

The following information is intended for healthcare professionals only:

ZINACEF

1.5 g, 750 mg and 250 mg for solution for injection or infusion

cefuroxime

Instructions for reconstitution



Additional volumes and concentrations, which may be useful when fractional doses are required.

Vial size	Additional volumes and concentrations, which may be useful when fractional doses are required			
	Route of administration	Physical State	Amount of water to be added (mL)	Approximate cefuroxime concentration (mg/ml)**
250 mg powder for solution for injection or infusion				
250 mg	intramuscular	suspension solution	1 ml	216
	intravenous bolus intravenous infusion	suspension solution	at least 2 ml at least 2 ml*	116 116
750 mg powder for solution for injection or infusion				
750 mg	intramuscular	suspension solution	3 ml	216
	intravenous bolus intravenous infusion	suspension solution	at least 6 ml at least 6 ml*	116 116
1.5 g powder for solution for injection or infusion				
1.5 g	intramuscular	suspension solution	6 ml	216
	intravenous bolus intravenous infusion	suspension solution	at least 15 ml 15 ml*	94 94



* Reconstituted solution to be added to 50 or 100 ml of compatible infusion fluid (see information on compatibility, below)

** The resulting volume of the solution of cefuroxime in reconstitution medium is increased due the displacement factor of the drug substance resulting in the listed concentrations in mg/ml.

Compatibility

1.5 g cefuroxime sodium constituted with 15 mL Water for Injection may be added to metronidazole injection (500 mg/100 mL).

1.5 g cefuroxime sodium is compatible with azlocillin 1 g (in 15 mL) or 5 g (in 50 mL).

Cefuroxime sodium (5 mg/mL) in 5% w/v or 10% w/v xylitol injection may be used for intravenous use only.

Zinacef 250 mg, 750 mg and 1.5 g powder for solution for injection or infusion (intramuscular use only)

Cefuroxime sodium is compatible with aqueous solutions containing up to 1% lidocaine hydrochloride. This should only be administered intramuscularly.

Cefuroxime sodium is compatible with the following infusion fluids:

- 0.9% w/v Sodium Chloride Injection BP
- 5% Dextrose Injection BP
- 0.18% w/v Sodium Chloride plus 4% Dextrose Injection BP
- 5% Dextrose and 0.9% w/v Sodium Chloride Injection BP
- 5% Dextrose and 0.45% Sodium Chloride Injection
- 5% Dextrose and 0.225% Sodium Chloride Injection
- 10% Dextrose Injection



Package Leaflet: Information for the Patient

Zinacef 1.5 g, 750 mg and 250 mg powder for solution for injection or infusion

Read all of this leaflet carefully before you start using this medicine because it contains important information for you.

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor or nurse.
- If you get any side effects, talk to your doctor or nurse. This includes any possible side effects not listed in this leaflet. See section 4.

What is in this leaflet

- 1 What Zinacef is and what it is used for
- 2 What you need to know before you are given Zinacef
- 3 How Zinacef is given
- 4 Possible side effects
- 5 How to store Zinacef
- 6 Contents of the pack and other information

1 What Zinacef is and what it is used for

Zinacef is an antibiotic used in adults and children. It works by killing bacteria that cause infections. It belongs to a group of medicines called cephalosporins.

Zinacef is used to treat infections of:

- the lungs or chest
- the urinary tract
- the skin and soft tissue
- the abdomen

Zinacef is also used:

- to prevent infections during surgery.

Your doctor may test the type of bacteria causing your infection and monitor whether the bacteria are sensitive to Zinacef during your treatment.

2 What you need to know before you are given Zinacef

You must not be given Zinacef:

- **if you are allergic to any cephalosporin antibiotics** or any of the other ingredients of Zinacef (listed in section 6).
- if you have ever had a severe allergic (hypersensitive) reaction to any other type of betalactam antibiotic (penicillins, monobactams and carbapenems).
- if you have ever developed a severe skin rash or skin peeling, blistering and/or mouth sores after treatment with cefuroxime or any other cephalosporin antibiotics.

→ **Tell your doctor before** you start on Zinacef if you think that this applies to you. You must not be given Zinacef.

Take special care with Zinacef

Serious skin reactions including Stevens-Johnson syndrome, toxic epidermal necrolysis, drug reaction with eosinophilia and systemic symptoms (DRESS) have been reported in association with cefuroxime treatment. Seek medical attention immediately if you notice any of the symptoms related to these serious skin reactions described in section 4.

