

APPROVED PROFESSIONAL INFORMATION

SCHEDULING STATUS

S4

PROPRIETARY NAMES (and dosage forms)

LICAX 250 mg INJECTION (Powder for injection)

LICAX 500 mg INJECTION (Powder for injection)

COMPOSITION

LICAX 250 mg INJECTION

Each vial contains cloxacillin sodium equivalent to cloxacillin 250 mg.

LICAX 500 mg INJECTION

Each vial contains cloxacillin sodium equivalent to cloxacillin 500 mg.

PHARMACOLOGICAL CLASSIFICATION

A 20.1.2 Penicillins

PHARMACOLOGICAL ACTION

Pharmacodynamic properties

Cloxacillin is an isoxazolyl penicillin and is stable to penicillinase. It is active against penicillinase-producing staphylococci and, in general, is less effective against organisms susceptible to penicillin G e.g. streptococci and pneumococci. It is not useful against gram negative organisms.

Resistant organisms:

Cloxacillin is active against both penicillin-sensitive and penicillin-resistant staphylococci, as well as *Streptococcus pyogenes* and *Streptococcus pneumoniae*. However, it is less potent than penicillin G

against penicillin-sensitive bacteria, and has very little activity against *Enterococcus faecalis* and gram-negative organisms.

Pharmacokinetic properties

Cloxacillin is rapidly but incompletely absorbed from the gastrointestinal tract (30-80 %). As absorption is more efficient on an empty stomach, it is ideally administered 1 hour before or 2 hours after meals. Peak concentrations in plasma are attained by 1 hour. It is highly bound to plasma albumin (>90 %) and is not removed from the circulation to a significant degree by haemodialysis.

Cloxacillin is excreted rapidly by the kidneys. Normally, it is excreted in the urine within 6 hours of an oral dose. It is also eliminated in the bile.

INDICATIONS

LICAX is indicated for the treatment of infections caused by penicillinase-producing staphylococci that are resistant to benzyl-penicillin, such as in:

- abscesses (skin and soft tissue); cellulitis;
- bacteraemia (septicaemia);
- endocarditis;
- pneumonia (respiratory tract);
- osteomyelitis (bone and joints).

CONTRA-INDICATIONS

Patients with hypersensitivity to cloxacillin or a history of penicillin allergy or to cephalosporins or any other ingredient of **LICAX**. Neonates born of mothers sensitive to penicillin.

LICAX should not be used as an eye drop or administered by subconjunctival injection. The intrathecal route should be avoided.

WARNINGS AND SPECIAL PRECAUTIONS

Use with care in jaundiced neonates. Incompatible with aminoglycosides, tetracyclines, erythromycin and polymyxin B.

Sensitivity reactions may include skin rashes, angioedema, bronchospasm, serum sickness and anaphylaxis, and sometimes death within minutes.

Treatment with epinephrine (adrenaline), corticosteroids, aminophyllin or antihistamine may be necessary. A generalised sensitivity reaction can develop within a few hours or weeks of commencing treatment, including urticaria, fever, joint pains and eosinophilia. Other allergic reactions include exfoliative dermatitis and other skin reactions, interstitial nephritis and vasculitis. Haemolytic anaemia, leucopenia, prolonged bleeding time and defective platelet function.

Suprainfection with *C. albicans*, other fungi or organisms resistant to **LICAX** may occur.

Care should be taken when administering high doses of **LICAX** especially to patients with impaired renal function as there is a risk of neurotoxicity.

Renal and haematological systems should be monitored during prolonged and high dose therapy.

Patients with syphilis may exhibit the Jarish–Herxheimer reaction and should also therefore be monitored.

A skin test for sensitivity may be used to determine those patients most likely to develop allergic reactions to penicillins.

Effect on the ability to drive and operate machinery

The effect on the ability to drive and operate machinery is unknown however care should be taken due to the risk of convulsions.

INTERACTIONS

LICAX may interact with bacteriostatic antibacterials such as chloramphenicol and tetracyclines. The possibility of a prolonged bleeding time should be borne in mind in patients receiving anticoagulants.

LICAX may decrease the efficacy of oral contraceptives.

LICAX may enhance the effects of methotrexate, by decreasing its renal excretion.

