

## Melphalan - IV (Alkeran®, L-PAM, IVRA, Evomela®)

**Pronounce:** MEL-fa-lan

**Classification:** Alkylating Agent

### About Melphalan - IV (Alkeran®, L-PAM, IVRA, Evomela®)

Melphalan kills cancer cells through a process called alkylation. Alkylation damages the DNA of cells, which prevents them from dividing and causes them to die. Since cancer cells divide faster than healthy cells, cancer cells are more sensitive to this damage. In this way, Melphalan slows or stops the growth of cancer cells in your body.

### How to Take Melphalan

Melphalan is given by intravenous (IV, into a vein) infusion. Your dosage and schedule depend on your size and type of cancer.

Even when carefully and correctly administered by trained personnel, this drug may cause a feeling of burning and pain. There is a risk that this medication may leak out of the vein at the injection site, causing tissue damage that can be severe. If the area of injection becomes red, swollen, or painful at any time during or after the injection, tell your care team right away. Do not apply anything to the site unless told to do so by your care team.

You and anyone you live with should avoid having live or live-attenuated vaccines while receiving this medication. These include herpes zoster (Zostavax) for shingles prevention, oral polio, measles, nasal flu vaccine (FluMist®), rotavirus, and yellow fever vaccines.

### Possible Side Effects of Melphalan

There are a number of things you can do to manage the side effects of melphalan. Talk to your care team about these recommendations. They can help you decide what will work best for you. These are some of the most common or important side effects:

#### Low White Blood Cell Count (Leukopenia or Neutropenia)

White blood cells (WBC) are important for fighting infection. While receiving treatment, your [WBC count can drop](#), putting you at a higher risk of getting an infection. You should let your doctor or nurse know right away if you have a fever (temperature greater than 100.4°F / 38°C), sore throat or cold, shortness of breath, cough, burning with urination, or a sore that doesn't heal.

#### Tips to preventing infection:

- [Washing hands](#), both yours and your visitors, is the best way to prevent the spread of infection.
- Avoid large crowds and people who are sick (i.e.: those who have a cold, fever, or cough or live with someone with these symptoms).
- When working in your yard, wear protective clothing including long pants and gloves.
- Do not handle pet waste.
- Keep all cuts or scratches clean.

- Shower or bathe daily and perform frequent [mouth care](#).
- Do not cut cuticles or ingrown nails. You may wear nail polish, but not fake nails.
- Ask your oncology care team before scheduling dental appointments or procedures.
- Ask your oncology care team before you, or someone you live with has any vaccinations.

## Low Red Blood Cell Count (Anemia)

Your red blood cells are responsible for carrying oxygen to the tissues in your body. When the [red cell count is low](#), you may feel tired or weak. You should let your oncology care team know if you experience any shortness of breath, difficulty breathing, or pain in your chest. If the count gets too low, you may receive a blood transfusion.

## Low Platelet Count (Thrombocytopenia)

Platelets help your blood clot, so when the [count is low](#) you are at a higher risk of bleeding. Let your oncology care team know if you have any excess bruising or bleeding, including nose bleeds, bleeding gums, or blood in your urine or stool. If the platelet count becomes too low, you may receive a transfusion of platelets.

- Do not use a razor (an electric razor is fine).
- Avoid contact sports and activities that can result in injury or bleeding.
- Do not take aspirin (salicylic acid), non-steroidal, anti-inflammatory medications (NSAIDs) such as Motrin/Advil (ibuprofen), Aleve (naproxen), Celebrex (celecoxib), etc. as these can all increase the risk of bleeding. Please consult with your healthcare team regarding the use of these agents and all over-the-counter medications/supplements while on therapy.
- Do not floss or use toothpicks and use a soft-bristle toothbrush to brush your teeth.