You must look out for certain symptoms such as allergic reactions, skin rashes, gastrointestinal disorders such as diarrhoea or fungal infections while you are being given Zinacef. This will reduce the risk of possible problems. See ('Conditions you need to look out for') in section 4. If you have had any allergic reaction to other antibiotics such as penicillin, you may also be allergic to Zinacef.

If you need a blood or urine test

Zinacef can affect the results of urine or blood tests for sugar and a blood test known as the Coombs test. If you are having tests:

→ **Tell the person taking the sample that you have been given Zinacef.**

Other medicines and Zinacef

Tell your doctor if you are taking any other medicines, if you've started taking any recently or you start taking new ones. This includes medicines you can obtain without a prescription.

Some medicines may affect how Zinacef works, or make it more likely that you'll have side effects. These include:

- **aminoglycoside-type antibiotics**
- **water tablets (diuretics), such as furosemide**
- **probencid**
- **oral anticoagulants**

→ **Tell your doctor** if this applies to you. You may need extra check-ups to monitor your renal function while you are taking Zinacef.

Contraceptive pills

Zinacef may reduce the effectiveness of the contraceptive pill while you are being treated with Zinacef you also need to use a **barrier method of contraception** (such as a condom). Ask your doctor for advice.

Pregnancy and breast-feeding and fertility

Tell your doctor before you are given Zinacef:

- if you are pregnant, think you might be pregnant or are planning to become pregnant
- if you are breastfeeding

Your doctor will consider the benefit of treating you with Zinacef against the risk to your baby.

Driving and using machines

Don't drive or use machines if you do not feel well.

Zinacef contains sodium

You need to take this into account if you are on a controlled sodium diet.

250 mg

This medicine contains less than 1 mmol sodium (23 mg) per vial, that is to say essentially 'sodium-free'.

750 mg

This medicine contains 42 mg sodium (main component of cooking/table salt) in each vial. This is equivalent to 2.1 % of the recommended maximum daily dietary intake of sodium for an adult.

1.5 g

This medicine contains 83 mg sodium (main component of cooking/table salt) in each vial. This is equivalent to 4.15 % of the recommended maximum daily dietary intake of sodium for an adult.

3 How Zinacef is given

Zinacef is usually given by a doctor or nurse. It can be given as a **drip** (intravenous infusion) or as an **injection** directly into a vein or into a muscle.

The usual dose

The correct dose of Zinacef for you will be decided by your doctor and depends on: the severity and type of infection, whether you are on any other antibiotics; your weight and age; how well your kidneys are working.

Newborn babies (0 - 3 weeks)

For every 1 kg the baby weighs, they'll be given 30 to 100 mg Zinacef per day divided in two or three doses.

Babies (over 3 weeks) and children

For every 1 kg the baby or child weighs, they'll be given 30 to 100 mg of Zinacef per day divided in three or four doses.

Adults and adolescents

750 mg to 1.5 g of Zinacef two, three or four times daily. Maximum dose: 6 g per day.

Patients with kidney problems

If you have a kidney problem, your doctor may change your dose.

→ **Talk to your doctor** if this applies to you.

4 Possible side effects

Like all medicines, Zinacef can cause side effects, although not everybody gets them.

Conditions you need to look out for

A small number of people taking Zinacef get an allergic reaction or potentially serious skin reaction. Symptoms of these reactions include:

- **severe allergic reactions.** Signs include **raised and itchy rash, swelling,** sometimes of the face or mouth causing **difficulty in breathing.**
- **skin rash,** which may **blister,** and looks like **small targets** (central dark spot surrounded by a paler area, with a dark ring around the

- Lactated Ringer's Injection USP
- M/6 Sodium Lactate Injection
- Compound Sodium Lactate Injection BP (Hartmann's Solution).

The stability of cefuroxime sodium in 0.9% w/v Sodium Chloride Injection BP and in 5% Dextrose Injection is not affected by the presence of hydrocortisone sodium phosphate.

Cefuroxime sodium has also been found compatible when admixed in IV infusion with:

- Heparin (10 and 50 units/mL) in 0.9% w/v Sodium Chloride Injection; Potassium Chloride (10 and 40 mEqL) in 0.9% Sodium Chloride Injection.

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edge).

