



## Estrogen Patient Information, EDI Assisted Reproductive Technologies

### Definition:

Estrogen is a natural hormone that helps to prepare the lining of the uterus for the implantation of a fertilized embryo. The various estrogens currently available for endometrial preparation include oral, topical and injectable administration.

### Anatomy/Physiology:

By taking supplemental or replacement quantities of estrogen, your endometrial lining will thicken and mature. With the addition of Progesterone, the lining will become prepared to accept a fertilized embryo.

### Indications:

Estrogen may be given in certain Assisted Reproductive Technologies (ART) such as egg donation (actually to the egg recipient), some frozen embryo transfers and gestational surrogacy and along with Clomid during Insemination cycles.

### Contraindications:

Absolute contraindications to estrogen use include breast cancer, uterine cancer, active liver disease and active vascular thrombosis.

Some researchers have raised concerns about the use of estrogen during pregnancy. Not all estrogens are alike and the concerns are very poorly supported. The literature goes so far as to state that the estrogens should not be used during pregnancy because there are potential risks in the formation of limb abnormalities and heart defects (1:1000 pregnancies). However, these "increased" risks are similar to the general malformation incidence in all newborns. ***These concerns are legal concerns and are not of significant consistent medical consequence.*** It should not be forgotten that a woman who does not ovulate, such as in an egg recipient, will not have an endometrial lining that allows for implantation and pregnancy unless supplemental estrogen is taken. There are no other alternatives available to assist in the maturation of the uterine lining. Estrogen has been used for years to prepare the lining for implantation without any significant adverse effects.

## Estrogen Patient Information, EDI (*cont.*)

There are a number of relative contraindications in the use of estrogen to be discussed with your physician. The most common relative contraindication to the use of estrogen is smoking.

### **Administration:**

During ART cycles, estrogen is usually administered by intramuscular injection (Estradiol Valerate, Delestrogen and others) or oral pills. The dosages necessary to mimic the normal cycle are similar to birth control pills, but the administration is usually for a relatively brief period. The medication will be continued, should you become pregnant, until approximately 10 weeks gestational age.

During Insemination cycles with Clomid, estrogen is administered orally. The estrogen is only taken for five days.

### **Complications:**

Some women will experience breast tenderness, minimal fluid retention and slight nausea with Estrogen use. If patches are used, skin site irritation may occur. This irritation may be minimized by using an alcohol wipe to wipe the skin and allowing the site to completely dry before applying the patch.

Rare complications of Estrogen use include, but are not limited to, the following:

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| Headaches  |
| Vascular Thrombosis                              |
| Fibroid Enlargement                              |
| Gall Bladder Disease                             |
| Glucose Intolerance                              |
| Elevated Blood Pressure                          |
| Elevated Calcium Levels                          |
| Hepatic Adenoma (benign liver growth)            |
| Uterine Cancer (requires many years of exposure) |

All of the above concerns pertain more to oral contraceptives and require the long-term use of the estrogen therapy. The majority of women with short-term estrogen use do not have any adverse effects. Using cigarettes while taking Estrogen may increase the likelihood of the rare events listed above.

### **General Results:**

The vast majority of women will mature their uterine lining in an appropriate manner allowing implantation of a fertilized embryo with continued growth though the use of estrogen therapy.

### **Summary:**

Estrogen, a natural hormone, is administered to mimic a natural menstrual cycle to assist in the implantation and growth of a fertilized embryo.

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