MEDICINE INFORMATION

FLAG-Ida chemotherapy

A guide for patients and caregivers about intensive leukaemia treatment, the time it takes blood counts to recover and what support you may need in hospital.

At a glance

Treatment	Fludarabine + Cytarabine + Idarubicin + Filgrastim (G-CSF)
When it may be used	For selected people with acute leukaemia, including acute myeloid leukaemia that has returned or continued after previous treatment.
How it is given	Fludarabine, cytarabine and idarubicin go through a vein. Filgrastim is given by injection under the skin.
Before you start	Ask about admission, eye drops, infection prevention, transfusions and who to call after discharge.

What this treatment is and how it works

Fludarabine, cytarabine and idarubicin attack dividing leukaemia cells in different ways. Cytarabine is sometimes called Ara-C. Filgrastim is a growth factor called granulocyte colony-stimulating factor (G-CSF). It is part of the planned regimen and supports production of white blood cells. Your team will explain which days include each medicine and whether they use a related version of the regimen.

When it may be used

FLAG-Ida is intensive treatment for selected people with acute leukaemia. In acute myeloid leukaemia (AML), it may be offered when the disease has returned or when a previous course has failed to clear it. In some circumstances it is used earlier. Ask your haematologist why this regimen fits your leukaemia and how your response might shape the next step, including whether a stem cell transplant is being considered.

Before treatment

Bring your medicines and allergies list, including supplements and previous cancer treatment. Mention kidney problems, heart disease, changes in vision, balance or coordination, and any current infection. The team usually checks blood counts, kidney and liver function and may assess your heart because idarubicin can affect it. Ask whether fertility preservation is possible before starting.

Ask where you will stay, how visits work and what a caregiver can help with. If the leukaemia burden is high, the team may give fluids and medicines and check blood salts to reduce the risk of tumour lysis syndrome. This can happen when many cancer cells break down quickly and release substances that affect the kidneys and other organs.

How treatment is given

Treatment takes several days. You usually have the chemotherapy through a central line, a tube that stays in a large vein. Filgrastim is given under the skin on the days in your plan. You will also be given medicines to prevent nausea. High-dose cytarabine can irritate the eyes. Use the prescribed steroid eye drops as directed and ask exactly when to finish them.

The days of infusions are followed by a period of recovery. Many people need hospital care through part or all of that period because blood counts fall. The team may give blood or platelet transfusions, and medicines to prevent or treat infection. Ask for the discharge and contact plan in writing before leaving.

Tests and monitoring during treatment

The team checks your blood counts frequently. It also monitors your kidneys, liver, blood salts and signs of infection. During high-dose cytarabine, staff may check your handwriting, balance, speech or coordination. Tell them immediately about any changes, even if they seem small.

A bone marrow sample may be taken to check how much leukaemia remains. Ask when you are likely to get the result and whether a more sensitive test for small numbers of remaining leukaemia cells is planned.

If you need a blood transfusion

Fludarabine in FLAG-Ida affects which blood components you need during and after treatment. If you need red cells or platelets, tell the transfusion team about your treatment so they can arrange irradiated components. These are specially treated before transfusion to prevent a rare, serious reaction. Ask how long the precaution applies and whether you should carry a transfusion alert card or letter.

Side effects

Common side effects

- **Very low blood counts.** Infection can become serious quickly. Low red cells can cause tiredness or breathlessness, and low platelets can cause bruising or bleeding. Tell staff about new symptoms as soon as they occur.
- **Sore mouth, nausea and bowel changes.** Ask about mouth care, pain relief and nutrition. Tell the nurse if swallowing becomes painful or you cannot keep fluids down.
- **Sore or watery eyes.** High-dose cytarabine can cause eye irritation. Use the prescribed drops and report pain, light sensitivity or blurred vision.
- **Hair loss and tiredness.** Ask about practical help while you recover. Filgrastim can also cause aching bones.

Less common and serious side effects

High-dose cytarabine can affect the nerves that control speech, balance or coordination. Report new slurred speech, unusual sleepiness, confusion or unsteadiness straight away. Idarubicin can affect the heart and can damage tissue if it leaks from a drip. Tell your nurse about pain, burning or swelling at the infusion site. New breathlessness or a racing heartbeat also needs assessment.

When to seek urgent help

While you are in hospital, tell your nurse immediately about fever, shaking chills, bleeding, new confusion or any sudden change. At home, call the hospital's 24-hour cancer care number straight away for these symptoms, a new cough, trouble drinking or sudden illness. Use the temperature instructions your hospital gave you. If you have no written threshold, call at 37.5°C (99.5°F) or above, or below 36°C (96.8°F). Call even with a normal temperature if you feel very unwell.