## Diarrhea

Your oncology care team can recommend medications to relieve [diarrhea](#). Also, try eating [low-fiber](#), bland foods, such as white rice and boiled or baked chicken. Avoid raw fruits, vegetables, whole-grain breads, cereals, and seeds. Soluble fiber is found in some foods and absorbs fluid, which can help relieve diarrhea. Foods high in soluble fiber include applesauce, bananas (ripe), canned fruit, orange sections, boiled potatoes, white rice, products made with white flour, oatmeal, cream of rice, cream of wheat, and farina. Drink 8-10 glasses of non-alcoholic, un-caffeinated fluid a day to prevent dehydration.

## Nausea and/or Vomiting

Talk to your oncology care team so they can prescribe medications to help you manage [nausea and vomiting](#). In addition, dietary changes may help. Avoid things that may worsen the symptoms, such as heavy or greasy/fatty, spicy or acidic foods (lemons, tomatoes, oranges). Try saltines, or ginger ale to lessen symptoms.

Call your oncology care team if you are unable to keep fluids down for more than 12 hours or if you feel lightheaded or dizzy at any time

## Mouth Sores (Mucositis)

Certain cancer treatments can cause [sores or soreness in your mouth](#) and/or throat. Notify your oncology care team if your mouth, tongue, inside of your cheek or throat becomes white, ulcerated, or painful. Performing [regular mouth care](#) can help prevent or manage mouth sores. If mouth sores become painful, your doctor or nurse can recommend a pain reliever.

- Brush with a soft-bristle toothbrush or cotton swab twice a day.
- Avoid mouthwashes that contain alcohol. A baking soda and/or salt with warm water mouth rinse (2 level teaspoons of baking soda or 1 level teaspoon of salt in an eight-ounce glass of warm water) is recommended 4 times daily.

- If your mouth becomes dry, eat moist foods, drink plenty of fluids (6-8 glasses), and suck on sugarless hard candy.
- Avoid smoking and chewing tobacco, drinking alcoholic beverages, and citrus juices.

## 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.

## Loss or Thinning of Scalp and Body Hair (Alopecia)

Your hair may become **thin, brittle, or may fall out**. This typically begins two to three weeks after treatment starts. This hair loss can be all body hair, including pubic, underarm, legs/arms, eyelashes, and nose hairs. The use of scarves, wigs, hats, and hairpieces may help. Hair generally starts to regrow soon after treatment is completed. Remember your hair helps keep you warm in cold weather, so a hat is particularly important in cold weather or to protect you from the sun.

## Decrease in Appetite or Taste Changes

**Nutrition** is an important part of your care. Cancer treatment can affect your appetite and, in some cases, the side effects of treatment can make eating difficult. Ask your oncology care team about nutritional counseling services at your treatment center to help with food choices.

- Try to eat five or six small meals or snacks throughout the day, instead of 3 larger meals.
- If you are not eating enough, nutritional supplements may help.
- You may experience a metallic taste or find that food has no taste at all. You may dislike foods or beverages that you liked before receiving cancer treatment. These symptoms can last for several months or longer after treatment ends.
- Avoid any food that you think smells or tastes bad. If red meat is a problem, eat chicken, turkey, eggs, dairy products, and fish without a strong smell. Sometimes cold food has less of an odor.
- Add extra flavor to meat or fish by marinating it in sweet juices, sweet and sour sauce, or dressings. Use seasonings like basil, oregano, or rosemary to add flavor. Bacon, ham, and onion can add flavor to vegetables.

## Peripheral Edema

**Peripheral edema** is swelling of the extremities caused by the retention of fluid. It can cause swelling of the hands, arms, legs, ankles, and feet. The swelling can become uncomfortable. Notify your oncology care team if you are experiencing any new or worsening swelling.

## Rash

Some patients may develop a rash, scaly skin, or red itchy bumps. Use an alcohol-free moisturizer on your skin and lips; avoid moisturizers with perfumes or scents. Your oncology care team can recommend a topical medication if itching is bothersome. If your skin does crack or bleed, be sure to keep the area clean to avoid infection. Be sure to notify your oncology care team of any rash that develops, as this can be a reaction. They can give you more tips on **caring for your skin**.

