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AURO CEFEPIME INJECTION
P1538753

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P1538753

PROFESSIONAL INFORMATION FOR MEDICINES FOR HUMAN USE

SCHEDULING STATUS
SOUTH AFRICA: S4
NAMIBIA: NS2

PROPRIETARY NAME (and dosage form):
AURO CEFEPIME INJECTION 500 mg (Powder for injection)
AURO CEFEPIME INJECTION 1000 mg (Powder for injection)
AURO CEFEPIME INJECTION 2000 mg (Powder for injection)

COMPOSITION:

AURO CEFEPIME INJECTION 500 mg:
Each vial contains cefepime dihydrochloride monohydrate equivalent to 500 mg cefepime, L-Arginine added as buffer.

AURO CEFEPIME INJECTION 1000 mg:
Each vial contains cefepime dihydrochloride monohydrate equivalent to 1000 mg cefepime, L-Arginine added as buffer.

AURO CEFEPIME INJECTION 2000 mg:
Each vial contains cefepime dihydrochloride monohydrate equivalent to 2000 mg cefepime, L-Arginine added as buffer.

Sugar free

PHARMACOLOGICAL CLASSIFICATION:
A 20.1.1 Broad and medium spectrum antibiotics.

PHARMACOLOGICAL ACTIONS:

Microbiology:
Cefepime is a bactericidal agent that acts by inhibition of bacterial cell wall synthesis, and it has a spectrum of activity against a range of Gram-positive and Gram-negative bacteria. Cefepime is highly resistant to hydrolysis by a number of beta-lactamases, has a low affinity for chromosomally encoded beta-lactamases, and exhibits rapid penetration into Gram-negative bacterial cells.

Cefepime minimum bactericidal concentrations were ≤ 2 times the minimum inhibitory concentration for the majority of organisms tested.

Gram-positive aerobes:
Note: Enterococci like *Enterococcus faecalis* and methicillin-resistant staphylococci, are resistant to cefepime.

Gram-negative aerobes:
Note: Cefepime is inactive against most strains of *Xanthomonas maltophilia (Pseudomonas maltophilia)*. Not all pseudomonas strains are susceptible.

Anaerobes:
Note: Cefepime is inactive against *Bacteroides fragilis* and *Clostridium difficile.*

Pharmacokinetics:

Adults:
Following intramuscular injection, cefepime is completely absorbed. Therapeutic concentrations are found in various body fluids such as urine, bile, blister fluid, peritoneal fluid and sputum, and tissues such as bronchial mucosa, appendix, prostate, and gallbladder, following intravenous administration of a single dose of cefepime.

The average elimination half-life of cefepime is approximately two hours.

There is no evidence of accumulation in healthy subjects receiving doses up to 2 g intravenously every 8 hours for a period of 9 days.Total body clearance averages 120 mL/min

The average renal clearance of cefepime is 110 mL/min demonstrating that cefepime is eliminated almost exclusively by renal mechanisms, primarily glomerular filtration. Urinary recovery of unchanged cefepime represents approximately 85 % of the dose, resulting in high concentrations of cefepime in the urine.

The serum protein binding of cefepime averages 16,4 % and is independent of the concentration in the serum.

Healthy volunteers 65 years or older, who received a single 1 g intravenous dose of cefepime had higher area under the concentration-time curve and lower renal clearance values compared to younger healthy adults. Dosage adjustments in the elderly are recommended if renal function is compromised (see "**WARNINGS AND SPECIAL PRECAUTIONS**" and "**DOSAGE AND DIRECTIONS FOR USE**"). The pharmacokinetics of cefepime were unaltered in patients with impaired hepatic function who received a single 1 g dose.

Elimination half-life is prolonged in patients with various degrees of renal insufficiency with a linear relationship between total body clearance and creatinine clearance. This serves as the basis for dosage adjustment recommendations in this group of patients (see "**DOSAGE AND DIRECTIONS FOR USE**").

Average half-life in severely impaired patients requiring dialysis therapy is 13 hours for haemodialysis and 19 hours for continuous ambulatory peritoneal dialysis.

Paediatrics:
Single and multiple-dose pharmacokinetics of cefepime were evaluated in patients ranging in age from 2 months to 16 years who received 50 mg/kg doses administered by IV infusion or IM injection: multiple doses were administered every 8 or 12 hours for at least 48 hours.

Mean plasma concentrations of cefepime after the first dose were similar to those at steady state, with only slight accumulation seen upon repeated dosing.

Following IM injection under steady state conditions, mean peak cefepime plasma concentrations of 68 μg/mL were achieved at a median time of 0,75 hours, compared to 185,6 μg/mL after IV. The mean trough concentration after IM injection at steady state was 6,0 μg/mL at 8 hours. Bioavailability averaged 82 % after IM injection.

Other pharmacokinetic parameters in infants and children were not different between first-dose and steady-state determinations, regardless of dosing schedule (q12h or q8h). There were also no differences in pharmacokinetics among various patient ages or between males and female patients.

Following a single IV dose, total body clearance (in children over 6 months) averaged 3,4 mL/min/kg and average volume of distribution was 0,3 l/kg. The overall mean elimination half-life was 1,6 hours. The urinary recovery of unchanged cefepime was 60,4 % of the administered dose, and renal clearance was the primary pathway of elimination, averaging 2,0 mL/min/kg. Elimination was slower in children 2 - 6 months (t½ 1,89 hours, clearance 2,97 mL/min/kg).

