

# Specialists In Reproductive Medicine & Surgery, P.A.

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## Clomiphene Citrate General Information

### Definition:

Clomiphene Citrate (Clomid or Serophene) is a medication that induces or augments ovulation.

### Anatomy/Physiology:

Clomiphene Citrate (CC) interacts with the pituitary gland and hypothalamus, glands located at the base of the brain, to release both Luteinizing Hormone (LH) and Follicle Stimulating Hormone (FSH). These two hormones, in turn, stimulate the ovaries to produce follicles with the eggs eventually released through the process of ovulation.

### Indications:

Many disorders of ovulation are effectively treated by the use of clomiphene. This medication may also be prescribed for ovulatory women with a diagnosis of unexplained infertility. This is usually used in combination with an intra-uterine insemination (IUI) procedure. This drug should generally not be given alone as a non-specific fertility enhancer to ovulatory women.

### Contraindications:

Unless otherwise directed, women with any of the following should not use clomiphene if they have:

- ❖ Liver disease or a history of liver dysfunction
- ❖ Undiagnosed vaginal bleeding
- ❖ Ovulatory dysfunction due to ovarian failure
- ❖ Ovarian cysts deemed significant by your physician

### Administration:

Clomiphene is taken by mouth following the onset of your menstrual cycle. The initial dose is often 50-150 milligrams (mg.) per day. CC is often taken on days 3, 4, 5, 6 and 7 of the menstrual cycle. If possible, please take all the medication at the same time in the evening rather than spacing the pills out throughout the day. Your physician may occasionally ask that the CC be given for an extended duration in patients who do not respond to the five-day regimen.

### Complications:

- ❖ Endometrial lining changes (30%)
- ❖ Cervical mucus changes (<25%)
- ❖ Hot flashes/flushes (<10%)
- ❖ Abdominal discomfort (<7%)
- ❖ Breast tenderness, N/V, nervousness, insomnia and visual disturbances occur at (< 2%.)
- ❖ Headache, dizziness, light-headedness, depression, fatigue, hives, weight gain, hair loss and Ovarian Hyperstimulation Syndrome (<1%)

## Clomiphene Citrate General Information (cont.)

Please note that visual changes such as blurry vision, spots or flashing may occur while using CC. These visual changes may effect the safe operation of heavy machinery. Should visual symptoms occur, discontinue the medication and contact your physician.

Problems with the cervical mucus and endometrial lining may occur with this medication. This drug, therefore, is considered a "double-edged sword". The evaluation of the cervical mucus and endometrial lining may be necessary when taking CC. CC may improve the lining of some women and worsen the maturation of the cells in others. Multiple gestations may occur in 8-10% of all pregnancies. Of the cases of **multiple pregnancy**, 90% or greater will be twins and less than 10% will be triplets or more. A multiple gestation places the mother at a greater risk of developing hypertension, premature labor, toxemia, in addition to undergoing a surgical delivery and other pregnancy complications. For the babies, there is an increased risk of premature delivery. Premature babies are at higher risk for numerous serious illnesses, which can result in permanent disability and, in some cases, death during the neonatal period. There is a growing body of literature that indicates that the medication **may** slightly increase the risk of spontaneous pregnancy loss, however, it remains uncertain if this increased risk is due to the medical problems associated with ovulation dysfunction or actually the medication itself.

This medication is potent and is capable of causing mild to the very rare severe adverse reactions in women. Monitoring of the ovarian response using progesterone levels, ultrasounds and pelvic exams may be requested which will minimize the risks but not completely eradicate them.

Ovarian over stimulation may occur to some of the women taking the medication. A true **Ovarian HyperStimulation Syndrome (OHSS)** is very uncommon (<1%) and usually presents with abdominal distention, pain and weight gain. Under severe circumstances, hospitalization may occur. With these patients, the ovaries become quite large and fluid starts to leak into the abdominal cavity. In the most severe of cases, electrolytes may become out of balance, fluid may also collect around the lungs and heart, the ovarian cysts may rupture requiring surgery and blood vessels may clot off. These extreme consequences **rarely** occur with CC, but have been reported. The symptoms of OHSS may be more prolonged and severe if the patient becomes pregnant during the stimulation cycle.

There is no increased incidence of genetically abnormal infants or congenital abnormalities in infants conceived with these medications.

There is no evidence of an increased risk for breast or uterine cancer or premature menopause when these medications are used. The risk of borderline ovarian cancers (not the more aggressive malignant ovarian cancer), which is an exceedingly rare event, may be increased if the patient never conceives and if the number of CC cycles are cumulatively greater than 12. The potential ovarian cancer risks associated with this medication are truly uncertain but the risks appear to be quite small.

### General Results:

About 1/3rd of the patients will become pregnant with CC therapy with the majority of these patients becoming pregnant within the first three to four ovulatory cycles. CC treatment is usually discontinued if the ovulatory patient is not pregnant after three or four months of therapy and certainly after six months of therapy. Anovulatory patients may take CC for a more extended period of time.

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