PREGNANCY AND LACTATION

The safety of LICAX in pregnancy and lactation has not been established. LICAX crosses the placenta and is distributed into breast milk.

DOSAGE AND DIRECTIONS FOR USE

Please note: The reconstituted solution must be shaken well before use.

Route	Dosage (for Adults)	Administration
IM Injection	250 mg 4 to 6 hourly	The contents of each vial should be dissolved in 1,5 ml of Water for Injections
Slow IV Injection	500 mg every 4 to 6 hours given over 3 to 4 minutes	500 mg of cloxacillin to be dissolved in 10 to 15 ml Water for Injection.
IV Infusion	500 mg every 4 to 6 hours	Cloxacillin is compatible with (the commonly used I.V. fluids) sodium chloride 0,9 % and dextrose 5 % in water and may be added to the drip container, or preferably, injected directly into the drip tube over a period of 2-3 minutes.

All systemic dosages may be doubled in severe infections.

Intrapleural Injection	500 mg daily	250 mg to 500 mg cloxacillin to be dissolved in 2 – 5 ml of Water for Injections.
Intra-articular Injection	500 mg daily	250 mg to 500 mg cloxacillin to be dissolved in 2 ml to 5 ml of Water for Injections. 0,5% Lidocaine (lignocaine) hydrochloride may be used as a local anaesthetic, if desired.

Dosage for children: 12,5 to 25 mg/kg every 6 hours.

Under 2 years: ¼ of adult dose

2 to 10 years: ½ of adult dose

SIDE-EFFECTS

Immune system disorders:

Less frequent:

Sensitivity reactions may include skin rashes, angioedema, bronchospasm, serum sickness and anaphylaxis, and sometimes death within minutes. Treatment with epinephrine (adrenaline), corticosteroids, aminophylline or antihistamine may be necessary. Other allergic reactions include exfoliative dermatitis and interstitial nephritis.

The following side-effects have been reported and frequencies are unknown:

A generalised sensitivity reaction can develop within a few hours or weeks of commencing treatment, including urticaria, fever, joint pains and eosinophilia. Other allergic reactions include other skin reactions and vasculitis.

Blood and the lymphatic system disorders:

Less frequent:

Leukopenia, prolonged bleeding time and defective platelet function, neutropenia

The following side-effects have been reported and frequencies are unknown:

Haemolytic anaemia.

Nervous system disorders:

Less frequent:

*Convulsions (**high doses and/or severe renal function)

KNOWN SYMPTOMS OF OVERDOSAGE AND PARTICULARS OF ITS TREATMENT

Following administration of large doses, disturbance of electrolyte balance may occur.

Convulsions and other signs of toxicity to the central nervous system may occur with very high doses, particularly when administered intravenously to patients with renal failure. Nephrotoxicity may occur in patients with diminished renal function. Treatment of overdose is symptomatic and supportive.

IDENTIFICATION

A white or almost white powder. When reconstituted, a clear, colourless solution is formed.

PRESENTATION

LICAX 250 mg INJECTION:

15 ml Type-I Ph.Eur. moulded glass vials fitted with 20 mm grey colour bromo butyl rubber stoppers and sealed with 20 mm yellow colour flip off seal.

Pack sizes:

1. Single vial packed in printed carton with a package insert.
2. Ten vials are packed in printed carton with a package insert.

LICAX 500 mg INJECTION:

15 ml Type-I Ph.Eur. moulded glass vials fitted with 20 mm grey colour bromo butyl rubber stoppers and sealed with 20 mm light blue colour flip off seal.

Pack sizes:

1. Single vial packed in printed carton with a package insert.
2. Ten vials are packed in printed carton with a package insert.

STORAGE INSTRUCTIONS

Store at or below 25°C.

Solutions for injection should preferably be freshly prepared but will retain their anti-bacterial potency for 24 hours at room temperature or for 4 days at 4°C.

KEEP OUT OF REACH OF CHILDREN.

REGISTRATION NUMBER

LICAX 250 mg INJECTION: 44/20.1.2/0471

LICAX 500 mg INJECTION: 44/20.1.2/0472

NAME AND BUSINESS ADDRESS OF THE HOLDER OF THE CERTIFICATE OF REGISTRATION

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