AUSTRALIAN PRODUCT INFORMATION – LPV®

1 NAME OF THE MEDICINE

Phenoxymethylpenicillin.

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Phenoxymethylpenicillin potassium is a white or almost white, crystalline powder, freely soluble in water and practically insoluble in ethanol (96%).

LPV capsules contain either 250 mg or 500 mg of the active phenoxymethylpenicillin (as potassium). They also contain magnesium stearate, gelatin, erythrosine, sunset yellow FCF, brilliant blue FCF, titanium dioxide and opacode black A-10259S-1-8115 black. The 250 mg capsule also contains carbon black.

Excipients with known effects: LPV 250 mg capsules contain 28 mg potassium per capsule and LPV 500 mg capsules contain 55 mg potassium per capsule.

For the full list of excipients, see Section 6.1: List of excipients.

3 PHARMACEUTICAL FORM

LPV phenoxymethylpenicillin 250mg (as potassium) capsule blister pack – capsules with a opaque red cap and opaque grey body printed with "LPV250" in black ink on cap and body.

LPV phenoxymethylpenicillin 500mg (as potassium) capsule blister pack – capsules with a red opaque top and pink body; both printed with "LPV500" in black ink.

4 CLINICAL PARTICULARS

4.1 THERAPEUTIC INDICATIONS

Penicillin V potassium is indicated in the treatment of mild to moderately severe infections due to penicillin V sensitive micro-organisms. Therapy should be guided by bacteriological studies (including sensitivity tests) and by clinical response.

Note: Severe pneumonia, empyema, bacteraemia, pericarditis, meningitis and arthritis should not be treated with penicillin V during the acute stage.

Indicated surgical procedures should be performed.

The following infections will usually respond to adequate dosage of penicillin V:

Streptococcal infections (without bacteraemia). Mild to moderate infections of the upper respiratory tract, scarlet fever and mild erysipelas. *Note*: Streptococci in groups A, C, G, H, L and M are very sensitive to penicillin. Other groups, including Group D (enterococcus) are resistant.

Pneumococcal infections. Mild to moderately severe infections of the respiratory tract.

Fusospirochetosis (Vincent's gingivitis and pharyngitis). Mild to moderately severe infections of the oropharynx usually respond to therapy with oral penicillin. *Note:* Necessary dental care should be accomplished in infections involving the gum tissue.

Medical conditions in which oral penicillin therapy is indicated as prophylaxis: For the prevention of recurrence following rheumatic fever and/or chorea-Prophylaxis with oral penicillin on a continuing basis has proven effective in preventing recurrence of these conditions. To prevent bacterial endocarditis in patients with congenital and/or rheumatic heart lesions who are to undergo dental procedures or minor upper respiratory tract surgery or instrumentation. Prophylaxis should be instituted on the day of the procedure and for 2 or more days following. Patients who have a past history of rheumatic fever and are receiving continuous prophylaxis may harbour increased numbers of penicillin-resistant organisms; use of another prophylactic anti-infective agent should be considered. If penicillin is to be used in these patients at surgery, the regular rheumatic fever program should be interrupted 1 week prior to the contemplated surgery. At the time of surgery, penicillin may be re-instituted as a prophylactic measure against the hazards of surgically induced bacteraemia. *Note*: Oral penicillin should not be used as adjunctive prophylaxis for genito-urinary instrumentation or surgery, lower intestinal tract surgery, sigmoidoscopy and complications of childbirth.

4.2 DOSE AND METHOD OF ADMINISTRATION

The dosage of penicillin V should be determined according to the sensitivity of the causative micro-organisms and the severity of infection and adjusted to the clinical response of the patient.

The usual dosage recommendations for adults and children 12 years and over are as follows: Streptococcal infections: mild to moderately severe-of the upper respiratory tract and including scarlet fever and erysipelas: 125 to 250 mg every 6 to 8 hours for 10 days.

Pneumococcal infections: mild to moderately severe-of the respiratory tract, including otitis media: 250 to 500 mg every 6 hours until the patient has been afebrile for at least 2 days.