Concentrations of cefepime in cerebrospinal fluid (CSF) relative to those in plasma are shown in Table 1.

TABLE 1: Mean (SD) Plasma (PL) and CSF Concentrations, and CSF/PL Ratios of Cefepime in Infants and Children*

Sampling Time (hr)	N	Plasma concentration (μg/mL)	CSF concentration (μg/mL)	Ratio CSF/PL
0,5	6	70,4 (55,4)	5,7 (8)	0,12 (0,14)
1	4	44,1 (7,8)	4,3 (1,5)	0,10 (0,04)
2	5	23,9 (12,9)	3,6 (2,0)	0,17 (0,09)
4	5	11,7 (15,7)	4,2 (1,1)	0,87 (0,56)
8	5	4,9 (5,9)	3,3 (2,8)	1,02 (0,64)

* Patients ranged in ages from 3,1 months to 14,7 years, with a mean (SD) age of 2,9 (3,9) years. Patients with suspected central nervous system infection were treated with cefepime at a dose of 50 mg/kg administered as an IV infusion over 5 to 20 minutes every 8 hours. Single plasma and CSF samples were collected from selected patients at the sampling times shown relative to the end of infusion on day 2 or 3 of cefepime treatment.

INDICATIONS:

Adults:
AURO CEFEPIME INJECTION is indicated in the treatment of the infections listed below when caused by susceptible bacteria. Culture and susceptibility studies should be performed to determine susceptibility of the causative organism(s) to cefepime.

LOWER RESPIRATORY TRACT INFECTIONS:
Nosocomial and Community-Acquired Pneumonia caused by *Staphylococcus aureus* (methicillin-susceptible strains), *Pseudomonas aeruginosa,* Klebsiella species (including *Klebsiella pneumoniae),* Enterobacter species, *Escherichia coli, Proteus mirabilis, Streptococcus pneumoniae* (including intermediate penicillin resistant strains), *Haemophilus influenzae* (including beta-lactamase producing strains), *Haemophilus parainfluenzae* and *Moraxella (Branhamella) catarrhalis* (including beta-lactamase producing strains), including cases associated with bacteraemia. When *Pseudomonas aeruginosa* is isolated or suspected, combination therapy with an aminoglycoside should be used.

Acute Bacterial Exacerbation of Chronic Bronchitis and Acute Bronchitis due to *Streptococcus pneumoniae* (including intermediate penicillin resistant strains), *Haemophilus influenzae* (including beta-lactamase producing strains), *Moraxella (Branhamella) catarrhalis* (including beta-lactamase producing strains).

URINARY TRACT INFECTIONS:
Complicated Urinary Tract Infections caused by *Escherichia coli, Pseudomonas aeruginosa, Klebsiella pneumoniae, Proteus mirabilis* and Enterobacter species, including cases associated with bacteraemia. When *Pseudomonas aeruginosa* is isolated or suspected, combination therapy with an aminoglycoside should be used.

Uncomplicated Urinary Tract Infections due to *Escherichia coli, Proteus mirabilis,* Klebsiella species and Enterobacter species.

SKIN AND SKIN STRUCTURE INFECTIONS:
Skin and Skin Structure Infections caused by *Staphylococcus aureus* (methicillin-susceptible strains), *Streptococcus pyogenes* (Group A streptococci), *Streptococcus agalactiae* (Group B streptococci), other beta-haemolytic Streptococcus species, Enterobacter species, Klebsiella species, *Proteus mirabilis, Morganella morganii, Escherichia coli, Serratia marcescens* and *Acinetobacter calcoaceticus.*

INTRA-ABDOMINAL INFECTIONS:
Complicated Intra-abdominal Infections Including Peritonitis and Biliary Tract Infections caused by *Escherichia coli* and sensitive *Pseudomonas aeruginosa.* Peritonitis is often polymicrobial and may include anaerobic micro-organisms such as Bacteroides species which are resistant to cefepime. When resistant anaerobes are suspected, cefepime should be combined with an antibiotic effective against these micro-organisms, including cases associated with bacteraemia.

In patients who are at risk of mixed aerobic-anaerobic infection, including infections in which *Bacteroides fragilis* may be present, concurrent therapy with an anti-anaerobic agent is recommended.

EMPIRIC TREATMENT IN FEBRILE NEUTROPENIA:
AURO CEFEPIME INJECTION is indicated for empiric monotherapy of febrile neutropenia. Combination of **AURO CEFEPIME INJECTION** with other appropriate antimicrobial agents should be considered in patients at high risk for severe infection (including patients with a history of recent bone marrow transplantation, hypotension at presentation, an underlying haematologic malignancy, or severe or prolonged neutropenia) or when called for by host; or local epidemiological factors.

Children:
AURO CEFEPIME INJECTION is indicated in children (2 months and older) for the treatment of the infections listed below when caused by susceptible bacteria, (when *Pseudomonas aeruginosa* is isolated or suspected, combination therapy with an aminoglycoside should be used):

LOWER RESPIRATORY TRACT INFECTION:
Pneumonia caused by *Staphylococcus aureus, Streptococcus pneumoniae, Haemophilus influenzae.*

URINARY TRACT INFECTIONS:
Caused by *Escherichia coli.*

SKIN AND SKIN STRUCTURE:
Infections caused by *Staphylococcus epidermidis,* Streptococcus, *Staphylococcus aureus, Streptococcus pyogenes.*

EMPIRIC TREATMENT IN FEBRILE NEUTROPENIA:
AURO CEFEPIME INJECTION is indicated for empiric monotherapy of febrile neutropenia. Combination of **AURO CEFEPIME INJECTION** with other appropriate antimicrobial agents should be considered in patients at high risk for severe infection (including patients with a history of recent bone marrow transplantation, hypotension at presentation, an underlying haematologic malignancy, or severe or prolonged neutropenia) or when called for by host or local epidemiological factors.

CONTRA-INDICATIONS:
- **AURO CEFEPIME INJECTION** is contra-indicated in patients who have had previous hypersensitivity reactions to any component of the formulation, the cephalosporin class of antibiotics, penicillins or other beta-lactam antibiotics.
- Pregnancy and lactation.

WARNINGS AND SPECIAL PRECAUTIONS:
There is a risk of serious neurological adverse events, particularly encephalopathy (e.g. disturbance of consciousness, confusion, myoclonus and seizures) in patients with impaired function, such as reduction of urinary output because of renal insufficiency (creatinine clearance ≤ 50 ml/min) or other conditions that may compromise renal function. The dosage of **AURO CEFEPIME INJECTION** should therefore be reduced to compensate for the slower rate of renal elimination. Because high and prolonged serum antibiotic concentrations can occur from usual dosages in patients with renal insufficiency or other conditions that may compromise renal function, the maintenance dosage should be reduced when **AURO CEFEPIME INJECTION** is administered to such patients. Continued dosage should be determined by degree of renal impairment, severity of infection, and susceptibility of the causative organisms (see "**DOSAGE AND DIRECTIONS FOR USE**" and "**PHARMACOLOGICAL ACTIONS: Pharmacokinetics**").
Antibiotics should be administered with caution to any patient who has demonstrated some form of allergy, particularly to medicines. If an allergic reaction to **AURO CEFEPIME INJECTION** occurs, discontinue the medicine and treat the patient appropriately. Serious immediate hypersensitivity reactions may require epinephrine and other supportive therapy. Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics including **AURO CEFEPIME INJECTION**; therefore, it is important to consider this diagnosis in patients who develop diarrhoea in association with the use of antibiotics. Mild cases of colitis may respond to drug discontinuation alone; moderate to severe cases may require more elaborate management.

Use of **AURO CEFEPIME INJECTION** may result in overgrowth of non-susceptible organisms. Should superinfection occur during therapy, appropriate measures should be taken.

Renal Impairment:
Renal function should be monitored carefully if medicines with nephrotoxic potential, such as aminoglycosides and potent diuretics, are administered with **AURO CEFEPIME INJECTION.**

Geriatric Use:
AURO CEFEPIME INJECTION is known to be substantially excreted by the kidney and the risk of toxic reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection and renal function should be monitored (see "**SIDE EFFECTS**" and "**PHARMACOLOGICAL ACTION**"). Serious adverse events, including reversible encephalopathy (disturbance of consciousness including confusion, hallucinations, stupor, and coma) myoclonus, seizures (including non-convulsive status epilepticus), and/or renal failure have occurred in geriatric patients with renal insufficiency given the usual dose of **AURO CEFEPIME INJECTION**.

INTERACTIONS:
AURO CEFEPIME INJECTION exhibits physical or chemical incompatibility when admixed with vancomycin hydrochloride, gentamycin sulphate and aminophylline. In patients treated with **AURO CEFEPIME INJECTION**, false positive urinary tests for glucose may result when reducing agents are employed. False positives are not seen with glucose-oxidase methods.

PREGNANCY AND LACTATION:
The safe use of **AURO CEFEPIME INJECTION** in pregnancy and lactation has not been established.

DOSAGE AND DIRECTIONS FOR USE:
AURO CEFEPIME INJECTION can be administered either intravenously or intramuscularly. The dosage and route vary according to the susceptibility of the causative organisms, the severity of the infection, and the overall condition and renal function of the patient.

Adults:
Guidelines for dosage of **AURO CEFEPIME INJECTION** for adults with normal renal function are provided in Table 2.

TABLE 2: Recommended dosage schedule for adults with normal renal function (aged 12 years and older)*

Site and type of infection	Dose	Frequency
Mild to moderate urinary tract infections (uncomplicated and complicated)	500 mg – 1 g IV or IM	12 hourly
Mild to moderate infections including bronchitis, skin and skin-structure infections	1 g IV or IM	12 hourly
Severe infections including pneumonia, urinary tract infections, complicated intra-abdominal infections, including cases with an associated bacteraemia	2 g IV	12 hourly
Empiric treatment of fever in neutropenic patients	2 g IV	8 hourly

*Usual duration of therapy is 7 - 10 days; more severe infections may require longer treatment.

In the treatment of beta-haemolytic streptococcal infections a therapeutic dose must be administered for at least 10 days. For empirical treatment of febrile neutropenia, usual duration of therapy is 7 days or until resolution of neutropenia.

Paediatrics (aged 1 month up to 12 years with normal renal function):

Usual recommended dosages:
Pneumonia, urinary tract infections, and skin structure infections: Patients 2 months of age with body weight ≤ 40 kg: 50 mg/kg q12h for 10 days. For more severe infections, a dosage schedule of q8h can be used.

Empiric treatment of febrile neutropenia: Patients > 2 months of age with body weight ≤ 40 kg: 50 mg/kg q8h for 7 - 10 days. Experience with the use of **AURO CEFEPIME INJECTION** in paediatric patients < 2 months of age is limited. While this experience has been attained using the 50 mg/kg dose, modelling of pharmacokinetic data obtained in patients > 2 months of age suggests that a dosage of 30 mg/kg q12h or q8h may be considered for patients aged 1 month up to 2 months.

Administration of **AURO CEFEPIME INJECTION** in these patients should be carefully monitored.

For paediatric patients with body weights > 40 kg, adult dosing recommendations apply (see Table 2). For patients older than 12 years who are ≤ 40 kg, the dosage recommendations for younger patients ≤ 40 kg should be used. Dosage in paediatric patients should not exceed the maximum recommended dosage in adults (2 g q8h).

Experience with intramuscular administration in paediatric patients is limited.

Elderly:
Dose adjustment is not required, unless there is concurrent renal impairment.

Impaired hepatic function:
No adjustment is necessary for patients with impaired hepatic function.

Impaired renal function:
The initial dose of **AURO CEFEPIME INJECTION** is the same as in patients with normal renal function. The dosage of **AURO CEFEPIME INJECTION** should be reduced in patients where the creatinine clearance is 50mL/min or less. The recommended maintenance doses of **AURO CEFEPIME INJECTION** in patients with renal insufficiency are presented in Table 3.

TABLE 3: Maintenance dosing schedule in adult patients with renal impairment *

Creatinine clearance (mL/min)	Recommended Maintenance Dosage			
> 50	Usual dose, no adjustment necessary			
	2 g 8 hourly	2 g 12 hourly	1 g 12 hourly	500 mg 12 hourly
30 - 50	1 g 8 hourly	2 g daily**	1 g daily**	500 mg daily**
11 - 29	1 g 12 hourly	1 g daily**	500 mg daily**	500 mg daily**
≤ 10	1 g daily**	500 mg daily**	250 mg daily**	250 mg daily**

* The initial dose is the same as in patients with normal renal function.
**Daily is calculated per 24 hours.

When only a serum creatinine measurement is available, the following formula (Cockcroft and Gault equation) may be used to estimate creatinine clearance. The serum creatinine should represent a steady state of renal function:

Males:

$$\text{Creatinine clearance (ml/min)} = \frac{\text{Weight (kg)} \times (140 - \text{age})}{0{,}82 \times \text{serum creatinine } (\mu\text{mol/l})}$$

Females:
0,85 x value calculated using the formula for males.

Dialysis Patients:
In patients undergoing haemodialysis, approximately 68 % of the total amount of **AURO CEFEPIME INJECTION** present in the body at the start of dialysis will be removed during a 3 hour dialysis period. A repeat dose, equivalent to the initial dose, should be given at the completion of each dialysis session. In patients undergoing continuous ambulatory peritoneal dialysis, **AURO CEFEPIME INJECTION** may be administered at the same doses recommended for patients with normal renal function, i.e., 0,5 g; 1,0 g or 2,0 g depending on infection severity, but at a dosage interval of every 48 hours.

Children with Impaired Renal Function:
Since urinary excretion is the primary route of elimination of **AURO CEFEPIME INJECTION** in paediatric patients (see "**PHARMACOLOGICAL ACTIONS: Pharmacokinetics**"), an adjustment of the dosage of **AURO CEFEPIME INJECTION** should also be considered in patients < 12 years of age with renal impairment.

Preparation of solution and administration:
AURO CEFEPIME INJECTION powder is to be constituted using the volumes of diluent shown in Table 4; the diluents to be used are identified following this table.

TABLE 4: Preparations of solutions of AURO CEFEPIME INJECTION

	Amount of diluent to be added (mL)	Approximate available volume (mL)	Approximate cefepime concentration (mg/ml)
Intravenous			
0,5 g vial	5	5,7	90
1,0 g vial	10	11,4	90
2,0 g vial	10	12,8	160
Intramuscular			
0,5 g vial	1,5	2,2	230
1,0 g vial	3,0	4,4	230

Intravenous (IV) administration:
The IV route of administration is preferable for patients with severe or life-threatening infections, particularly if the possibility of shock is present.

For direct IV administration, constitute **AURO CEFEPIME INJECTION** with sterile water for injection, 5 % dextrose injection or 0,9 % sodium chloride, using the diluent volumes shown in Table 4. The resulting solution should be injected directly into the vein over a period of three to five minutes or injected into the tubing of an administration set while the patient is receiving a compatible IV fluid (see "**Compatibility and Stability**"). For intravenous infusion, constitute the 0,5 g;1,0 g, or 2,0 g vial, as noted above for direct IV administration then, add the appropriate quantity of the resulting solution to an IV container with one of the compatible IV fluids identified under "**Compatibility and Stability**". IV infusions of a volume between 50 mL and 100 mL should be administered over a period of approximately 30 minutes.

Intramuscular (IM) administration:
AURO CEFEPIME INJECTION should be constituted with one of the following diluents using the volumes shown in Table 4: sterile water for injection, 0,9 % sodium chloride injection, 5 % dextrose injection, or bacteriostatic water for injection with parabens or benzyl alcohol then administered by deep IM injection into a large muscle mass (such as the upper outer quadrant of the gluteus maximus). Although **AURO CEFEPIME INJECTION** can be constituted with 0,5 % or 1,0 % lidocaine hydrochloride, it is usually not necessary because **AURO CEFEPIME INJECTION** causes little or no pain upon IM administration.

Compatibility and Stability:

Intravenous:
AURO CEFEPIME INJECTION is compatible at concentrations between 1 and 40 mg/ml with one of the following IV infusion fluids: 0,9 % sodium chloride injection, 5 % and 10 % dextrose injection, m/6 sodium lactate injection, 5 % dextrose and 0,9 % sodium chloride injection, lactated ringers and 5 % dextrose injection. These solutions are stable for 24 hours at room temperature below 25 °C or 7 days under refrigeration (2 °C to 8 °C). **AURO CEFEPIME INJECTION** admixture compatibility and stability information is summarised in the following table:

TABLE 5: Cefepime admixture stability

AURO CEFEPIME INJECTION concentration	Admixture and concentration	IV infusion solutions	Stability time for	
			RT/L (below 25 °C)	Refrigeration (2 °C to 8 °C)
40 mg/mL	Amikacin 6 mg/mL	NS or D5W	24 hours	7 days
4 - 40 mg/mL	Clindamycin 0,25 - 6 mg/mL	NS or D5W	24 hours	7 days
4 mg/mL	Heparin 10 - 50 units/mL	NS or D5W	24 hours	7 days
4 mg/mL	Potassium chloride 10 - 40 mEq/l	NS or D5W	24 hours	7 days
4 mg/mL	Theophylline 0,8 mg/mL	D5W	24 hours	24 hours

NS = 0,9 % sodium chloride injection; D5W = 5 % dextrose injection; RT/L = Room temperature and light

Solutions of **AURO CEFEPIME INJECTION** like those of most beta-lactam antibiotics should not be added to solutions of metronidazole, vancomycin, gentamycin or tobramycin sulphate because of physical or chemical incompatibility. However, if concurrent therapy with **AURO CEFEPIME INJECTION** is indicated, each of these antibiotics can be administered separately.

Intramuscular:
AURO CEFEPIME INJECTION constituted as directed (in Table 4) is stable for 24 hours at room temperature below 25 °C or for 7 days under refrigeration (2 °C to 8 °C) when using the following diluents: sterile water for injection, 0,9 % sodium chloride, 5 % dextrose injection, bacteriostatic water for injection with parabens or benzyl alcohol, or 0,5 % or 1 % lidocaine hydrochloride.

NOTE: Parenteral medicines should be inspected visually for particulate matter before administration, and not used if particulate matter is present. As with other cephalosporins the colour of **AURO CEFEPIME INJECTION** powder and solution may darken on storage, however, product potency is not adversely affected.

SIDE EFFECTS:

Haematological disorders:
Less frequent: Haemolytic anaemia, transient leukopenia, neutropenia, thrombocytopenia.
The following side effects have been reported and frequencies are unknown: Agranulocytosis, aplastic anaemia, haemorrhage.

Immune system disorders:
Frequent: Eosinophilia.
Less frequent: Anaphylaxis.
The following side effect has been reported and frequency is unknown: Fever.

Nervous system disorders:
Frequent: Headache.
Less frequent: Dizziness, seizures.
The following side effect has been reported and frequency is unknown: Paraesthesia.

Vascular disorders:
The following side effect has been reported and frequency is unknown: Vasodilation

Respiratory, thoracic and mediastinal disorders:
The following side effects have been reported and frequencies are unknown: Dyspnoea, fever, chills.

Gastrointestinal disorders:
Frequent: Diarrhoea, nausea, vomiting, oral moniliasis.
Less frequent: Pseudomembranous colitis, dyspepsia.
The following side effects have been reported and frequencies are unknown: Colitis, taste perversion, constipation, abdominal pain.

Hepato-biliary disorders:
The following side effects have been reported and frequencies are unknown: Hepatitis, cholestatic jaundice.

Skin and subcutaneous tissue disorders:
Less frequent: Rash, pruritus, urticaria, erythema, toxic epidermal necrolysis, erythema multiforme, Stevens-Johnson syndrome.
The following side effect has been reported and frequency is unknown: Unspecified moniliasis.

Reproductive system and breast disorders:
Less frequent: Vaginitis.
The following side effect has been reported and frequency is unknown: Genital pruritus.

General disorders and administration site conditions:
Less frequent: Local reactions such as phlebitis and inflammation at the site of IV injection and inflammation or pain at the site of intramuscular injection.

Post-marketing data
There have been reports of serious neurologic adverse events, particularly encephalopathy, that have been reported mostly in patients with renal impairment (creatinine clearance 50mL/min or less), who received dosages that exceeded the recommendations.

KNOWN SYMPTOMS OF OVERDOSAGE AND PARTICULARS OF ITS TREATMENT:
(See "**SIDE EFFECTS**".)
Treatment should be symptomatic and supportive. In case of severe overdosage, especially in patients with compromised renal function, haemodialysis will aid in the removal of **AURO CEFEPIME INJECTION** from the body; peritoneal dialysis is of no value. Accidental overdosing has occurred when large doses were given to patients with impaired renal function (see "**DOSAGE AND DIRECTIONS FOR USE** "and "**SIDE EFFECTS**").

IDENTIFICATION:

AURO CEFEPIME INJECTION 500 mg:
White to pale yellow powder. When reconstituted, it is a clear colourless to pale yellow solution.

AURO CEFEPIME INJECTION 1000 mg:
White to pale yellow powder. When reconstituted, it is a clear colourless to pale yellow solution.

AURO CEFEPIME INJECTION 2000 mg:
White to pale yellow powder. When reconstituted, it is a clear colourless to pale yellow solution.

PRESENTATION:

AURO CEFEPIME INJECTION 500 mg:
20 mL Type-1 moulded clear colourless transparent glass vials fitted with 20 mm grey bromo butyl rubber stoppers and sealed with 20 mm mapra beige colour aluminium PP disc.

AURO CEFEPIME INJECTION 1000 mg:
20 mL Type-1 moulded clear colourless transparent glass vials fitted with 20 mm grey bromo butyl rubber stoppers and sealed with 20 mm dark green colour aluminium PP disc.

AURO CEFEPIME INJECTION 2000 mg:
50 mL Type-1 moulded clear colourless transparent glass vials fitted with 32 mm grey bromo butyl rubber stoppers and sealed with 33 mm light orange colour aluminium PP disc.

Pack sizes:
1. Single vial packed in a printed carton with package insert.
2. 10 vials packed in a printed E-fluted box with partition and package insert.

STORAGE INSTRUCTIONS:
Store at or below 30 °C. Keep the vial in the carton until required for use.

KEEP OUT OF REACH OF CHILDREN.

REGISTRATION NUMBER:

SOUTH AFRICA:
AURO CEFEPIME INJECTION 500 mg: 41/20.1.1/0689
AURO CEFEPIME INJECTION 1000 mg: 41/20.1.1/0690
AURO CEFEPIME INJECTION 2000 mg: 41/20.1.1/0691

NAMIBIA:
AURO CEFEPIME INJECTION 500 mg: 10/20.1.1/0318
AURO CEFEPIME INJECTION 1000 mg: 10/20.1.1/0319
AURO CEFEPIME INJECTION 2000 mg: 10/20.1.1/0320

NAME AND BUSINESS ADDRESS OF THE HOLDER OF THE CERTIFICATE OF REGISTRATION:
AUROGEN SOUTH AFRICA (PTY) LTD
Woodhill Office Park, Building 1, First floor
53 Phillip Engelbrecht Avenue
Meyersdal, Ext. 12
1448, Johannesburg
South Africa

DATE OF PUBLICATION OF THIS PACKAGE INSERT:
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05 March 2009
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DETACH BEFORE DISPENSING

PATIENT INFORMATION LEAFLET

SOUTH AFRICA: S4
NAMIBIA: NS2

AURO CEFEPIME INJECTION 500 mg (Powder for injection)
AURO CEFEPIME INJECTION 1000 mg (Powder for injection)
AURO CEFEPIME INJECTION 2000 mg (Powder for injection)
Cefepime dihydrochloride monohydrate
Sugar free

Read all of this leaflet carefully before you are given AURO CEFEPIME INJECTION
- Keep this leaflet. You may need to read it again.
- If you have further questions, please ask your doctor or your pharmacist.
- **AURO CEFEPIME INJECTION** has been prescribed for you personally and you should not share your medicine with other people. It may harm them, even if their symptoms are the same as yours.

1. WHAT AURO CEFEPIME INJECTION CONTAINS:
The active substance is cefepime.

AURO CEFEPIME INJECTION 500 mg:
Each vial contains cefepime dihydrochloride monohydrate equivalent to 500 mg cefepime.

AURO CEFEPIME INJECTION 1000 mg:
Each vial contains cefepime dihydrochloride monohydrate equivalent to 1000 mg cefepime.

AURO CEFEPIME INJECTION 2000 mg:
Each vial contains cefepime dihydrochloride monohydrate equivalent to 2000 mg cefepime.

The other ingredient contained in the **AURO CEFEPIME INJECTION** vials is L-arginine.

2. WHAT AURO CEFEPIME INJECTION IS USED FOR:
Cefepime is an antibiotic belonging to the cephalosporin class. Antibiotics are used to kill the bacteria that cause infections. **AURO CEFEPIME INJECTION** is used to treat many kinds of bacterial infections, including infections of the chest, urinary systems, abdomen, gall bladder and skin.

3. BEFORE YOU ARE ADMINISTERED AURO CEFEPIME INJECTION:
You should not be administered AURO CEFEPIME INJECTION:
- If you have ever had an unusual or allergic reaction to cefepime, to any other cephalosporin antibiotic, to a penicillin antibiotic, or to L-arginine.
- If you are pregnant or breastfeeding.

Tell your doctor or healthcare professional before being given the injection if:
- Tell your doctor if you have previously experienced an allergic reaction, particularly to medicines. If you experience any allergic symptoms while you are receiving **AURO CEFEPIME INJECTION**, stop using **AURO CEFEPIME INJECTION** and contact your doctor right away. Get emergency help if you have any of these signs of a serious allergic reaction: hives; difficulty breathing; swelling of your face, lips, tongue or throat.
- Tell your doctor if you have kidney disease.
- This medication may cause a severe intestinal condition called pseudomembranous colitis. Contact your doctor right away if stomach pain or cramps, severe or watery diarrhoea, or bloody stools occur.
- Use of **AURO CEFEPIME INJECTION** may result in an infection that occurs while you are being treated for an infection. Tell your doctor if signs of a second infection occur. Your doctor may need to change your treatment.
- **AURO CEFEPIME INJECTION** may interfere with urine glucose tests, possibly causing false positive test results. If you have diabetes and regularly check your urine for sugar, make sure all your doctors know you are using **AURO CEFEPIME INJECTION**.
- Kidney function declines as you grow older. This medication is removed by the kidneys. Therefore, elderly people may be at greater risk for side effects while using **AURO CEFEPIME INJECTION**.

Pregnancy and Breastfeeding:
The safety of **AURO CEFEPIME INJECTION** in pregnancy and breastfeeding has not been established. Tell your doctor if you are pregnant, plan to become pregnant, or are breastfeeding. If you become pregnant while taking **AURO CEFEPIME INJECTION**, call your doctor.

If you are pregnant or breastfeeding your baby, please consult your doctor, pharmacist or other health care professional for advice before receiving **AURO CEFEPIME INJECTION.**

Taking other medicines with AURO CEFEPIME INJECTION:
Some medicines may interact with cefepime.
Tell your doctor if you are taking aminoglycosides (e.g gentamycin) or diuretics/water pills (e.g. furosemide) because the risk of toxic effects on the kidneys may be increased.

Before taking **AURO CEFEPIME INJECTION**, tell your doctor if you are using any other injected medicines such as:
- Metronidazole.
- Vancomycin.
- Gentamycin or tobramycin.
- Aminophylline.

Always tell your healthcare professional if you are taking any other medicine.
(This includes complementary or traditional medicines.)

4. HOW TO USE AURO CEFEPIME INJECTION:
- **AURO CEFEPIME INJECTION** is usually given as an injection at your doctor's office, hospital, or clinic. The medication is given by injection into a muscle or vein as directed by your doctor.
- If you will be using **AURO CEFEPIME INJECTION** at home, a healthcare provider will teach you how to use it. Be sure you understand how to use **AURO CEFEPIME INJECTION**. Follow the procedures you are taught when you use a dose. Contact your healthcare provider if you have any questions.
- Before you administer **AURO CEFEPIME INJECTION**, look at the solution closely. It should be clear and free of floating material or particles.
- Keep this product, as well as syringes and needles, out of the reach of children and pets. Ask your healthcare provider how to dispose of these materials after use.
- Your dosage will depend on the type and severity of your infection.
- Your doctor will decide on the dose and length of time that you will receive **AURO CEFEPIME INJECTION**.
- For infants and children, the dose is based on body weight.
- Continue to use this medication until the full prescribed treatment period is finished, even if symptoms disappear after a few days. Stopping the medication too early may result in a return of the infection.
- Tell your doctor if you suffer from kidney problems – your dosage may need to be reduced.

Always receive **AURO CEFEPIME INJECTION** exactly as your doctor has instructed you. You should check with your doctor or pharmacist if you are unsure. If you have the impression that the effect of **AURO CEFEPIME INJECTION** is too strong or too weak, talk to your doctor or pharmacist.

If you are administered more AURO CEFEPIME INJECTION than you should:

In the event of overdosage, consult your doctor or pharmacist. If neither is available, contact the nearest hospital or poison control centre.

If you forget to use AURO CEFEPIME INJECTION:
Your medication will usually be given to you by a healthcare professional. If you think you may have missed a dose, please tell your doctor or nurse.

5. POSSIBLE SIDE EFFECTS:
AURO CEFEPIME INJECTION can have side effects.

If you think that you are having an allergic (hypersensitivity) reaction to **AURO CEFEPIME INJECTION**, tell you doctor immediately or go to the emergency department at your nearest hospital.

Symptoms include:
- Skin rash, itching or hives.
- Swelling of the face, lips, mouth or throat.
- Difficulty breathing and swallowing.
- Collapse.

Call your doctor at once if you have any of these serious side effects:
- Diarrhoea that is watery or bloody, severe stomach cramps.
- Easy bruising or bleeding, unusual weakness.
- Fever, chills, body aches, flu symptoms.
- Fever, sore throat, and headache with a severe blistering, peeling, and red skin rash.
- Seizure (black-out or convulsions).
- Yellowing eyes/skin.
- Hallucinations.
- Muscle twitching (myoclonus).

Other side effects include: Fever; headache; dizziness; numbness, tingling; diarrhoea, feeling sick (nausea); vomiting; white patches or sores inside your mouth or on your lips (oral thrush); indigestion; taste disturbances; constipation; abdominal pain; vaginal itching or discharge; swelling, pain or tenderness at the injection site.
Tell your doctor if any of the above side effects are severe, bothersome, do not go away or about any concerns you have while taking **AURO CEFEPIME INJECTION**.

Not all side effects reported for **AURO CEFEPIME INJECTION** are included in this leaflet. Should your general health worsen while receiving **AURO CEFEPIIME INJECTION** or if you experience any untoward effects, please consult your doctor, pharmacist or other health care professional for advice.

6. STORING AND DISPOSING OF AURO CEFEPIME INJECTION:
Store at or below 30 °C (room temperature). Keep the vial in the carton until required for use.

Once reconstituted with the recommended IV infusion fluids and IM diluents, the solution is to be used within 24 hours if stored below 25 °C (room temperature) or within 7 days if stored in the fridge (2 °C to 8 °C).

AURO CEFEPIME INJECTION is usually stored and handled by a healthcare provider. If you are using **AURO CEFEPIME INJECTION** at home, store **AURO CEFEPIME INJECTION** as directed by your pharmacist or healthcare provider.

Store all medicines out of reach of children.

7. PRESENTATION OF AURO CEFEPIME INJECTION:
AURO CEFEPIME INJECTION 500 mg:
20 mL Type-1 moulded clear colourless transparent glass vials fitted with 20 mm grey bromo butyl rubber stoppers and sealed with 20 mm Mapra beige colour aluminium PP disc.

