

# Fertility and Fertility Drugs

## Question:

what are the social aspects of artificial insemination and fertility drugs? I'm not sure what it means by 'social aspects' but can you help?

## Answer:

Social aspects here refer to what the impact would be on society. For example, a clearer example might be this question: how has the sexual behaviour of people changed as a result of the availability of contraception? Before the pill, a woman would only have sex if she wanted a baby – otherwise, sexual intercourse was a high-risk activity, and with a great possibility it would lead to unwanted pregnancy. It also leads to smaller families, as couples could then more or less reliably plan when to have their children. This had changed the structure of society in the Western world completely, and had led to the sexual liberation of women.

Artificial insemination has not had similarly huge social effects – it simply affects too few people to be statistically significant - but it has affected a small number of families with infertility problems, and as a result, these families have been able to have children. The same goes for fertility drugs. Not a lot of women use them, but it has enabled many women who would otherwise have been infertile, to have children. As a result, it has led to a number of people getting greater value from their lives, as they wanted children, but without help were unable to have them.

A question like this one is not really truly scientific, as it requires you to use your imagination. The questioner wants you to think about the possible psychological affect on people this technology could have, both on them, and on the people around them. The psychological affect then changes how the people relate to each other, and in society.

One social aspect of this therapy is the large number of twins and triplets that result from this – but once again, this is statistically insignificant, and does not really have much of an affect on society at large.

## Fertility Drugs

### Clomiphene Citrate

**Type of medication:** a non-steroidal antiestrogen

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**How it works:** tricks brain/pituitary into "thinking" that there is less estrogen around

**How given:** oral, started on day 3-5 of cycle

**Typical dosage:** 50-250 mg/day

**Indications:** infrequent or rare ovulation, luteal phase deficiency, to increase the numbers of eggs

**Multiple pregnancies:** 8%

**Side Effects:** hot flashes, breast tenderness, mood swings, visual problems. thick cervical mucus, luteal phase deficiency

**Long-term safety:** use for more than a year *may* increase the risk of ovarian cancer

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### Human Menopausal Gonadotropins (hMG)

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**Type of medication:** pituitary peptide hormone, usually from the urine of menopausal women

**How it works:** directly stimulates the ovaries

**How given:** intramuscular injection (1-2 times per day), repronex can be given subcutaneously

**Typical dosage:** 75-600 IU/day (1-8 ampules)

**Indications:** problems of the hypothalamus, unexplained infertility, endometriosis, ovarian stimulation for IVF/ZIFT/GIFT

**Multiple pregnancies:** 25-50%

**Side Effects:** mood swings, ovarian hyperstimulation

**Long-term safety:** potential risk of ovarian cancer is unclear

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## Urofollitropin (FSH)

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**Type of medication:** pituitary peptide hormone, from urine or through recombinant DNA technology



**How it works:** directly stimulates the ovaries

**How given:** subcutaneous injection (1-2 times per day)

**Typical dosage:** 75-600 IU/day (1-8 ampules)

**Indications:** anovulation, unexplained infertility, endometriosis, ovarian stimulation for IVF/ZIFT/GIFT

**Multiple pregnancies:** 25-50%

**Side Effects:** mood swings, ovarian hyperstimulation

**Long-term safety:** potential risk of ovarian cancer is unclear

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## Human Chorionic Gonadotropin (hCG)

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**Type of medication:** peptide hormone from urine of pregnant women



**How it works:** triggers ovulation

**How given:** intramuscular injection before ovulation

**Typical dosage:** 5,000-10,000 IU, less after ovulation

**Indications:** used in conjunction with hMG, FSH or clomiphene to force eggs to release

**Multiple pregnancies:** variable

**Side Effects:** cramping, hyperstimulation

**Long-term safety:** potential risk of ovarian cancer is unclear

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## Bromocriptine

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**Type of medication:** a dopamine agonist (acts like a transmitting chemical in the brain)

**How it works:** suppresses prolactin hormone levels and allows return of menstrual function

**How given:** oral, vaginal

**Typical dosage:** 2.5 mg twice a day/ 0.5 mg twice a week

**Indications:** abnormal bleeding or infertility due to elevated prolactin levels

**Multiple pregnancies:** no increase

**Side Effects:** weakness on standing, nausea, nasal congestion

**Long-term safety:** appears safe, should be discontinued once pregnant

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## Progesterone

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**Type of medication:** a steroid hormone produced by ovary and placenta

**How it works:** supplements levels of hormones naturally produced in last half of the menstrual cycle and in pregnancy

**How given:** oral (micronized), intramuscular (in oil), vaginal

**Indications:** luteal phase deficiency (deficiency in progesterone action), IVF/GIFT/ZIFT

**Multiple pregnancies:** no increase

**Side Effects:** breast tenderness, tiredness, bloating

**Long-term safety:** appears safe, other progestin hormones have been associated with birth defects

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## GnRH

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**Type of medication:** a hormone produced by the brain

**How it works:** replaces missing hormone and allows the pituitary gland to function

**How given:** infusion by pump with indwelling catheter

**Indications:** absent periods due improper function of the hypothalamus (part of the brain)

**Multiple pregnancies:** no increase

**Side Effects:** infection of the indwelling line

**Long-term safety:** appears safe

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## GnRH Agonist

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**Type of medication:** an analog of GnRH produced by the brain

**How it works:** prevents premature release of eggs (daily form), turns off the pituitary gland (monthly form)

**How given:** daily injection or nasal spray, monthly injection or implant

**Indications:** to prevent premature release of eggs for IVF/GIFT or to induce a menopause-like state to suppress endometriosis or fibroids

**Side Effects:** headaches, hot flashes, bone loss

**Long-term safety:** safe for less than 6-9 months use, longer if estrogen is supplemented

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