

This fact sheet provides an overview of the medications that may be prescribed during fertility or IVF treatment, including an explanation of how and why they are used and some of the potential side effects.

## THE FACTS ABOUT:

# Medications used in fertility treatment

### ANTI-OESTROGENS

#### Clomiphene Citrate (Clomid), Letrozole and Tamoxifen (Seraphene)

If you have ovulation problems you may be prescribed one of these drugs to help regulate or induce ovulation. They increase production of the egg containing follicles. They are all widely used.

#### Administration

These agents are taken orally, usually on days 2-6 of the menstrual cycle and work by sending a message to the pituitary gland, telling it that it needs to start secreting, or to secrete more, follicle stimulating hormone (FSH). With higher levels of FSH in the body, egg production and ovulation are improved.

While Clomiphene Citrate and Letrozole can be prescribed for as many as six cycles, most experts agree that, if you have not become pregnant after three cycles, treatment using these drugs alone will probably not help you. Most women will respond to anti-oestrogens and ovulate within the first three to four cycles.

Clomiphene Citrate, Letrozole or Tamoxifen are also occasionally used for patients having IVF, to help stimulate the growth of many follicles so we can collect a number of eggs ready for insemination.

Your specialist or Nurse Coordinator will advise you on your particular dose and timing.

#### Side effects of anti-oestrogens

Normally any side effects of anti-oestrogens are mild. Higher doses as might be used in IVF, can produce more severe side effects. Common Clomid side effects include:

- Multiple pregnancy
- OHSS or Ovarian Hyperstimulation Syndrome (very low risk)
- Hot flushes
- Mood swings
- Nausea and vomiting

- Breast tenderness
- Abdominal pain
- Headaches
- Blurred vision
- Fatigue
- Depression
- Weight gain
- Ovarian cysts

There is no link between ovarian cancer and anti-oestrogens.

#### GnRH Agonist (Synarel/Lucrin/ Decapeptyl)

During IVF and IUI treatments, we need the woman to ovulate at a specified time to have the best chance of positive results. GnRH (Gonadotrophin Releasing Hormone) agonists are drugs that can help to stop premature ovulation and increase the chances of pregnancy during IVF and IUI treatments.

If you ovulate early, we often get fewer eggs and the eggs tend to be lower quality and less useful for IVF. GnRH agonists work by essentially 'shutting down' the pituitary gland. The pituitary gland is a tiny gland just behind your nose. It secretes two hormones (FSH and Luteinising Hormone, LH) which are involved in ovulation. When you first take GnRH agonists, they overstimulate the pituitary, causing it to release more FSH and LH. When the pituitary gland senses this over-stimulation, it shuts down, preventing ovulation.

This initial flare effect of GnRH agonist is what we use to induce induction of ovulation for many of our IVF cycles. 'Triggering' ovulation using this technique, means that ovarian hyperstimulation is avoided. However, when an agonist trigger is used the embryos created in the IVF cycle are generally frozen because luteal phase insufficiency means that the uterus is not able to support an implanting embryo very well.



### Administration

GnRH drugs are usually prescribed in combination with ovulation stimulation medications. They are given in the form of injections (Lucrin, Decapeptyl) or as a nasal spray (Synarel). You will normally use them once or twice a day, for several days, and then use an ovulation stimulator.

Your specialist or Nurse Coordinator will advise you of your particular dose and timing

### Side effects of Synarel and Lucrin/Decapeptyl

When taken without ovulation stimulators, GnRH agonists cause similar side effects to menopause. Common side effects include:

- Hot flushes
- Mood swings
- Forgetfulness
- Insomnia
- Headaches
- Decreased libido

### Storage

Protect GnRH agonists from light. Store containers in an upright position and do not refrigerate or freeze. Shelf life is around 18 months when stored below 25 degrees.

## GnRH antagonists (Orgalutran and Cetrotide)

Orgalutran and Cetrotide are also used to prevent premature ovulation and are used in combination with follicle stimulating hormone (FSH). They work by reducing the body's release of LH (luteinising hormone) which triggers ovulation. Their action is short-lived and daily injections are needed to maintain their effect. By using this medication, we can continue stimulating follicle growth while preventing ovulation before egg collection.

### Administration

These drugs should be injected under the skin once daily, usually starting on day 8 of FSH administration, or when follicles grow to approximately 12-14 mm in size. Treatment is continued daily until the follicles have reached maturity. Alternatively a single injection can be used at a higher dose.

Your specialist or Nurse Coordinator will advise you on your dose and timing.

### Side effects of Orgalutran and Cetrotide

Common side effects of these drugs include:

- Headaches
- Nausea
- Swelling or itching
- Redness at the site of injection Orgalutran may cause abdominal discomfort.

### Storage

Store below 25 degrees and protect from light.