- **a widespread rash with blisters and peeling skin.** (These may be signs of Stevens-Johnson syndrome or toxic epidermal necrolysis).
- widespread rash, high body temperature and enlarged lymph nodes (DRESS syndrome or drug hypersensitivity syndrome).
- chest pain in the context of allergic reactions, which may be a symptom of allergy triggered cardiac infarction (Kounis syndrome)

Other symptoms you need to be aware of while taking Zinacef include:

- **fungal infections** on rare occasions, medicines like Zinacef can cause an overgrowth of yeast (Candida) in the body which can lead to fungal infections (such as thrush). This side effect is more likely if you take Zinacef for a long time.
- **severe diarrhoea (Pseudomembranous colitis).** Medicines like Zinacef can cause inflammation of the colon (large intestine), causing severe diarrhoea, usually with blood and mucus, stomach pain, fever

→ **Contact a doctor or nurse immediately if you get any of these symptoms.**

Common side effects

- injection site pain, swelling and redness along a vein.
- **Tell your doctor** if any of these are troubling you.

Common side effects that may show up in blood tests:

- increases in substances (enzymes) produced by the liver
- changes in your white blood cell count (neutropenia or eosinophilia)
- low levels of red blood cells (anaemia)

Uncommon side effects

These may affect up to **1 in 100 people:**

- skin rash, itchy, bumpy rash (hives)
 - diarrhoea, nausea, stomach pain
- **Tell your doctor** if you get any of these.

Uncommon side effects that may show up in blood tests:

- low levels of white blood cells (leucopenia)
- increase in bilirubin (a substance produced by the liver)
- positive Coomb's test.

Other side effects

Other side effects have occurred in a very small number of people but their exact frequency is unknown:

- fungal infections
 - high temperature (fever)
 - allergic reactions
 - inflammation of the colon (large intestine), causing diarrhoea, usually with blood and mucus, stomach pain
 - inflammation in the kidney and blood vessels
 - red blood cells destroyed too quickly (haemolytic anaemia).
 - skin rash, which may blister, and looks like small targets (central dark spot surrounded by a paler area, with a dark ring around the edge) erythema multiformae.
- **Tell your doctor** if you get any of these.

Side effects that may show up in blood tests:

- decrease in number of blood platelets (cells that help blood to clot - thrombocytopenia)
- increase in levels of urea nitrogen and serum creatinine in the blood.

Reporting of side effects

If you get any side effects, talk to your doctor or pharmacist. This includes any possible side effects not listed in this leaflet. You can also report side effects directly via the Yellow Card Scheme at: www.mhra.gov.uk/yellowcard or search for MHRA Yellow Card in the Google Play or Apple App Store. By reporting side effects you can help provide more information on the safety of this medicine.

5 How to store Zinacef

Keep this medicine out of the sight and reach of children.

Do not use this medicine after the expiry date shown on the pack after EXP. The expiry date refers to the last day of that month.

Store below 25 °C. Keep the vial in the outer carton in order to protect from light.

When reconstituted for injection, can be stored for 5 hours if stored below 25 °C, or 72 hours if stored 2 to 8 °C.

When reconstituted for infusion, can be stored for 3 hours if stored below 25 °C, or 72 hours if stored 2 to 8 °C.

From a microbiological point of view, the medicine should be used immediately. If not used immediately, in-use storage times and conditions prior to use are the responsibility of the user and would normally not be longer than 24 hours at 2 to 8 °C unless reconstitution has taken place in controlled and validated aseptic conditions.

Do not throw away any medicines via wastewater or household waste. Your doctor or nurse will dispose of any medicine that is no longer required. These measures will help to protect the environment.

6 Contents of the pack and other information

What Zinacef contains

250 mg powder for Injection or Infusion
The active substance is cefuroxime. Each vial contains 250 mg of cefuroxime (as cefuroxime sodium).

750 mg powder for Injection or Infusion
The active substance is cefuroxime. Each vial contains 750 mg of cefuroxime (as cefuroxime sodium).

1.5 g powder for Injection or Infusion
The active substance is cefuroxime. Each vial contains 1.5 g of cefuroxime (as cefuroxime sodium).

There are no other ingredients

What Zinacef looks like and contents of the pack

Colourless glass vials, with a bromobutyl rubber plug and aluminium overseal with flip off plastic lid, containing 250 mg, 750 mg or 1.5 g of cefuroxime (as cefuroxime sodium) powder.

The vials of cefuroxime powder may also be supplied with ampoules of water for injection as solvent

Marketing Authorisation Holder and Manufacturer

Marketing Authorisation Holder: Sandoz Pharmaceuticals d.d., Verovškova ulica 57, 1000 Ljubljana, Slovenia
Manufacturer: ACS Dobfar S.p.A., Via Alessandro Fleming 2, 37135 Verona, Italy

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