Fusospirochetosis (Vincent's gingivitis) of the oropharynx: Mild to moderately severe infections: 250 to 500 mg every 6 to 8 hours.

For the prevention of recurrence following rheumatic fever and/or chorea: 125 to 250 mg twice daily on a continuing basis.

To prevent bacterial endocarditis in patients with rheumatic or congenital heart lesions who are to undergo dental or upper respiratory tract surgery or instrumentation:

Adults: 2 gram orally 30 minutes to 1 hour prior to the procedure and then 500 mg orally every 6 hours for 8 doses.

Children: for those weighing 25 kg or more, use adult dose recommendations (see above). For those weighing less than 25 kg, use 1 gram orally 30 minutes to 1 hour prior to the procedure and then 250 mg orally every 6 hours for 8 doses.

4.3 CONTRAINDICATIONS

A previous hypersensitivity reaction to any penicillin.

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE

Warnings

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents e.g. pressor amines, antihistamines and corticosteroids.

Antibiotic associated pseudomembranous colitis has been reported with many antibiotics including LPV. A toxin produced by *Clostridium difficile* appears to be the primary cause. The severity of the colitis may range from mild to life threatening. It is important to consider this diagnosis in patients who develop diarrhoea or colitis in association with antibiotic use (this may occur up to several weeks after cessation of antibiotic therapy). Mild cases usually respond to drug discontinuation alone. However, in moderate to severe cases, appropriate therapy with a suitable oral antibacterial agent effective against *Clostridium difficile* should be considered. Fluids, electrolytes and protein replacement should be provided when indicated. Drugs which delay peristalsis, eg. opiates and diphenoxylate with atropine (Lomotil) may prolong and / or worsen the condition and should not be used.

Precautions

Penicillin should be used with caution in individuals with histories of significant allergies and/or asthma. The oral route of administration should not be relied upon in patients with severe illness, or with nausea, vomiting, gastric dilatation, cardiospasm or intestinal hypermotility.

Occasional patients will not absorb therapeutic amounts of orally administered penicillin. In streptococcal infections, therapy must be sufficient to eliminate the organism (10 day minimum); otherwise the sequelae of streptococcal disease may occur. Cultures should be taken following completion of treatment to determine whether streptococci have been eradicated.

Prolonged use of antibiotics may promote the overgrowth of nonsusceptible organisms, including fungi. Should superinfection occur, appropriate measures should be taken.

Use in the elderly

No data available.

Paediatric Use

No data available.

Effects on laboratory tests

No data available.

4.5 INTERACTIONS WITH OTHER MEDICINES AND OTHER FORMS OF INTERACTIONS

No data available.

4.6 FERTILITY, PREGNANCY AND LACTATION

Effects on fertility

No data available.

Use in pregnancy – Pregnancy Category A

No data available.

Use in lactation

No data available.

4.7 EFFECTS ON ABILITY TO DRIVE AND USE MACHINES

The effects of this medicine on a person's ability to drive and use machines were not assessed as part of its registration.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS)

Although the incidence of reactions to oral penicillins has been reported with much less frequency than following parenteral therapy, it should be remembered that all degrees of hypersensitivity, including fatal anaphylaxis, have been reported with oral penicillin.

The most common reactions to oral penicillin are nausea, vomiting, epigastric distress, diarrhoea and black hairy tongue. The hypersensitivity reactions reported are skin eruptions (maculopapular to exfoliative dermatitis), urticaria and other serum sickness-like reactions, laryngeal oedema and anaphylaxis. Fever and eosinophilia may frequently be the only reaction observed. Haemolytic anaemia, leukopenia thrombocytopenia, neuropathy and nephropathy are infrequent reactions and are usually associated with high doses of parenteral penicillin.

Reporting suspected adverse effects

Reporting suspected adverse reactions after registration 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 at www.tga.gov.au/reporting-problems.

4.9 OVERDOSE

For information on the management of overdose, contact the Poisons Information Centre on 13 11 26 (Australia).

