

## CLOMIPHENE CITRATE (CLOMID OR SEROPHENE)

**WHAT IS IT?** Clomiphene is a synthetic estrogen hormone which was originally developed to stimulate ovulation (production of an egg) in women who are unable to become pregnant because of ovulation problems. Clomiphene acts by stimulating the pituitary gland (hormone center in the brain) to increase pituitary signals (gonadotropins or FSH and LH) to the ovary for ovulation. Clomiphene improves the chance of pregnancy occurring by increasing the natural levels of estrogen and progesterone in a woman's body, and by increasing the number of cycles with more than one egg at a time. Clomiphene is also used to improve the sperm counts of men who have low or moderate testosterone levels by increasing the pituitary signals to the testes.

**WHO CAN IT HELP?** Clomiphene is used to induce ovulation in women who are not ovulating at all or who do not ovulate regularly. It is also effective for the treatment of luteal phase defects (abnormal hormone production in the second half of the menstrual cycle) in many cases. Clomiphene may also be given to regulate ovulation in women undergoing artificial insemination or other fertility treatments. In combination with other treatments such as intrauterine insemination, it has been shown to increase the chance of pregnancy even in women who are not known to have ovulation problems. In men, clomiphene improves the sperm count and testosterone level if the testes are not working at maximum capacity.

**ARE THERE ANY SIDE EFFECTS?** Clomiphene is a weak hormone and may cause occasional hormonal side effects including mild nausea, abdominal discomfort, hot flashes, blurring of vision or spots in front of the eyes, headaches, dizziness, and enlargement (or cysts) of the ovaries. These side effects are usually mild and frequently occur only for the first month or two on the medication. Most patients have no symptoms and are unaware they are even taking a medication. You should call the office if any symptoms appear severe.

**ARE THERE ANY DANGERS TO ME OR THE BABY IF WE BECOME PREGNANT?** Clomiphene has been used extensively over the past twenty years and is considered a very safe medication. Rare cases of severe enlargement of the ovaries with rupture and internal bleeding have been reported. We monitor all women on this medication with monthly ultrasound examinations of the ovaries to prevent problems of this type and feel that this greatly increases the safety of this treatment. Men generally tolerate the low dose of Clomiphene well without problems. Some men will notice a slight increase in libido or interest in sex. One study reported a small increased risk of ovarian cancer in women who had used Clomiphene for greater than 12 cycles (months) in the past. This finding has not been confirmed in any other studies, and the majority of experts do not feel that there is enough data at this time to prove that the use of Clomiphene increases the risk of cancer or any other medical problems in women. Clomiphene has not been shown to cause an increased risk of birth defects or other abnormalities of the baby over many years of careful observation. There is, however, an increase in the rate of twin pregnancies from about 1-2% of spontaneous pregnancies to 5-7% of Clomiphene pregnancies. Triplets, quadruplets, etc. are very rare on this medication but can occur rarely even without fertility treatment.

**HOW DO I TAKE IT?** Clomiphene is usually taken as one or more pills each day for five days at the beginning of each menstrual cycle. It is usually started on cycle day 3, 4, or 5 (cycle day 1 is the first day of menstrual flow) according to your normal cycle length and the program you are on. The dose is adjusted each month from 1 to 5 pills per day until a satisfactory response is obtained. If you are on more than one pill each day, it is a good idea to take half the pills in the morning and half in the evening. It is very important to keep accurate basal body temperature charts while on Clomiphene therapy in order to monitor proper response and adjust the dose accordingly. In men  $\frac{1}{4}$  (12.5 mg) or  $\frac{1}{2}$  (25 mg) pill is taken every day. The dose will be adjusted according to testosterone blood tests and sperm count response.

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**ARE THERE ANY OTHER PROBLEMS WITH CLOMIPHENE?** Clomiphene is a complex medication with different effects on different parts of the body. It is actually a synthetic weak (or anti-) estrogen and can block the effects of estrogen in some organs including a woman's cervix. Studies have shown that 50% of women who take Clomiphene will have abnormal or "hostile" cervical mucus due to this anti-estrogen effect on the cervical mucus glands. Because healthy mucus is necessary for sperm to swim up into the fallopian tubes and find the egg, Clomiphene is often combined with sperm processing and intrauterine insemination (IUI) to maximize chances of pregnancy. If IUI is not used with Clomiphene treatment, a postcoital test (FPCT) should be performed at the time of ovulation to check for problems with the cervical mucus.

**WHEN DO I RETURN FOR A CLOMIPHENE EXAM?** A vaginal ultrasound examination should be done each cycle before starting the next Clomiphene treatment in order to make sure that the ovaries are not enlarged. This can be done any time in the 7 days before day 3 of the next cycle. We recommend making the appointment 2 weeks in advance as best as you can. It does not matter if your period has not yet started or if you are on a menses at this examination. A good rule is to schedule the next Clomiphene exam for about 3 weeks after your last day of Clomiphene pills. You do not need to drink fluids, etc. before your appointment as your bladder does not have to be full for a vaginal ultrasound examination. Be sure to call the office if you have any questions about the medication or follow-up appointments.