## Important but Less Common Side Effects

- **Allergic Reactions** In some cases, patients can have an allergic reaction to this medication. Signs of a reaction can include shortness of breath or difficulty breathing, chest pain, rash, flushing or itching, or a decrease in blood pressure. If you notice any changes in how you feel when taking this medication,

notify your care team immediately.

- **Lung Changes:** This medication may cause lung problems, including pulmonary fibrosis (a scarring and stiffening of the lung tissue) and pneumonitis (swelling of the lungs). These problems can develop during, or months to years after, treatment. Call your healthcare provider right away if you have shortness of breath, cough, fever, wheezing, or difficulty breathing.
- **Liver Toxicity:** This medication can cause liver toxicity, which your doctor 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 pain in your abdomen, as these can be signs of liver toxicity.
- **Radiation Recall:** Radiation recall is when the administration of a medication causes a skin reaction that looks like a sunburn (redness, swelling, soreness, peeling skin) in areas where radiation was previously given. Notify your oncology team if you notice this side effect. Treatment can include topical steroid ointments and a delay in your next chemotherapy dose.
- **Secondary Cancers:** A secondary cancer is one that develops as a result of cancer treatment for another cancer. This is quite rare, but you should be aware of the risk. In most cases, a secondary cancer related to chemotherapy is a blood cancer (leukemia, lymphoma). This can occur years after treatment. This is most often associated with repeated treatments or high doses. Your provider will monitor your labs closely. Consider having a complete blood count with differential checked annually by your healthcare provider if you received high-risk therapies.

## Sexual & Reproductive Concerns

This medication may affect your reproductive system, resulting in the menstrual cycle or sperm production becoming irregular or stopping permanently. Women may experience menopausal effects including hot flashes and [vaginal dryness](#). 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. For women, effective birth control is necessary during treatment and for at least 6 months after treatment, even if your menstrual cycle stops. For men, effective birth control is necessary during treatment and for at least 3 to 6 months after treatment, even if you believe you are not producing sperm. You should consult with your healthcare team before breastfeeding while receiving this medication.

## Prednisone (Sterapred®, Prednisone Intensol)

**Pronounce:** PRED-ni-sone

**Classification:** Glucocorticoid

### About Prednisone (Sterapred®, Prednisone Intensol)

Prednisone is a corticosteroid/glucocorticoid that is similar to a hormone made naturally in your body. Corticosteroids (sometimes called "steroids") are used to lessen inflammation (swelling and/or redness). Steroids may be used for a few diseases, such as asthma, autoimmune disorders, reactions to medications, and gastrointestinal (GI) disorders (colitis). Prednisone may be given to prevent a reaction to a medication, to prevent or decrease nausea, or it can be used in high doses to treat some types of cancers.

### How to Take Prednisone

Prednisone comes as a tablet to take by mouth. The tablet should be swallowed whole. You should not break or chew the tablet. Prednisone is best taken with food or milk, as it can upset your stomach. Unless told

otherwise, take your dose(s) of prednisone at the same time(s) each day. Your dosing schedule depends on what the medication is being used for. If you miss a dose, take it as soon as possible. If it is too close to your next dose, skip the missed dose and go back to your normal schedule.

Do not stop taking this medication without first speaking to your care provider as this could cause side effects such as weakness, fatigue, decreased appetite, weight loss, nausea, vomiting, diarrhea, and abdominal (belly) pain.

This medication can affect the levels of many other medications including warfarin, cyclosporine, oral birth control pills, phenytoin, bupropion, thalidomide, erythromycin, ketoconazole, and ritonavir, among others. Be sure to tell your healthcare provider about all medications and supplements you take.

You, or anyone you live with, should avoid having live or live-attenuated vaccines while receiving this medication. These include herpes zoster (Zostavax) for shingles prevention, oral polio, measles, nasal flu vaccine (FluMist®), rotavirus, and yellow fever vaccines.

## Storage and Handling

Store your medication in the original, labeled container at room temperature and in a dry location (unless otherwise directed by your healthcare provider or pharmacist). Keep containers out of reach of children and pets.

