

SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

Cloxacillin Sodium for Oral Suspension USP 125 mg (M-CLOX DS 125)

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each 5 mL after reconstituted suspension contains:

Cloxacillin sodium USP Equivalent to Cloxacillin 125 mg

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Almost white granular powder having pleasant odour. After constitution, yellow colour suspension having pleasant odour.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

It is used in the treatment of infections caused by streptococci when associated with sensitive penicillinase-producing staphylococci; also in the treatment of all staphylococcal infections, whether penicillin G-sensitive or resistant.

In infections suspected of being caused by penicillinase-producing staphylococci, cloxacillin may be used for initial treatment after appropriate specimens have been taken for culture and before results of microbial susceptibility tests are known. If the results of identification and susceptibility tests indicate that the infecting organism is not a penicillinase-producing staphylococcus susceptible to cloxacillin, cloxacillin should be discontinued and treatment with an appropriate alternative agent instituted.

To reduce the development of drug-resistant bacteria and maintain the effectiveness and other antibacterial drugs, Cloxacillin sodium should be used only to treat infections that are proven or strongly suspected to be caused by susceptible bacteria. When culture and susceptibility

information are available, they should be considered in selecting or modifying antibacterial therapy. In the absence of such data, local epidemiology and susceptibility patterns may contribute to the empiric selection of therapy.

4.2 Posology and method of administration

Adults:

Mild to moderate infections: 250 to 500 mg every 6 hours. It should be given 1 to 2 hours before meals as the presence of food in the stomach and small intestine reduces absorption. Maintain therapy for a minimum of 5 days.

Larger doses may be required for very severe infections. A daily dose of 6 g should not be exceeded.

Children:

Up to 5 kg (11 lb) body weight: 250mg/day.

Over 5kg (11lb) up to approximately 40kg (85lb) body weight: 50mg/kg/day. Total daily dosage must be divided into 4 doses, 1 dose given every 6 hours.

In infections associated with streptococcus pyogenes, treatment should be continued for at least 10 days to reduce the risk of glomerulonephritis or rheumatic fever.

Powder for Oral Solution

After reconstitution, each 5 mL of pink, cherry flavoured solution contains cloxacillin sodium equivalent to 125 mg cloxacillin. Available in 60 mL, 100 mL and 200 mL bottles

4.3 Contraindications

A history of allergic reactions to penicillin or cephalosporins.

4.4 Special warnings and precautions for use

Warnings:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients receiving penicillin therapy. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens. Careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins or other allergens. If an allergic or anaphylactic reaction occurs, discontinue treatment and administer the usual agents, e.g. antihistamines, pressor amines, corticosteroids.

Safety for use in pregnancy has not been established.

Susceptibility/Resistance

Development of Drug Resistant Bacteria

Prescribing Cloxacillin in the absence of a proven or strongly suspected bacterial infection is unlikely to provide benefit to the patient and risks the development of drug-resistant bacteria.

Precautions:

Candidiasis and other superinfections may occur, especially in debilitated and malnourished patients, or those with low resistance to infection due to corticosteroids, immunosuppressive agents or irradiation. If superinfection occurs, institute appropriate measures.

During long-term therapy, renal, hepatic and hematopoietic functions should be checked periodically.

Experience in premature and newborn infants is limited. Cautious administration of the drug to such patients and frequent evaluation of organ system function is recommended.

The passage of any penicillin from blood into brain is facilitated by inflamed meninges and during cardiopulmonary bypass. In the presence of such factors, particularly in renal failure when high serum concentrations can be attained, central nervous system adverse effects including myoclonia, convulsive seizures and depressed consciousness can be expected. Although this complication has not been reported with cloxacillin, it should be anticipated.

4.5 Interaction with other medicinal products and other forms of interaction

Probenecid:

As with other penicillins, concurrent administration of probenecid enhances the serum concentration of cloxacillin.

4.6 Fertility, pregnancy and lactation

Pregnancy

Cloxacillin has been assigned to pregnancy category B. There are no controlled data in human pregnancies; however, there are no literature reports of congenital abnormalities associated with it. Cloxacillin should only be given during pregnancy when need has been clearly established.

Breastfeeding

There are no data on the excretion of cloxacillin into human milk. Other penicillins are excreted into human milk in small amounts. Adverse effects in the nursing infant are unlikely.

4.7 Effect on ability to drive and use machines

No studies on the effects on the ability to drive and use machines have been performed. However, undesirable effects may occur (e.g. allergic reactions, dizziness, convulsions), which may influence the ability to drive and use machines.

4.8 Undesirable effects

Gastrointestinal disturbances, such as nausea, vomiting, epigastric discomfort, flatulence and loose stools, have been noted in some patients. Rarely, mild leukopenia has occurred. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pre-therapeutic determinations were not made. Fever, anaphylaxis and allergic reactions (rash, urticaria) including wheezing and sneezing, have occasionally been encountered.

Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy. Thrombophlebitis has occurred occasionally I.V. therapy.

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It

allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the Yellow Card Scheme at: www.mhra.gov.uk/yellowcard.

4.9 Overdose

When penicillin reaches a certain (as yet undetermined) concentration in the cerebrospinal fluid, neurotoxic symptoms may occur consisting of myoclonia, convulsive seizures, and depressed consciousness. Unless administration of the drug is stopped or its dosage reduced, the syndrome may progress to coma and death. Penicillin does not normally cross the blood-brain barrier to any substantial extent, but when massive doses are used (several grams a day) in the presence of inflamed meninges and/or impaired renal function, or in elderly patients, the drug may cause the above-mentioned toxic reactions. No antidote is required.

Treatment of overdose:

Stop administration temporarily - promote excretion (dialysis, etc.). Toxic serum levels and the lethal serum level of cloxacillin in man are not known.

5. PHARMACOLOGICAL PROPERTIES

Pharmacotherapeutic group: penicillin's, incl. beta-lactamase inhibitors;

ATC code: J01CF02.

Sodium cloxacillin monohydrate is rapidly but incompletely absorbed from the gastrointestinal tract after oral administration.

When a dose of 500 mg cloxacillin sodium (2 x 250 mg cloxacillin sodium capsules) was administered to fasting adult volunteers, a mean peak plasma level of 8.5 mcg/mL was obtained with a T_{max} of 0.88 hr.

A dose of 500 mg cloxacillin sodium reconstituted granules for oral solution yielded peak plasma levels of 13.3 mcg/mL with a T_{max} of 0.58 hr. in fasting adult volunteers.

Oral doses of 250 mg sodium cloxacillin to adult fasting volunteers resulted in 4.8 mcg/mL peak serum levels with a T_{max} of 1 hr.

Mean urinary excretion of cloxacillin after an oral dose of 500 mg was found to be 37%.⁸ Total urinary excretion in healthy volunteers was 62% of an intravenously injected dose of 750 mg (250 mg/hr for three hours).

Food delays the absorption of cloxacillin sodium. cloxacillin.^{9,10} Sodium cloxacillin is bound to serum proteins to the extent of 94%.

The plasma half-life of cloxacillin is reported to be 25 minutes in healthy volunteers following infusion of 750 mg over a 3 hour period.¹² The plasma half-life in uremic patients was increased to 49 minutes.

Cloxacillin passage across the CNS barrier is insufficient for practical purposes unless the meninges are inflamed. Cloxacillin passes the placental barrier as do the penicillins to the extent of about 50% of the mother's plasma level.

Serum concentrations are enhanced if probenecid is given concomitantly

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

- Saccharin Sodium
- Sucrose (Castor sugar)
- Sodium Citrate
- Sodium benzoate
- Di Sodium Edetate (EDTA)
- Citric acid anhydrous
- Pineapple dry powder
- Sunset yellow supra

6.2 Incompatibilities

Not applicable

6.3 Shelf life

24 months.

6.4 Special precautions for storage

Store in a cool dry place, between 15-30°C. Protect from light.

6.5 Nature and contents of container

Primary Container(s): Cloxacillin sodium for oral suspension (M-CLOX 125) is available in 100 ml HDPE bottle.

Secondary Container:

Each bottle is labelled and packed in a Printed Carton with relevant batch details along with leaflet.

- Carton: ITCCyber XL with a quavarnish side open with 300 GSM multi-colours.

- Leaflet: 60GSMM Map litho paper.

Outer Container:

Such cartons are packed in Export Worthy 5/7 Ply Shippers. These shippers are labeled with product name and relevant batch details and sealed with BOPP tape. Shippers are then strapped with Polypropylene tapes.

6.6 Special precautions for disposal and other handling

- Use cloxacillin suspension as ordered by your doctor. Read all information given to you. Follow all instructions closely. Take on an empty stomach. Take 1 hour before or 2 hours after meals. Keep using cloxacillin suspension as you have been told by your doctor or other health care provider, even if you feel well. Shake well before use.

7. Marketing authorization holder

Name and Permanent address of the Marketing authorization holder:

Medopharm, Private limited

“MEDOHOUSE”

25, Puliur II Mainroad, Trustpuram, Chennai-600024,

Tamil Nadu, India.

PH: +9144-30149992/30149955

Fax: 260211286283

Manufacturing Site address:

Medopharm Private Limited,

No. 50, Kayarambedu Village,

Guduvanchery- 603 202, Tamil Nadu, India.

8. Number (s) in the National register of finished pharmaceutical products

First registration No.: MEDO/IND/002 Certificate No.: 025/05

Second registration No.: MEDO/IND/002 Certificate No.: RV/218/09

Renewal registration - 05817/07735/REN/2020

9. Date of first authorization/renewal of the authorization

First authorization – 24/09/2012

Second authorization – 12/01/2017

Renewal authorization - 30.03.2021

10. Date of revision of the text

13.07.2023