## Follicle stimulating hormone (FSH) – Puregon, Gonal F, Elonva, Menopur and Bemfola

Follicle stimulating hormone (FSH) is marketed in Australia as either Puregon, Gonal F, Elonva, Menopur or Bemfola. They are very similar to the natural hormone follicle stimulating hormone (FSH) and stimulate the ovaries to produce more follicles than usual in a natural cycle. This results in super-ovulation, so more eggs can be collected for IVF.

### Administration

FSH is delivered as pen injections under the skin. Elonva is a single dose FSH that lasts for one week. You will normally use FSH injections for 8 to 12 days. This will vary depending on the response of the ovaries. Your IVF doctor will prescribe your dose and, if you need more than one treatment cycle, we will review the dose to achieve the best possible stimulation. FSH injections are most commonly used in combination with an agonist such as Synarel or Decepeptyl, or an antagonist such as Orgalutran or Cetrotide. Your IVF nurse will show you how to prepare and inject the drug so that you can do it yourself at home.

### Side effects of Puregon and Gonal F

Most common side effects include:

- Slight abdominal distension
- Mild abdominal discomfort
- Breast tenderness
- Bruising and irritation at the injection site
- Tiredness, especially on higher doses
- Multiple pregnancy

The most severe side effect is:

- Ovarian hyperstimulation syndrome (OHSS). This is a potentially dangerous condition if not managed appropriately. *Please see our separate fact sheet on risks.*

### Storage

Store in original box and refrigerate to between 2-8 degrees.

## Ovidrel and Pregnyl (hCG)

Human chorionic gonadotropin (hCG) is produced by the placenta in pregnancy and sets up the cascade of events that causes progesterone production. hCG levels are measured to confirm pregnancy.

Human chorionic gonadotropin (hCG) can also be used to trigger ovulation in women undergoing stimulated IUI (intrauterine insemination) and IVF.

Pregnyl is a human-derived brand and Ovidrel is a synthetic product.

In a normal cycle, a surge of LH triggers ovulation and release of the egg(s). The body responds to hCG in the same manner as it does LH (that is, they have the same biological effect), so a surge of hCG can also be used to trigger ovulation. In most cases, patients receiving GnRH agonists and FSH injections can only ovulate when they are given an injection of hCG or LH.



When using antagonist to prevent ovulation, either hCG or Decapeptyl can be used to trigger ovulation. When using hCG there is a risk of Ovarian Hyper Stimulation whereas Decapeptyl does not. By using these hCG drugs we can time ovulation precisely and can collect eggs approximately 36 hours after the hCG injection before they are released by the ovary.

#### **Dosage**

Ovidrel comes as an injection in a standard dose of 250mcg. Pregnyl (hCG) is also an injection but comes in doses varying between 1500 international units and 10000 international units.

- Side effects of Ovidrel and Pregnyl
- Common side effects include:
- Injection site soreness/redness
- Headaches
- Tiredness
- Nausea/vomiting
- Abdominal pain

#### **Storage**

Store in original box and refrigerate at temperature between 2-8 degrees. Do not freeze and protect from light. Product has a shelf life of 3 years and should not be used after the expiry date.

## Progesterone (progesterone, Endometrin and Crinone)

Progesterone is normally produced by the ovaries in the second half of the menstrual cycle and during the first weeks of a pregnancy. Progesterone may be prescribed after your embryo transfer to ensure the lining of the uterus is optimal for implantation. We also prescribe progesterone in combination with oestrogen tablets when you are using frozen embryos or donor eggs. In these cases, if you become pregnant, you need to continue progesterone for approximately 8 weeks after the pregnancy test.

#### **Dosage**

Progesterone pessaries or Crinone are administered vaginally because this achieves the most effective absorption of the drug.

*Note: If you are taking progesterone it may prevent a period but this does not necessarily mean you are pregnant.*

#### **Side effects of progesterone**

Pessaries can cause vaginal and labial irritation and soreness. As the pessaries melt, a small amount will discharge vaginally. You can use a panty liner to protect underwear. In rare cases you could be allergic to these substances.

#### **Storage**

Progesterone pessaries should be refrigerated to maintain their effectiveness. Crinone does not require refrigeration.

## Progynova

Progynova is a synthetic oestrogen replacement. It is used to build up the lining of the uterus to prepare for embryo transfer during a frozen embryo transfer cycle.

#### **Dosage and administration**

Progynova is usually taken daily starting on day 1 of the menstrual cycle. We will give you dosage instruction before you start your cycle. The medication is taken until the day of your pregnancy test and, if the test confirms you are pregnant, you should continue to take the tablets for another six weeks. If the test is negative, you can stop the tablets and a period will start within a few days.

#### **Side effects of Progynova**

Side effects are uncommon, but breast tenderness, gastric upset, nausea, headaches and an increase in weight have been reported.

#### **Storage**

No special requirements.

## Contact Life Fertility Clinic

The friendly and professional team at Life Fertility Clinic are happy to answer any other questions you may have about medications used in fertility treatment.