MEDICINE INFORMATION

Doxorubicin + ifosfamide (AI)

Information for patients and caregivers. Read this with your treatment calendar and the instructions from your oncology team.

At a glance

Treatment	Doxorubicin + ifosfamide
Used in selected settings	Selected soft-tissue sarcomas
How it is given	The treatment calendar below identifies the infusions, tablets or capsules used in this regimen.
Before you start	Save your 24-hour oncology number and have a thermometer and written medicine calendar available.

What this treatment is and how it works

AI combines doxorubicin (Adriamycin) and ifosfamide for selected soft-tissue sarcomas. This is an intensive regimen and often requires inpatient treatment or closely supervised ambulatory care. Using medicines with different actions helps attack cancer cells in more than one way. Healthy cells can also be affected, causing side effects.

When it may be used

Your team may use this treatment in the following settings: Selected soft-tissue sarcomas. The choice depends on the exact diagnosis, stage, previous treatment, health and treatment aim. Treatment may aim to cure cancer, lower the risk of recurrence, or control cancer and symptoms, depending on the setting.

A listed use is not a claim that every brand is licensed for that use in every country. Your oncologist will explain why this treatment is appropriate for you.

Before treatment

Before starting, tell the team about previous cancer treatment, allergies, infection symptoms, heart, lung, kidney or liver disease, hearing or nerve problems, diabetes and all medicines you take. Discuss pregnancy, contraception and fertility. Ask for a written treatment calendar, supportive-medicine instructions and a 24-hour oncology contact number. Baseline blood tests usually include a full blood count and kidney and liver function; additional tests depend on the medicine and your health. Before chemotherapy that reaches the whole body, the team should check for current or past hepatitis B infection. If a test is positive, extra monitoring or antiviral treatment may be needed to prevent the virus becoming active again. The team will coordinate testing and treatment; do not delay urgent cancer treatment yourself.

How treatment is given and the schedule

Example schedule - use your own prescription

When	What happens
Treatment phase	Both drugs are given over a protocol-defined course, often involving 3 treatment days, with mesna and fluids.
Recovery interval	Commonly repeats every 21 days when blood counts and organ function permit.

Mesna, hydration, strong anti-sickness treatment and growth-factor support are commonly part of the regimen.

- Mesna protects the bladder from ifosfamide breakdown products; it is not an anticancer drug.

The dose is calculated for your treatment and health. Rest periods, delays or dose changes may be needed. Do not change doses or treatment dates yourself, except to follow specific instructions to stop a medicine and seek help for warning symptoms. The team will give you a revised plan when needed.

During an infusion, tell the nurse immediately about pain, burning, swelling or leaking around the cannula or line. Do not massage the area or apply heat or ice unless the team instructs you.

Tests and monitoring during treatment

Heart function, blood counts, kidney and liver function, blood salts, urine and fluid balance are checked. Mental state and coordination are monitored because ifosfamide can cause encephalopathy.

At each review, describe symptoms since the previous dose, including problems that have already settled. Blood tests can detect effects before you feel them. Your team may delay, reduce, omit or stop a medicine if results or symptoms make this necessary. The decision depends on the exact protocol; a normal result does not make new symptoms safe to ignore.

Side effects: what to expect

Side-effect rates depend on the exact protocol, doses and other treatments. Frequencies from individual-drug labels cannot simply be added together or treated as regimen rates. The groups below describe the expected clinical pattern without assigning unsupported percentages.

You are unlikely to have all of these effects. This is not an exhaustive list. Tell the team about any new or troublesome symptom, including one not mentioned here.

Common or more frequent side effects

Practical care and when to ask for help

Possible effect	What you can do	When to contact the team
Low blood counts	White cells fight infection, red cells carry oxygen and platelets help clotting. Treatment can lower one or more of these. Wash hands, avoid close contact with people who are unwell and keep blood-test appointments.	Call immediately for fever, shaking chills or feeling suddenly unwell. Report unusual bruising, bleeding, marked tiredness or increasing breathlessness. Do not wait for a blood-test result before seeking help.
Feeling or being sick	Take preventive anti-sickness medicines at the prescribed times. Try small meals and frequent small drinks; avoid strong food smells if they worsen nausea.	Contact the team the same day if medicines are not controlling symptoms. Seek urgent advice if you cannot keep fluids down, feel faint or pass much less urine.
Hair thinning or hair loss	Use gentle hair care and protect the scalp from sun and cold. Ask early about wigs, head coverings and whether scalp cooling is suitable for your particular treatment.	Tell the team about a painful or inflamed scalp. Hair often regrows after treatment, but the timing, texture and completeness of regrowth vary.
Tiredness and reduced stamina	Balance rest with short periods of gentle activity. Prioritise tasks and accept help with shopping, meals or transport. Tell the team about poor sleep or pain.	Report fatigue that prevents basic activities or is worsening. Sudden breathlessness, chest pain, fainting or confusion needs urgent assessment.
Sore mouth or throat	Use a soft toothbrush and the mouth-care plan from your team. Choose soft, moist foods and avoid alcohol-containing mouthwash or foods that sting.	Contact the team if pain affects eating or drinking, or if white patches or ulcers develop. Inability to swallow fluids, fever or severe pain needs urgent assessment.
Reduced appetite or changes in eating	Try smaller, frequent meals with protein and energy-rich foods you tolerate. Ask for a dietitian if your weight or intake is falling.	Report ongoing weight loss or difficulty eating. Inability to drink or signs of dehydration needs same-day urgent advice.
Bladder irritation	Follow fluid instructions, empty your bladder regularly and take mesna exactly as prescribed if it is part of your treatment.	Report burning, blood in the urine, clots or difficulty passing urine immediately.

