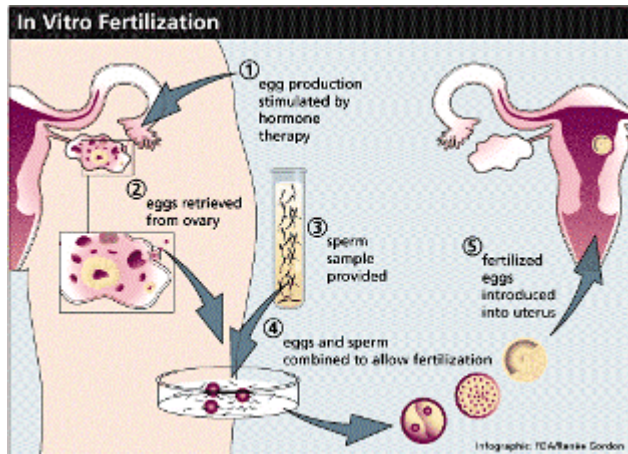


"Luteinising hormone (LH) and follicle-stimulating hormone (FSH) are types of gonadotrophins. LH and FSH directly stimulate your ovaries to produce and ripen eggs. Gonadotrophins are usually used for women with PCOS who have not responded to other drugs or for women undergoing IVF ."

Reference: [www.babycentre.co.uk/a4090/fertility-drugs-for-women](http://www.babycentre.co.uk/a4090/fertility-drugs-for-women)



Arguments for fertility treatment:

- **Helping Infertile Couples** - IVF gives the potential of allowing previously infertile couples to finally have children of their own. It has been argued that it was often necessary to sit with a patient to say they had come to the end of the line. However, IVF therefore seemed like a possibility that would make less frequent occurrence of a distressing conversation, such as this, with a patient.
- **Preventing Birth Defects** - An important scientific argument for IVF was that by studying fertilization and early embryonic development outside the womb, scientists might learn more about how to prevent certain birth defects. The possibility that knowledge gleaned from IVF would advance medicine in general, helping with prenatal care, for example.

Arguments against fertility treatment:

- **Creating Sick or Malformed Babies** - For the people who opposed IVF, there were a number of reasons not to proceed. Many of these reasons were prominent in the years before the first test tube baby was born. It was feared that this would result in deformed babies with terminal illnesses.
- **Inherently Unnatural and Wrong**- IVF can be considered wrong as it is unnatural and can be seen as taking as 'playing God' and replace the divinely ordained means of making life with a technological process.

the release of luteinizing hormone. In males, follicle-stimulating hormone stimulates the primary spermatocytes to go through the first stage of meiosis, to form secondary spermatocytes. This leads to the maturation of sperm cells. Follicle-stimulating hormone also enhances the production of androgen-binding protein by the Sertoli cells of the testes. This occurs by binding to follicle-stimulating hormone receptors on the basolateral membranes. The FSH production of follicle-stimulating hormone is inhibited by the hormone inhibin; this is released by the testes. The production of androgens is stimulated by luteinizing hormone by the Leydig cells of the testicles. The most known androgen in males is testosterone (this is produced by the adrenal cortex); this promotes the production of sperm and male characteristics.

Female Reproductive System: In females, follicle-stimulating hormone stimulates the development of ova in follicles. Follicle cells produce inhibin; this inhibits the production of follicle-stimulating hormone in the female reproductive system. Luteinizing hormone plays a role in the induction of ovulation, and the stimulation of both estradiol and the production of progesterone by the ovaries. Progesterone and estradiol both prepare the body for pregnancy. Whilst progesterone and estradiol regulate the menstrual cycle, estradiol produces the secondary sex characteristics in females. In females, after childbirth, the anterior part of the pituitary gland produces prolactin, which stimulates the milk production by the mammary glands. The level of prolactin is regulated by prolactin-releasing hormone and dopamine. Dopamine inhibits the release of prolactin. Oxytocin stimulates uterine contractions during childbirth; it is released by the posterior pituitary gland. The uterine smooth muscles are not sensitive to oxytocin until late in pregnancy, when there is a peak in the number of oxytocin receptors in the uterus. The release of oxytocin during childbirth is stimulated by the stretching of the tissues in the uterus and cervix. Until the birth is complete, contractions increase in intensity as blood levels of oxytocin rise through a positive feedback mechanism. The contraction of myoepithelial cells around the milk-producing mammary glands is also stimulated by oxytocin. As the cells contract, milk is forced from the secretory alveoli into milk ducts. It is then ejected from the breasts in a milk ejection reflex. The suckling of an infant stimulates the release of oxytocin; this triggers the synthesis of oxytocin in the hypothalamus and its release into circulation at the posterior pituitary.

### Male reproductive system.

The following table provides some information regarding the parameters of what constitutes normal seminal fluid:

|                       |                                     |
|-----------------------|-------------------------------------|
| Volume                | 2.0cm <sup>3</sup>                  |
| pH                    | 7.2 – 8.0                           |
| Sperm density         | >20,000,000 cm <sup>3</sup>         |
| Total number of sperm | >40,000,000 or more                 |
| Motility              | 50% or more than move forward       |
| Morphology            | 30% or more with normal shape       |
| Vitality              | 75% or more alive                   |
| White blood cells     | Less than 1,000,000 cm <sup>3</sup> |

1. For the following statements, indicate whether they would be classed as normal using the above parameters as a guide: