Summary of Product Characteristics

1. Name of the medicinal product:

Epicephin® 1 gram vial

2. Qualitative and quantitative composition:

Active Ingredient:
Ceftriaxone (as sodium salt).....1 g.
For full list of excipients, see section 6.1.

3. Pharmaceutical form:

Yellowish powder giving yellowish orange solution after reconstitution.

4. Clinical particulars:

4.1 Therapeutic indications:

Epicephin® is used in the treatment of infections due to susceptible organisms, especially serious infections, including:
-Bacterial septicemia.
-Meningitis.
-Intra-abdominal infections.
-Bone and joint infections.
-Skin and soft tissue infections.
-Lower respiratory tract infections.
-Urinary tract infections (complicated and uncomplicated).
-Pelvic inflammatory disease.
-Uncomplicated gonorrhoea (cervical/urethral and rectal).
-Surgical infection prophylaxis.

4.2 Posology and method of administration:

Administer IM/IV. Continue for ≥≥2 days after signs and symptoms of infection have disappeared. Usual duration is 4 to 14 days; in complicated infections, longer therapy may be required. For S. pyogenes,
continue for ≥≥10 days.

Adults:

Usual daily dose is 1 – 2 g once daily (or in equally divided doses twice daily) depending on the type and severity of the infection. Do not exceed total daily dose of 4 g.
Uncomplicated Gonococcal Infections: Give a single IM dose of 250 mg.
Surgical Infection Prophylaxis: Give a single 1 g dose IV 0.5 – 2 hours before surgery.
Meningitis/Endocarditis: 1 – 2 g IV every 12 hours for 10 to 14 days (in meningitis) or for ≥≥4 weeks (in endocarditis).

Children:

To treat serious infections other than meningitis, administer 50 – 75 mg/kg/day (not to exceed 2 g) in divided doses twice daily (every 12 hours).
Meningitis: Initial therapeutic dose: 100 mg/kg/day (not to exceed 4 g). Thereafter, a total daily dose of 100 mg/kg/day (not to exceed 4 g/day) is recommended. It may be given in a dose once daily or in equally divided doses twice daily (every 12 hours). Usual duration is 7 to 14 days.
Skin and Skin structure infections: Give 50 – 75 mg/kg once daily or in equally divided doses twice daily (every 12 hours), not to exceed 2 g.

Renal/hepatic function impairment:

No dosage adjustment is necessary; however, monitor blood levels.
In patients with both hepatic dysfunction and significant renal disease, the dose should not

exceed 2 g/day without closely monitoring serum concentrations.

Treatment Schedules for Chancroid, Gonorrhea and Acute Pelvic Inflammatory Disease:

Chancroid (Haemophilus durcreyi infection): 250 mg IM as a single dose.

Gonococcal infections:

Uncomplicated: 125 mg IM in a single dose plus 1 g azithromycin in single oral dose or 100 mg doxycycline twice daily for 7 days.

Conjunctivitis: 1 g IM as a single dose.

Disseminated: 1 g IM or IV every 24 hours.

Reconstitution of **Epicephin®**:

For IM injection: **Epicephin®** 250 mg or 500 mg is dissolved in 2 ml, and **Epicephin®** 1 g in 3.5 ml, of 1% lidocaine solution.

For IV injection: **Epicephin®** 250 mg or 500 mg is dissolved in 5 ml, and **Epicephin®** 1 g in 10 ml, of sterile water for injection.

For IV infusion: **Epicephin®** 2 g are dissolved in 20 ml of sterile water for injection or in one of the following calcium –free infusion solutions: Sodium chloride 0.9%; Sodium chloride 0.45% + Dextrose 2.5%; Dextrose 5%; Dextrose 10%; Levulose 5%; Dextran 6% in dextrose.

After reconstitution, further dilute to 50 ml or 100 ml volume with the appropriate IV diluent.

-Epicephin® should be given by deep IM injection, or by slow IV injection over at least 2 – 4 minutes, or by intermittent IV infusion over at least 30 minutes.

-If more than 1 g is to be injected intramuscularly then the dose should be divided between more than one site.

-For IM injection, 1% lidocaine solution is used as solvent. IM injection without lidocaine solution is painful.

-For IV injection, sterile water for injection is used as solvent. Lidocaine solution should never be used.

4.3 Contraindications:

-A known hypersensitivity to cephalosporins or related antibiotics.

