



## Leuprolide Acetate (Lupron®, Lupron Depot®, Eligard®, Prostav®, Viadur®)

**Pronounce:** LOO-proe-lide

**Classification:** Luteinizing Hormone Releasing Hormone (LHRH) Agonist

### About Leuprolide Acetate (Lupron®, Lupron Depot®, Eligard®, Prostav®, Viadur®)

Luteinizing hormone (LH) is made by the pituitary gland. LH helps your body make hormones like testosterone, estrogen, and progesterone. LHRH agonists stop the pituitary gland from making luteinizing hormone. This lowers the amount of testosterone, estrogen, and progesterone being made in your body. Some cancers need these hormones to grow. LHRH agonists can cause cancer cells to grow more slowly or stop growing. These may also be called gonadotropin-releasing hormone blockers (GnRH blockers).

### How to Take Leuprolide Acetate

Leuprolide acetate is given as an injection under the skin, (called subcutaneous or SQ) every 4 weeks. There is also a long-acting formulation (called depot), which is given every 3, 4 or 6 months into the muscle (intramuscular, IM). Leuprolide acetate can also be administered as an implant (Viadur) that is inserted under the skin in the upper arm and lasts for 12 months.

### Possible Side Effects of Leuprolide Acetate

There are a number of things you can do to manage the side effects of leuprolide acetate. Talk to your care team about these recommendations. They can help you decide what will work best for you. Some side effects depend on whether you were born male or female and your anatomy. Ask your provider which side effects may affect you. These are some of the most common or important side effects:

#### Tumor Flare

When starting an LHRH agonist, your body at first has a temporary increase in testosterone levels. This "flare" can lead to a temporary increase in tumor size, causing symptoms of the cancer to worsen. Your healthcare team can tell you what to look for and which treatment, if any, is needed. The symptoms often get better 3 to 4 weeks after your first injection was given.

#### Hot Flashes

There are a few things you can do to help with hot flashes. Several medications have been shown to help with symptoms, including clonidine (a blood pressure medication), low doses of certain antidepressants (such as venlafaxine and fluoxetine), and gabapentin. Talk to your healthcare team about these prescription products to determine if they are right for you.

Non-medical recommendations include:

- Keep well-hydrated with eight glasses of water daily.
- Drink ice water or apply an ice pack at the onset of a hot flash.

- Wear cotton or lightweight, breathable fabrics and dress in layers so you can adjust as needed.
- Exercise on a regular basis.
- Try practicing meditation or relaxation exercises to manage stress, which can be a trigger.
- Avoid triggers such as warm rooms, spicy foods, caffeinated beverages, and alcohol.

## Muscle, Back, or Joint Pain/Aches

This medication can cause joint or muscle aches and pains, which may be treated with medications. Talk with your care team about which pain relievers you can safely take. Non-medical therapies, such as acupuncture, yoga, gentle stretching, and exercise may also help reduce this side effect.

## Depression

Leuprolide acetate can cause depression. Contact your care providers if you develop depressive symptoms including irritability, lack of interest in normal activities, insomnia or hypersomnia (sleeping too much), changes in appetite, hopelessness, and sadness.

## Injection Site Irritation

This medication can cause irritation and injury at the site of injection, including pain, bruising, or bleeding. Contact your care provider if you develop abdominal pain, abdominal distension, shortness of breath, dizziness, or if you are difficult to arouse.

## Weakening of the Bones (Osteoporosis)

Taking hormone therapy for an extended period of time can put you at risk for [bone thinning](#) (osteoporosis). You may be advised to take calcium and vitamin D supplements to help prevent bone loss. Weight-bearing exercise and a healthy diet rich in calcium and vitamin D can also help protect your bone health. You may have a bone density scan (DEXA scan) to assess your bone health. If your physician determines that you are at high risk of developing osteoporosis, they may recommend additional treatment with a type of medication called a bisphosphonate to help strengthen the bones.

