follicular phase. This seems to be critical in selecting only the most advanced follicle to proceed to ovulation. At the end of the luteal phase, there is a slight rise in FSH that seems to be of importance to start the next ovulatory cycle.

Like its partner, LH, FSH release at the pituitary gland is controlled by pulses of gonadotropin-releasing hormone (GnRH). Those pulses, in turn, are subject to the estrogen feed-back from the gonads.

What are the indications of F.S.H.?

- ▶ Fertility disorders in males and females.
- ▶ Assisted reproductive technology program for ovulatory patients.

What are the Precautions of F.S.H.?

Before treatment, medical and endocrinological level, exclude primary ovarian testicular failure and pregnancy.

Evaluation of partner's fertility potential. Monitoring carefully the ovarian response to minimize the risk of hyperstimulation syndrome and multiple births via ultrasonography and serum estradiol measurement.

- ▶ During Lactation, the drug is used only for clearly needed due to lack of well-controlled studies.

What is the dose of F.S.H.?

The dose can be administered by SC or IM injection & is individualized according to the patients need and response .

Initial dose in fertility disorders : 75-150 IU/day for 7-14days.

In absence at an endogenous LH :

A single dose of 5000-10000 IU human chorionic gonadotrophin (HCG) should be given one day after the last dose of F.S.H until final follicular maturation and induction of ovulation (women) or spermatogenesis (men).

In vitro fertilization or other assisted reproductive technologies:

150 - 225 IU day up to 450 IU are generally given in the early follicular phase (cycle day 2 or 3), for up to 10 days, then dose is adjusted according the ovarian response .

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