Seek emergency care for severe breathing difficulty, chest pain, a seizure, collapse, sudden trouble speaking or walking, or bleeding that will not stop. Tell staff you have had intensive chemotherapy for leukaemia.

Practical advice for this treatment

Prepare for the period of low counts

Fludarabine, cytarabine, idarubicin and filgrastim are used in an intensive course. Discuss staying in hospital, blood tests and transfusion support with the haematology team.

Check eye drops and coordination

High-dose cytarabine can irritate the eyes. Your team may prescribe preventive drops around treatment. Check how to use them and when to stop. Report eye pain or blurred vision. Tell the unit urgently about new unsteadiness, slurred speech or a change in handwriting.

Ask when response will be assessed

A bone marrow sample may be used after treatment, and the timing depends on the plan and blood-count recovery. Ask what the results will mean for further treatment or a possible transplant. Keep a list of questions to ask during the admission.

Medicines, interactions and vaccinations

Check all new medicines with the cancer pharmacist. Take your prescribed infection-prevention medicines on the schedule you were given and ask what to do after a missed dose. Discuss vaccination timing with the team because immune recovery can take longer than recovery of the blood count.

Everyday life

During admission, ask how to care for your central line and mouth, which visitors to avoid and what movement is suitable when platelets are low. Before going home, arrange help with travel and food if possible. Keep a thermometer and the hospital contact number within reach.

Pregnancy, fertility and breastfeeding

Discuss fertility, contraception and breastfeeding before starting. Your team can tell you what precautions apply and when they can end after treatment or a transplant.

After treatment

Recovery takes time. Keep every blood test even if you feel better. Ask when you can return to work, travel or have vaccinations, and when the team will discuss your marrow results and further treatment.

Frequently asked questions

Why is filgrastim part of this plan?

It helps the body make white blood cells and is given as part of the FLAG-Ida schedule. Ask your nurse which days it is planned.

Will I need to stay in hospital after the drips end?

Many people do while their counts are low. Ask your team which blood results and symptoms guide discharge.

Why do I need eye drops?

High-dose cytarabine can irritate the surface of the eye. Use the prescribed drops for the full time the team advises.

Why is the nurse checking my handwriting?

High-dose cytarabine can sometimes affect coordination. A short writing or movement check helps staff notice a change early. Tell the nurse immediately if you become unsteady, have trouble speaking, or find writing harder than usual.

Is every fever an infection?

There are several causes, and your team needs to assess fever promptly because infection can become serious during a low white cell count.

Why might I need a platelet transfusion?

Platelets help stop bleeding. A transfusion can support you if the count becomes very low or you develop bleeding.

What is the difference between FLAG and FLAG-Ida?

FLAG-Ida includes idarubicin as well as fludarabine, cytarabine and G-CSF. Ask which regimen name is written on your plan.

Will I also receive venetoclax?

Venetoclax is part of a different version. This guide describes the four medicines in FLAG-Ida. Check your written plan.

Can I go home if I feel well while counts are low?

Ask your team. The decision depends on your blood results, infection risk, symptoms, travel distance and the support available.

How will my team know if the treatment worked?

Blood tests and a bone marrow sample help show the response. Your doctor will explain what the results mean for your next treatment.

Why do I need infection-prevention tablets?

Intensive treatment can weaken your defences against infection. The team may prescribe medicines to prevent specific infections and explain when to stop them.

Can I use ordinary eye drops as well?

Check with your nurse or pharmacist first. Report new pain, redness or blurred vision instead of treating it yourself.

What should I do if the line site becomes red or sore?

Tell your nurse promptly or call the hospital number if you are at home. Fever or shaking chills needs immediate advice.

Does FLAG-Ida mean I will have a transplant?

Your team will consider your response, leukaemia features, health and possible donor options before recommending further treatment.

Individual medicine guides

- Fludarabine
- Cytarabine
- Idarubicin
- Filgrastim (G-CSF)

Sources and further reading

Read this guide alongside your hospital's plan. Ask your pharmacist to confirm the exact product dispensed in India and follow the instructions for that product.

Summary of Product Characteristics (SmPC) and prescribing information

- Fludarabine phosphate injection or infusion - Irish HPRA SmPC
- Cytarabine injection for systemic use - UK SmPC
- Idarubicin injection (Zavedos) - UK SmPC
- Filgrastim (Zarzio) - EU SmPC
- Fludarabine injection US prescribing information
- Idamycin (idarubicin) US prescribing information

Clinical protocols and other references

- eviQ FLAG-Ida protocol for acute myeloid leukaemia
- British Society for Haematology guideline on irradiated blood components
- Canadian National Advisory Committee recommendations on irradiated blood components

Additional sources

- Macmillan Cancer Support, FLAG-Ida
- eviQ, FLAG-Ida for acute myeloid leukaemia

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