

## Hormonal Therapy Overview

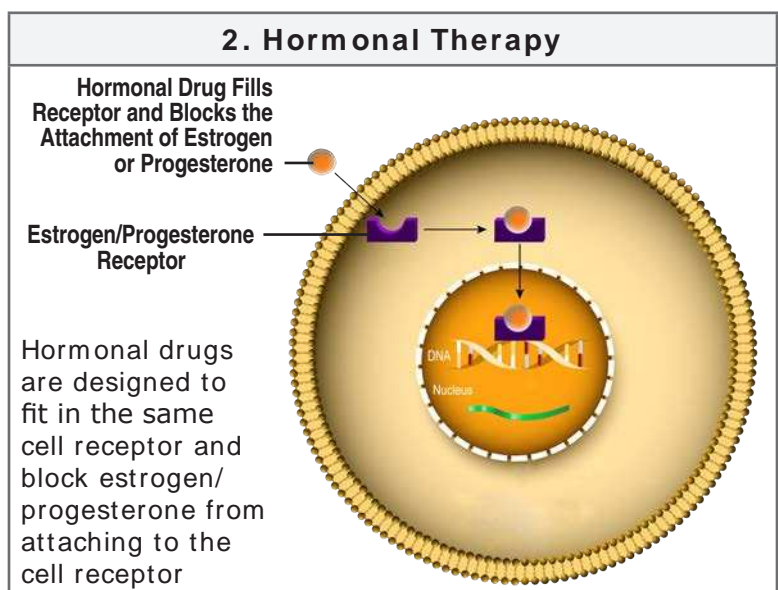
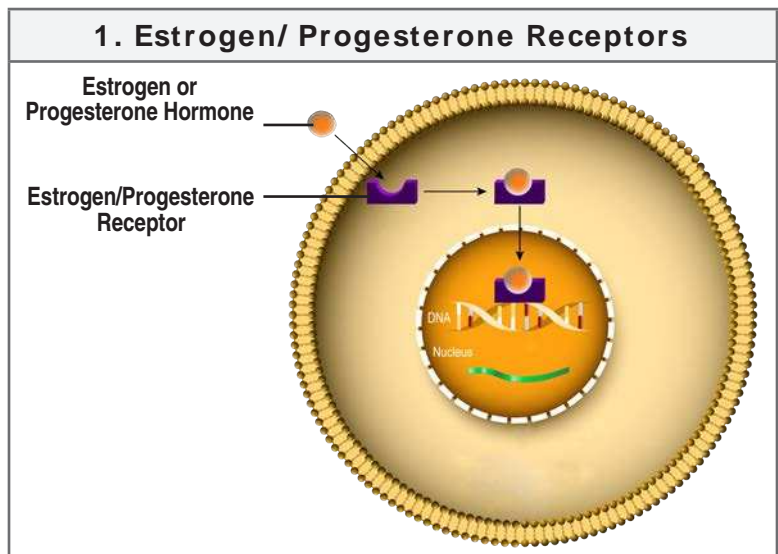
### Female Patient

**Hormonal therapy** refers to treatment for breast cancer patients whose pathology report shows their tumor to have receptors for estrogen or progesterone on the cell surface of the tumor. These cancers are called estrogen-positive (ER+) or progesterone-positive (PR+) breast cancer.

Hormonal therapy for estrogen-positive breast cancer may include either medications or oophorectomy (surgical removal of the ovaries). Today, hormonal medication is the most common type of therapy prescribed for hormone-positive breast cancer.

Female hormones naturally circulate in the body throughout the bloodstream. When a breast tumor has estrogen/progesterone receptors on the cell surface, circulating hormones will attach to the hormone receptor and promote cancer growth (*illustration 1*). Hormonal medications to treat ER+ breast cancers are designed to also circulate in the bloodstream and attach to the same hormone receptors. When the medication attaches to the hormone receptor, it blocks the estrogen hormone from attaching and halts the growth-stimulation estrogen causes (*illustration 2*).

Hormonal treatment has been used for more than 100 years. The first type of hormonal therapy was surgically removing the ovaries in premenopausal women with advanced breast cancer. Surgeons removed the ovaries because they produce the largest amount of the female estrogen and other female sex hormones in premenopausal women. Without the ovaries, the amount of estrogen in the body is greatly reduced. The ability of the estrogen positive cancer tumors to grow is decreased.



Hormonal therapy is given only to patients whose pathology report shows positive estrogen and/or progesterone receptors. Hormonal therapy is not effective in patients with negative estrogen and/or progesterone receptors. Hormonal medications may be prescribed alone or given in addition to chemotherapy for hormone-positive breast cancer. The recommended treatment time is 5 – 10 years.

Hormonal medications do not cause the same side effects as chemotherapy. They do not kill cells that cause the side effects of nausea, vomiting, lowered blood count (increases potential for infection or bleeding) or hair loss. The most common side effects of hormonal medications are hot flashes, weight gain and reduced sexual desire.

Your physician will tell you if your cancer is estrogen/progesterone positive and if you are a candidate for hormonal therapy. The type of medication selected will be based on your age.

<b>Hormonal Therapy Drugs</b>		
<b>Breast Cancer Class of Drugs</b>	<b>Drug Action</b>	<b>Drug Names</b>
<b>SERMs</b> (Selective Estrogen-Receptor Modulators)	Drug binds to estrogen receptors in breast, controlling cancer growth	<b>Nolvadex</b> ® (tamoxifen) <b>Soltamox</b> ® (tamoxifen) <b>Fareston</b> ® (toremifene)
<b>Aromatase Inhibitors</b>	Reduces or prevents estrogen production in adrenal glands	<b>Aromasin</b> ® (exemestane) <b>Femara</b> ® (letrozole) <b>Arimidex</b> ® (anastrozole)
<b>Miscellaneous Hormonal</b>	Used for breast cancers that are estrogen dependent	<b>Zoladex</b> ® (goserelin acetate) <b>Faslodex</b> ® (fulvestrant) <b>Lupron</b> ® (leuprolide)

### **Additional Information**

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