Other reported side effects (frequency varies)

These effects may be common in some treatment settings, less common in others, or have no reliable frequency estimate. Their position here does not mean they are necessarily less frequent or less serious.

Constipation, diarrhoea, skin changes, blood-salt abnormalities and kidney-function changes may occur.

Report these at review, or sooner if worsening. Use the urgent guidance for symptoms that affect breathing, drinking, urination, walking, consciousness or bleeding.

Important serious side effects, including rare effects

Serious does not always mean rare. Where reliable incidence is unavailable, no numerical frequency is assigned. The action to take matters even when the likelihood is uncertain.

Ifosfamide-related brain effects (encephalopathy)

Confusion, unusual sleepiness, agitation, hallucinations, poor coordination or seizures can develop during or soon after treatment. A caregiver should alert the team immediately. Severe drowsiness, seizure or reduced consciousness is an emergency.

Bleeding or injury in the bladder

Blood or clots in urine, painful urination or inability to pass urine needs immediate oncology contact. Mesna and hydration reduce risk when prescribed but do not make these symptoms safe to ignore.

Significant kidney injury

Very little urine, persistent vomiting, worsening swelling or marked weakness needs urgent assessment. Kidney problems may first be detected on blood tests, which is why monitoring continues even when you feel well.

Heart-muscle damage

Anthracyclines can weaken the heart during treatment or months to years later. Report new breathlessness, ankle swelling, difficulty breathing when lying flat or palpitations promptly. Severe symptoms, chest pain or collapse are emergencies.

Injury if medicine leaks outside the vein

Pain, burning, stinging, swelling or a colour change around the cannula or line requires immediate attention. Tell the nurse at once, or contact the unit urgently if it occurs after leaving. Do not massage the area or apply heat or ice unless instructed.

When to seek urgent help

Follow your hospital’s temperature instructions. If you have not been given a threshold, contact the oncology team immediately for a temperature of 37.5°C (99.5°F) or above, below 36°C (96.8°F), shaking chills or feeling suddenly unwell. Do not wait for a fever if you are deteriorating. Check your temperature before taking a fever-reducing medicine when possible, but do not delay seeking help.

Emergency assessment now

Seek emergency medical help immediately for severe breathing difficulty, chest pain, collapse, a seizure, new confusion, sudden one-sided weakness, uncontrolled bleeding or swelling of the face or throat. Tell emergency staff that you are receiving cancer treatment and when the last dose was given. Do not drive yourself if seriously unwell.

Practical advice for this treatment

Take every mesna dose on time and call immediately if an oral dose is vomited or missed. A caregiver should report confusion, hallucinations or unusual drowsiness. Do not drive if affected.

Medicines, interactions and vaccinations

Give the oncology pharmacist a complete list of prescription medicines, over-the-counter products, vitamins, herbal and Ayurvedic remedies and supplements. Ask before starting anything new. Do not stop prescribed medicines, including anticoagulants or infection-prevention medicines, without a coordinated plan. Live vaccines are generally unsuitable while immunity is suppressed; discuss vaccine type and timing with the team. Non-live vaccines may be offered, although protection can be reduced. Follow any specific stop-and-call instructions for the cancer medicine on this page or in your written treatment plan.

- **Doxorubicin:** Other heart-affecting treatments, including some targeted therapies, require coordinated timing and monitoring. Medicines affecting liver function or doxorubicin clearance need review.
- **Ifosfamide:** Sleeping tablets, strong pain medicines and other sedating drugs can complicate neurological assessment. Medicines affecting liver enzymes or the kidneys also need checking; do not stop prescribed medicines without a coordinated plan.