## Impotence and Loss of Sex Drive (Libido)

These side effects typically go away once the medication is stopped. You may notice a lack of ability to have and maintain an erection, loss of sex drive, or a decrease in the size of the testicles. Talk to your healthcare team about options to treat these symptoms.

## Breast Tenderness or Increase in Breast Tissue

An increase in breast tissue (gynecomastia) or breast tenderness may develop. Your healthcare team can suggest medications to relieve the tenderness. In rare cases, radiation can be given to relieve the tenderness.

## Fatigue

[Fatigue](#) is very common during cancer treatment and is an overwhelming feeling of exhaustion that is not usually relieved by rest. While on cancer treatment, and for a period after, you may need to adjust your schedule to manage fatigue. Plan times to rest during the day and conserve energy for more important activities. Exercise can help combat fatigue; a simple daily walk with a friend can help. Talk to your healthcare team for helpful tips on dealing with this side effect.

## Vaginal Dryness

For those born with a vagina, [vaginal dryness](#) and related painful intercourse is a common side effect of cancer therapy. Vaginal lubricants and moisturizers (longer lasting form of moisturizers) can help with these concerns. Talk to your healthcare team for more suggestions in managing this side effect.

## Important but Less Common Side Effects

**High Blood Sugar and Diabetes:** This medication can cause elevated blood sugar levels in patients with and without diabetes. Your oncology care team will monitor your blood sugar. If you develop increased thirst, urination or hunger, blurry vision, headaches or your breath smells like fruit, notify your healthcare team. Diabetics should monitor their blood sugar closely and report elevations to the healthcare team.

**Abnormal Heart Rhythms:** This medication can cause slow or abnormal heartbeats or an abnormal heart rhythm called QT prolongation. Notify your oncology care team right away if you feel abnormal heartbeats or if you feel dizzy or faint.

**Heart Problems, Heart Attack, and Stroke:** This medication can raise your risk of stroke and heart attack. If you have symptoms listed below, call your healthcare provider right away or go to the emergency room. Symptoms can include swelling, redness or pain in an arm or leg, chest pain or pressure, pain in your arm, back, neck or jaw, shortness of breath, numbness or weakness on one side of the body, trouble talking, confusion, or mental status changes.

**Seizures:** This medication can increase your risk for seizures, especially in patients with a history of seizures or epilepsy. Be sure your healthcare team is aware of any anti-seizure medications you are taking. Report any seizure activity to your healthcare team immediately.

**Ureteral obstruction:** This medication can cause ureteral obstruction. If you have any problems urinating, contact your healthcare provider immediately.

**Severe cutaneous adverse reactions (SCARs), including Stevens Johnson Syndrome and toxic epidermal necrolysis (TEN):** This medication can cause rare, but serious allergic reactions that affect the skin and mucous membranes. These skin reactions often start as a rash or painful blister and can progress (get worse) to serious damage to the skin and in some cases, death. If you notice a new rash, have a fever and flu-like symptoms, lesions on mucous membranes, and swollen lymph nodes, call your care team right away.

**Liver Toxicity:** This medication can cause liver toxicity, which your oncology care team may monitor for using blood tests called liver function tests. Notify your healthcare provider if you notice yellowing of the skin or eyes, your urine appears dark or brown, or you have pain in your abdomen, as these can be signs of liver toxicity.

**Spinal cord compression:** This medication can rarely cause a spinal cord compression. Report any loss of bowel or bladder control, severe or increasing numbness between the legs, inner thighs, and back of legs, new difficulty walking, and/or loss of sensation in the feet to your healthcare team immediately.

## Sexual and Reproductive Concerns

This medication may affect your reproductive system, resulting in the menstrual cycle or sperm production becoming irregular or stopping permanently. In addition, the desire for sex may decrease during treatment. You may want to consider sperm banking or egg harvesting if you may wish to have a child in the future. Discuss these options with your oncology team.

Exposure of an unborn child to this medication could cause birth defects, so you should not become pregnant or father a child while on this medication. Non-hormonal methods of birth control (condoms, spermicide, diaphragm, Paraguard, IUD) are necessary during treatment and for at least 12 weeks after treatment.

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