-Neonates with jaundice.

4.4 Special warnings and precautions for use:

-Calcium-containing solutions or products must not be administered within 48 hours of last administration of ceftriaxone because of the risk of precipitation of Ceftriaxone-Calcium salt in term of newborns.

4.5 Interaction with other medicinal products:

-Aminoglycosides may have additive effect.

-**Epicephin®** may have the potential to increase the effect of anticoagulants.

-Alcohol use may cause disulfiram-like reaction.

-Unlike many cephalosporins, probenecid does not affect renal excretion of **Epicephin®**.

4.6 Fertility, pregnancy and lactation:

Epicephin® vials should be used with caution, and only if clearly needed, in pregnancy and lactation; only if the potential benefit justifies the potential risk to the fetus or to the breast – fed infant, respectively.

Fertility:

Reproductive studies have shown no evidence of adverse effects on male or female fertility.

4.7 Effects on ability to drive and use machines:

Patients should be cautious when driving or operating machinery.

4.8 Undesirable effects:

Epicephin® is generally well tolerated. The most frequently reported adverse reactions are eosinophilia, leucopenia, thrombocytopenia, diarrhoea, rash, and increased hepatic enzymes.Data to determine the frequency of ceftriaxone ADRs was derived from clinical trials.

Frequency Classification

- Very common: ≥ 1/10
- Common: ≥ 1/100 to < 1/10
- Uncommon: ≥ 1/1000 to < 1/100
- Rare: ≥ 1/10000 to < 1/1000
- Not known: Cannot be estimated from the available data

Summary of Adverse Reactions by System Organ Class

System Organ Class	**Common**	**Uncommon**	**Rare**	**Not Known[a]**
Infections and infestations		Genital fungal infection		Pseudomembranous colitis[b] Superinfection[b]
Blood and lymphatic system disorders	Eosinophilia Leucopenia Thrombocytopenia		Granulocytopenia Anaemia Coagulopathy	Haemolytic anaemia[b] Agranulocytosis
Immune system disorders				Anaphylactic shock Anaphylactic reaction Anaphylactoid reaction Hypersensitivity[b] Jarisch-Herxheimer reaction[b]
Nervous system disorders		Headache Dizziness		Encephalopathy Convulsion
Ear and labyrinth disorders				Vertigo
Respiratory, thoracic and mediastinal disorders				Bronchospasm
Gastrointestinal disorders	Diarrhoea[b]	Loose stools Nausea Vomiting		Pancreatitis[b] Stomatitis Glossitis
Hepatobiliary disorders	Hepatic enzymes increased			Gall bladder precipitation[b] Kernicterus Hepatitis[c] Hepatitis cholestatic[b],[c]

Skin and subcutaneous tissue disorders	Rash	Pruritus Urticaria		Stevens Johnson Syndrome[b] Toxic epidermal necrolysis[b] Erythema multiforme Acute generalised exanthematous pustulosis Drug reaction with eosinophilia and systemic symptoms (DRESS)[b]
Renal and urinary disorders			Haematuria Glycosuria Oliguria	Renal precipitation (reversible)
General disorders and administration site conditions		Phlebitis Injection site reactions	Pyrexia Oedema Chills	
Investigations			Blood creatinine increased	Coombs test false positive[b] Galactosaemia test false positive[b] Non enzymatic methods for glucose determination false positive[b]
Cardiac Disorders				Kounis syndrome

Notes:

[a] Based on post-marketing reports. Since these reactions are reported voluntarily from a population of uncertain size, it is not possible to reliably estimate their frequency, which is therefore categorised as Not known.

[b] See section 4.4

[c] Usually reversible upon discontinuation of ceftriaxone.

Description of Selected Adverse Reactions
Infections and infestations:

Reports of diarrhoea following the use of ceftriaxone may be associated with Clostridium difficile. Appropriate fluid and electrolyte management should be instituted (see section 4.4).

Ceftriaxone-calcium salt precipitation:

Rarely, severe, and in some cases fatal, adverse reactions have been reported in pre-term and full-term neonates (aged < 28 days) who had been treated with intravenous ceftriaxone and calcium. Precipitations of ceftriaxone-calcium salt have been observed in lung and kidneys post-mortem. The high risk of precipitation in neonates is a result of their low blood volume and the longer half-life of ceftriaxone compared with adults (see sections 4.3, 4.4, and 5.2).Cases of ceftriaxone precipitation in the urinary tract have been reported, mostly

in children treated with high doses (e.g. ≥ 80 mg/kg/day or total doses exceeding 10 grams) and who have other risk factors (e.g. dehydration, confinement to bed). This event may be asymptomatic or symptomatic, and may lead to ureteric obstruction and postrenal acute renal failure, but is usually reversible upon discontinuation of ceftriaxone (see section 4.4). Precipitation of ceftriaxone calcium salt in the gallbladder has been observed, primarily in patients treated with doses higher than the recommended standard dose. In children, prospective studies have shown a variable incidence of precipitation with intravenous application – above 30% in some studies. The incidence appears to be lower with slow infusion (20–30 minutes). This effect is usually asymptomatic, but the precipitations have been accompanied by clinical symptoms such as pain, nausea and vomiting in rare cases. Symptomatic treatment is recommended in these cases. Precipitation is usually reversible upon discontinuation of ceftriaxone (see section 4.4).

Reporting of suspected adverse reactions:
Healthcare professionals are asked to report any suspected adverse drug reactions via the Pharmacy and Poisons Board's; Pharmacovigilance-Electronic-Reporting-System (PvERS)https://pharmacyboardkenya.org

4.9 Overdose:
There is no specific antidote. Treatment of overdose should be symptomatic.

5. Pharmacological properties:
5.1 Pharmacodynamic properties:
Epicephin® is a third generation cephalosporin broad spectrum antibiotic which acts by inhibition of cell wall synthesis. It has greater bactericidal activity than first or second generation cephalosporins against Gram-negative bacteria. It is highly stable in the presence of beta-lactamases produced by certain bacteria. It is generally effective against many pathogens including: H. influenzae, Moraxella sp., Neisseria meningitidis and gonorrhoeae, E. coli, Proteus mirabilis and vulgaris, Klebsiella sp., Salmonella sp., Shigella sp., Morganella morganii, Providentia sp., Enterobacter sp., Serratia sp., Yersinia sp., H. ducreyi, Pseudomonas aeruginosa (some strains are resistant); Staphylococcus aureus and epidermidis, Streptrococcus pneumoniae, pyogenes, viridians and bovis. **Epicephin®** is also active against some anaerobic bacteria such as Bacteroides sp., Peptococcus species, Peptostreptococcus species, and Clostridium species (except C. difficile).

5.2 Pharmacokinetic properties:
Ceftriaxone mean peak plasma concentrations of about 40 and 80 μg/ml have been reported 2 hours after IM injection of 0.5 and 1 g respectively. Ceftriaxone is 85 – 95% bound to plasma protein. Plasma half-life of ceftriaxone varies between 6 and 9 hours; it may be prolonged in neonates and also in severe renal impairment especially when there is also hepatic impairment.
Ceftriaxone is widely distributed in body tissues and fluids. It crosses inflamed meninges, generally achieving therapeutic concentrations in the CSF. High concentrations are achieved in bile.
About 40 – 65% of a dose of ceftriaxone is excreted unchanged in the urine; principally by glomerular filtration; the remainder is excreted in bile and is ultimately found in feces as unchanged drug and inactive metabolites.

5.3 Preclinical safety data:
None

6. Pharmaceutical particulars:

6.1 List of excipients:

No Excipients.

6.2 Incompatibilities:

-Aminoglycosides may have additive effect.
-**Epicephin®** may have the potential to increase the effect of anticoagulants.
-Alcohol use may cause disulfiram-like reaction.
-Unlike many cephalosporins, probenecid does not affect renal excretion of **Epicephin®**.

6.3 Shelf life:

3 years.

6.4 Special precautions for storage:

Store at temperature below 30 ºC.

6.5 Nature and contents of container:

Epicephin® 1 g: 1 vial + solvent of sterile water for injection.

6.6 Special precautions for disposal and other handling:

N.A

7. Marketing authorization holder & manufacturing site address.

EGYPTIAN INT. PHARMACEUTICAL INDUSTRIES CO. EIPICO
10th OF RAMADAN CITY, INDUSTRIAL AREA B1, P.O. BOX: 149 TENTH, EGYPT.

8. Marketing authorization number

20466

9. Date of first Registration/ Renewal of the Registration

Date of Re-registration: 31/03/2026

10. Date of revision of the text:

31/03/2026