## Where do I get this medication?

Prednisone is available through most pharmacies. Your oncology team will work with your prescription drug plan to identify an in-network pharmacy for the distribution of this medication.

## Insurance Information

This medication may be covered under your prescription drug plan. Patient assistance may be available to qualifying individuals without prescription drug coverage. Your care team can help you find these resources if they are available.

## Possible Side Effects of Prednisone

There are a number of things you can do to manage the side effects of prednisone. Talk to your care team about these recommendations. They can help you decide what will work best for you. These are some of the most common or important side effects:

### Swelling

Patients may notice swelling in their hands and/or feet. Elevating (raising) the feet may help to lessen swelling in the feet and ankles. Avoid restrictive or tight clothing that may make it harder for the fluid to drain from the hands, feet, and ankles.

### Increased Risk of Infection

This medication can lower your ability to fight new and current infections. Contact your provider if you have any signs of infection, such as fever, chills, sore throat or cold, cough or burning with urination. Tell your provider if you have any recent or ongoing infections, including viral or bacterial. Tell your provider if you have had any recent vaccinations. Avoid being around anyone who has chickenpox or measles.

Tips to preventing infection:

- [Washing hands](#), both yours and your visitors, is the best way to prevent the spread of infection.
- Avoid large crowds and people who are sick (i.e.: those who have a cold, fever, or cough or live with someone with these symptoms).

- When working in your yard, wear protective clothing including long pants and gloves.
- Do not handle pet waste.
- Keep all cuts or scratches clean.
- Shower or bathe daily and perform frequent [mouth care](#).
- Do not cut cuticles or ingrown nails. You may wear nail polish, but not fake nails.
- Ask your doctor or nurse before scheduling dental appointments or procedures.
- Ask your doctor or nurse before you, or someone you live with has any vaccinations.

## Weakening of the Bones (Osteoporosis)

Long-term use can lead to early osteoporosis. Your provider may have you get a [bone density scan \(DEXA scan\)](#) to check your bone health if you are on long-term therapy.

## Eye Problems

Long-term use of this medication can increase the pressure in your eyes. Report any changes in vision, blurry or double vision, and eye pain or redness.

## Increase in Appetite

Prednisone can cause you to be hungrier or thirstier than usual. Drink plenty of fluids and try to make your snacks healthy ones.

## Increase in Energy

Prednisone can cause an increase in energy. You may also have insomnia, or difficulty sleeping. Taking the medication in the morning may help prevent this.

## Irritability or Change in Mood

Some patients report feeling irritable or might notice a change in their mood while taking prednisone. If this becomes difficult to handle or if you feel like you may harm yourself or others, call your healthcare provider right away.

## Nausea and Heartburn

Taking prednisone with food or milk is usually enough to prevent nausea and heartburn. If possible, take the medication when you can be upright (not lying down) for a few hours after the dose. Avoid things that worsen the symptoms and try antacids (milk of magnesia and calcium tablets, like Tums), saltines, or ginger ale to lessen symptoms.

## Increased Blood Sugar

Prednisone can raise your blood sugar. Diabetics should watch their blood sugar closely and may need higher doses of insulin while taking prednisone. Patients who are not diabetic but have increased blood sugar levels may be told to check their blood sugar and take insulin while on prednisone. Your provider will tell you if this is necessary.

## GI Bleed & Tear

This medication can cause bleeding or a tear in your intestinal wall (GI tract). Signs of these problems may be: unexpected bleeding, blood in the stool or black stools, coughing up blood, vomiting blood, vomit that looks like coffee grounds, fever, severe pain in the abdomen, or new abdominal swelling. If you have any of these, contact your oncology care team right away or go to the emergency room.

## Other Side Effects

Prednisone can cause delayed wound healing, headaches, muscle weakness, and cataracts (after long-term use).

## Reproductive Concerns

Exposure of an unborn child to this medication could cause birth defects in rare cases, so you should not become pregnant or father a child while on this medication. Even if your menstrual cycle stops or you believe you are not producing sperm, you could still be fertile and conceive. You should check with your healthcare team before breastfeeding while receiving this medication.

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