Pregnancy, fertility and breastfeeding

Chemotherapy can harm a developing baby and may affect fertility temporarily or permanently. Discuss sperm, egg or embryo storage before treatment when feasible. If you could become pregnant, or your partner could become pregnant, use effective contraception during treatment and for the drug-specific period afterwards. Ask for a written end date based on every medicine in your plan: the required period differs by product and can extend for months. Periods stopping does not guarantee infertility. Tell the team immediately about a suspected pregnancy. Do not breastfeed during treatment; restart only after the team confirms the interval for the exact medicine and formulation.

Everyday life

Gentle activity, regular meals and rest can help you cope. Prepare food hygienically and drink according to your individual fluid plan. Avoid smoking; ask whether alcohol is safe with your exact treatment and other medicines. Plan work, travel and driving around symptoms and monitoring visits. Do not drive if dizzy, sleepy, weak, visually affected or impaired by neuropathy. You can usually be close to family and friends: chemotherapy does not make you radioactive. Follow the unit's instructions for handling urine, vomit, laundry and sexual precautions for the period it specifies.

When to contact the oncology team

Contact the oncology team the same day for persistent vomiting or diarrhoea, difficulty drinking, reduced urine, mouth pain affecting eating, new cough, jaundice, a painful or spreading rash, unusual bruising, worsening constipation or new nerve symptoms. Use the more urgent instructions for the particular symptom when given above. If the team cannot be reached and you are unwell, seek urgent medical care.

Write down your hospital's daytime and out-of-hours numbers before treatment. CTI's general contact details do not replace the emergency number provided by your treating hospital.

After treatment

Keep the planned blood tests and follow-up appointments after the last dose. Blood counts and immunity may take time to recover, and some effects can start or persist later. Contact the team about symptoms rather than waiting for a routine visit. Keep a treatment summary, including drug names, dates and any serious reactions, for future doctors. Response may be assessed with examination, scans or blood or marrow tests, depending on the cancer.

Frequently asked questions

Does mesna protect the kidneys and brain too?

No. Its main role is bladder protection; other ifosfamide risks still need monitoring.

Why is a caregiver asked about my behaviour?

Subtle changes may be an early sign of ifosfamide-related brain effects and need urgent assessment.

Will I get every side effect listed?

No. Many people have only some of them. Your dose, other medicines, health and previous treatment all affect risk. Reporting symptoms early often makes them easier to manage.

Does having few side effects mean treatment is not working?

No. Side effects do not reliably show how well cancer treatment is working. The team assesses response using the appropriate tests.

Can a dose be reduced or delayed?

Yes. Blood counts, organ function or side effects may require a delay, reduction, omission or change. The team balances safety with the treatment aim; do not change doses yourself. Follow the specific instructions to stop a medicine and seek help if a warning symptom occurs.

Can I take vitamins, herbal or Ayurvedic products?

Check every product with the oncology pharmacist first. “Natural” does not mean interaction-free, and some products can affect the liver, bleeding or drug levels.

What should I have ready at home?

A thermometer, the 24-hour oncology number, a treatment calendar, your medicine list and prescribed symptom medicines. Arrange help with transport or meals if needed.

When should I call instead of waiting for the next appointment?

Use the urgent-help instructions on this page. Fever, sudden illness, uncontrolled symptoms or difficulty drinking should not wait until the next treatment visit.

Individual medicine guides

- Doxorubicin
- Ifosfamide

Sources and further reading

Summary of Product Characteristics

Product-specific details vary by formulation and treatment protocol.

Professional reference resources. These describe the specific product, warnings, interactions, monitoring and adverse effects. For US substitutes, the document is prescribing information rather than an SmPC. Check the product actually dispensed in India.

- Doxorubicin injection - Pfizer. Accessed 16 October 2026. Current company-supplied/regulatory product information; not asserted to be the originator brand.
- Ifosfamide - Baxter. Accessed 16 October 2026. Current company-supplied/regulatory product information; not asserted to be the originator brand.

Other authoritative references

- Cancer Research UK - Doxorubicin + ifosfamide (AI). Accessed 16 October 2026.
- NCI - infection and neutropenia. Accessed 16 October 2026.
- NCI - mouth and throat problems. Accessed 16 October 2026.
- NCI - diarrhoea. Accessed 16 October 2026.
- NCI - fatigue. Accessed 16 October 2026.
- BC Cancer - SAAI Protocol. Accessed 16 October 2026. Independent cross-check: TREATMENT; TESTS; PRECAUTIONS; dose modifications / treatment schedule.

- BC Cancer - SAAI3 Protocol. Accessed 16 October 2026. Independent cross-check: TREATMENT; TESTS; PRECAUTIONS; dose modifications / treatment schedule.
- ASCO hepatitis B screening and management opinion. Accessed 16 October 2026. Independent cross-check: Provisional Clinical Opinion: universal three-test screening before or at systemic anticancer therapy; chronic/past infection management.