

## **Gonadotropin - releasing Hormone Releasing agonists or receptor blocker antagonist**

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Lupron Depot – leuprolide acetate - is clinically known as a gonadotropin-releasing hormone releasing agonist (GnRH agonist). As an agonist, this medication initially causes a surge of testosterone production that continues for one to two weeks. With that surge can become what are known as “flare” side effects that can be very discomforting for some. Thus, it is important that an antiandrogen – with bicalutamide, generic of Casodex most often prescribed – begun at least a week prior to this initial injection. Subsequent injections administered sequentially do not require an antiandrogen to precede the injections. Should the patient move to a period of intermittent androgen deprivation (IAD), then return later to adding back this medication, an antiandrogen should again be prescribed to begin at least a week preceding the return of the medication.

The more often used injection site for this medication is in the buttocks, usually below the hip on either the right or left side.

Best to shift weight to opposite side of injection so that buttocks muscle is somewhat relaxed enabling the injection to more easily be absorbed.

Other sites could be outside upper arms, upper lateral thighs, or outer thighs. This medication is available in either 1, 3, 4, or 6 months effective doses.

See: <http://www.lupronprostatecancer.com/howluprondepotworks.aspx>

Trelstar – triptorelin - is clinically known as a gonadotropin-releasing hormone releasing agonist (GnRH agonist). As an agonist, this medication initially causes a surge of testosterone production that continues for one to two weeks. With that surge can become what are known as “flare” side effects that can be very discomforting for some. Thus, it is important that an antiandrogen – with bicalutamide, generic of Casodex most often prescribed – begun at least a week prior to this initial injection. Subsequent injections administered sequentially do not require an antiandrogen to precede the injections. Should the patient move to a period of intermittent androgen deprivation (IAD), then return later to adding back this medication, an antiandrogen should again be prescribed to begin at least a week preceding the return of the medication.

The injection site for this medication is in the buttocks, usually below the hip on either the right or left side.

Best to shift weight to opposite side of injection so that buttocks muscle is somewhat relaxed enabling the injection to more easily be absorbed.

This medication is available in either 1, 3, 4, or 6 months effective doses.

See: [http://www.trelstar.com/documents/TrelstarPatientBrochure\\_09830.pdf](http://www.trelstar.com/documents/TrelstarPatientBrochure_09830.pdf)

Zoladex – goserelin acetate implant - is clinically known as a gonadotropin-releasing hormone releasing agonist (GnRH agonist). As an agonist, this medication initially causes a surge of testosterone production that continues for one to two weeks. With that surge can become what are known as “flare” side effects that can be very discomforting for some. Thus, it is important that an antiandrogen – with bicalutamide, generic of Casodex most often prescribed – begun at least a week prior to this initial injection. Subsequent injections administered sequentially do not require an antiandrogen to precede the injections. Should the patient move to a period of intermittent androgen deprivation (IAD), then return later to adding back this medication, an antiandrogen should again be prescribed to begin at least a week preceding the return of the medication.

This medication is administered subcutaneously into the anterior abdominal wall below the navel line, using an aseptic technique. The medication is available in either 1 or 3 months doses

See: <https://www.zoladex.com/prostate-cancer.html>

Eligard - leuprolide acetate for injectable suspension – is clinically known as a gonadotropin-releasing hormone releasing agonist (GnRH agonist). As an agonist, this medication initially causes a surge of testosterone production that continues for one to two weeks. With that surge can become what are known as “flare” side effects that can be very discomforting for some. Thus, it is important that an antiandrogen – with bicalutamide, generic of Casodex most often prescribed – begun at least a week prior to this initial injection. Subsequent injections administered sequentially do not require an antiandrogen to precede the injections. Should the patient move to a period of intermittent androgen deprivation (IAD), then return later to adding back this medication, an antiandrogen should again be prescribed to begin at least a week preceding the return of the medication.

This medication is administered subcutaneously into the anterior abdominal wall below the navel line. The specific injection location chosen should be an area with sufficient soft or loose subcutaneous tissue. In clinical trials, the injection was administered in the upper- or mid-abdominal area. Avoid areas with brawny or fibrous subcutaneous tissue or locations that could be rubbed or compressed (i.e., with a belt or clothing waistband).

The medication is available in either 1, 3, 4, or 6 months effective doses.

See: <http://www.eligard.com/about-prostate-cancer/statistics.aspx> and

<http://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=b78d1919-9dee-44fa-90f9-e0a26d32481d>

Vantas – histrelin acetate implant - is clinically known as a gonadotropin-releasing hormone releasing agonist (GnRH agonist).

Though this is an implant of 50mg to last for 12 months, I do not recommend the medication. Vantas is about the size of a paper match and has a removal problem. It is so small and light that it often migrates and is hard to find in the arm. It has no metallic tag so it is not radiographic, and is so small palpitation may not be helpful. Digging in the arm fruitlessly for removal could be an unpleasant experience.

Firmagon – degarelix for injection – is clinically known as a gonadotropin-releasing hormone releasing receptor blocker or “antagonist” (GnRH antagonist). Firmagon is the **only GnRH antagonist** available in the United States for the treatment of advanced prostate cancer. Different than agonists, Firmagon does not initially cause a surge/flare in testosterone production before dropping down to clinically castrate levels, thus can safely be administered without being preceded by an antiandrogen. FIRMAGON is given as a monthly, deep subcutaneous (below the skin) injection into your abdominal wall in either of four locations - either left or right above the navel, or left or right below the navel. Each subsequent injection should be in a different location. The injections will be given by your healthcare provider at an office, hospital, or clinic. Make sure that your injection site is free of any pressure from belts, waistbands, or other types of clothing.

The treatment begins with a starting dose of 2 injections (120 mg each) that will quickly begin to suppress testosterone. After day 1, you will receive 1 injection (80 mg) every 28 days.

See:

<http://ferringpromise.com/assets/What%20to%20Expect%20from%20Treatment.pdf>

A more comprehensive explanation of the foregoing medications can be reviewed here:

[http://www.medscape.com/viewarticle/779790\\_3](http://www.medscape.com/viewarticle/779790_3)