5 PHARMACOLOGICAL PROPERTIES

5.1 PHARMACODYNAMIC PROPERTIES

Mechanism of action

Microbiology. Penicillin V exerts a bactericidal action against penicillin-sensitive micro-organisms during the stage of active multiplication. It acts through the inhibition of biosynthesis of cell wall mucopeptide. It is not active against the beta-lactamase-producing bacteria, which include many strains of staphylococci. The drug exerts high in vitro activity against staphylococci (except beta-lactamase-producing strains), streptococci (groups A, C, G, H, L and M) and pneumococci. Other organisms sensitive in vitro to penicillin V are *Corynebacterium diphtheria*, *Bacillus anthracis*, *Clostridia*, *Actinomyces bovis*, *Streptobacillus moniliformis*, *Listeria monocytogenes*, *Leptospira* and *Neisseria gonorrhoeae*. *Treponema pallidum* is extremely sensitive.

Clinical trials

No data available.

5.2 PHARMACOKINETIC PROPERTIES

The potassium salt of penicillin V has the distinct advantage over penicillin G in resistance to inactivation by gastric acid. It may be given with meals; however, blood levels are slightly higher when the drug is given on an empty stomach. Average blood levels are two to five times higher than the levels following the same dose of oral penicillin G and also show much less individual variation. Once absorbed, penicillin V is about 80% bound to serum protein. Tissue levels are highest in the kidneys, and the cerebrospinal fluid. The drug is excreted as rapidly as it is absorbed in individuals with normal kidney function; however, recovery of the drug from the urine indicates that only about 25% of the dose given is absorbed. In neonates, young infants and individuals with impaired kidney function, excretion is considerably delayed.

5.3 PRECLINICAL SAFETY DATA

Genotoxicity

No data available

Carcinogenicity

No data available

6 PHARMACEUTICAL PARTICULARS

6.1 LIST OF EXCIPIENTS

Refer to Section 2 - Qualitative and quantitative composition.

6.2 INCOMPATIBILITIES

Incompatibilities were either not assessed or not identified as part of the registration of this medicine.

6.3 SHELF LIFE

In Australia, information on the shelf life can be found on the public summary of the Australian Register of Therapeutic Goods (ARTG). The expiry date can be found on the packaging.

6.4 SPECIAL PRECAUTIONS FOR STORAGE

Store below 25°C.

6.5 NATURE AND CONTENTS OF CONTAINER

250mg: Pack of 50.

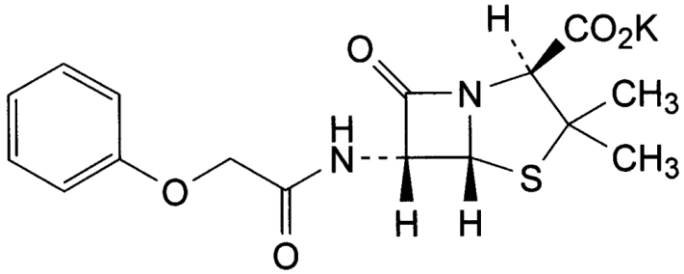
500mg: Pack of 50.

6.6 SPECIAL PRECAUTIONS FOR DISPOSAL

In Australia, any unused medicine or waste material should be disposed of by taking to your local pharmacy. [optional – use one of these statements only]

6.7 PHYSICOCHEMICAL PROPERTIES

Chemical structure



Chemical name: potassium salt of (2S,5R,6R)-3,3-dimethyl-7-oxo-6-[(phenoxyacetyl)amino]-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid.

Molecular formula is $C_{16}H_{17}KN_2O_5S$ (molecular weight 388.5)

CAS number: 54-35-3

7 MEDICINE SCHEDULE (POISONS STANDARD)

(S4) Prescription Only Medicine

8 SPONSOR

iNova Pharmaceuticals (Australia) Pty Limited

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Chatswood NSW 2067

Toll Free: 1800 630 056

9 DATE OF FIRST APPROVAL

LPV 250: 16 September 1998

LPV 500: 16 September 1998

10 DATE OF REVISION

16 May 2023

SUMMARY TABLE OF CHANGES

Section Changed	Summary of new information
2	Declare quantity of potassium in each capsule strength as per TGO 91 Schedule 1