AURO CEFEPIME INJECTION 1000 mg:
20 mL Type-1 moulded clear colourless transparent glass vials fitted with 20 mm grey bromo butyl rubber stoppers and sealed with 20mm dark green colour aluminium PP disc.

AURO CEFEPIME INJECTION 2000 mg:
50 mL Type-1 moulded clear colourless transparent glass vials fitted with 32 mm grey bromo butyl rubber stoppers and sealed with 33 mm light orange colour aluminium PP disc.

Pack sizes:
1. Single vial packed in a printed carton with package insert.
2. 10 vials packed in a printed E-fluted box with partition and package insert.

8. IDENTIFICATION OF AURO-CEFEPIME INJECTION:
White to pale yellow powder. When reconstituted, it is a clear colourless to pale yellow solution.

9. REGISTRATION NUMBERS/REFERENCE NUMBERS:

SOUTH AFRICA:
AURO CEFEPIME INJECTION 500 mg: 41/20.1.1/0689
AURO CEFEPIME INJECTION 1 000 mg: 41/20.1.1/0690
AURO CEFEPIME INJECTION 2 000 mg: 41/20.1.1/0691

NAMIBIA:
AURO CEFEPIME INJECTION 500 mg: 10/20.1.1/0318
AURO CEFEPIME INJECTION 1 000 mg: 10/20.1.1/0319
AURO CEFEPIME INJECTION 2 000 mg: 10/20.1.1/0320

10. NAME AND ADDRESS OF REGISTRATION HOLDER:
AUROGEN SOUTH AFRICA (PTY) LTD
Woodhill Office Park, Building 1, First Floor
53 Phillip Engelbrecht Avenue
Meyersdal, Ext. 12
1448, Johannesburg
South Africa

11. DATE OF PUBLICATION:
Date of registration:
05 March 2009
Date of revision:
28 September 2023

A/s: 340 x 680 mm ■ Black

eugia
Packaging Development

Product Name	Component	Item Code	Date & Time
Auro Cefepime Inj	Leaflet	P1538753	21.02.2025 & 5.30 PM
Customer / Country	Version No.	Reason Of Issue	Reviewed / Approved by
South Afrca_Unit 6	03	Revision	
Dimensions	No. of Colours : 01		
340 x 680 mm			
2D Code			Sign / Date
P1538753			

Team Leader	Narender
Initiator	Anoop
Artist:	Vision Graphic Designers

Additional Information : Supersede Item Code: P1518461

PROFESSIONELE INLIGTING VIR MEDISYNE VIR MENSLIKE GEBRUIK

SKEDULERINGSTATUS
SUID-AFRIKA: S4
NAMIBIË: NS2

EIENDOMSNAAM (en doseervorm):
AURO CEFEPIME INJECTION 500 mg (Poeier vir inspuiting)
AURO CEFEPIME INJECTION 1000 mg (Poeier vir inspuiting)
AURO CEFEPIME INJECTION 2000 mg (Poeier vir inspuiting)

SAMESTELLING:
AURO CEFEPIME INJECTION 500 mg:
Elke flessie bevat sefepiem dihidrochloried monohidraat ekwivalent aan 500 mg sefepiem, L-arginien as buffer bygevoeg.

AURO CEFEPIME INJECTION 1000 mg:
Elke flessie bevat sefepiem dihidrochloried monohidraat ekwivalent aan 1000 mg sefepiem, L-arginien as buffer bygevoeg.

AURO CEFEPIME INJECTION 2000 mg:
Elke flessie bevat sefepiem dihidrochloried monohidraat ekwivalent aan 2000 mg sefepiem, L-arginien as buffer bygevoeg.

Suikervry

FARMAKOLOGIESE KLASSIFIKASIE:
A 20.1.1 Breë- en mediumspektrum antibiotika.

FARMAKOLOGIESE WERKING:

Mikrobiologie:
Sefepiem is 'n bakteriedodende middel wat bakteriese selwandsintese inhibeer. Dit besit 'n aktiwiteitspektrum teen 'n reeks Gram-positiewe en Gram-negatiewe bakterieë. Sefepiem is hoogs weerstandbiedend teen hidrolise deur 'n aantal beta-laktamases, besit 'n lae affiniteit vir chromosoom geënkodeerde beta-laktamases en toon vinnige penetrasie in Gram-negatiewe bakterieselle.

Sefepiem se minimum bakteriedodende konsentrasies was ≤ 2 keer die minimum inhiberende konsentrasie vir die meerderheid van organismes waarteen getoets is.

Gram-positiewe aërobe:
NB: Enterokokke soos *Enterococcus faecalis* en metisillienweerstandbiedende stafilokokke, is weerstandbiedend teen sefepiem.

Gram-negatiewe aërobe:
NB: Sefepiem is onaktief teen die meeste stamme van *Xanthomonas maltophilia (Pseudomonas maltophilia).* Nie alle pseudomonas stamme is vatbaar nie.

Anaërobe:
NB: Sefepiem is onaktief teen *Bacteroides fragilis* en *Clostridium difficile.*

Farmakokinetika:

Volwassenes:
Sefepiem word volledig na intramuskulêre inspuiting geabsorbeer. Na intramuskulêre toediening van 'n enkel dosis sefepiem word terapeutiese konsentrasies in verskeie liggaamsvloeistowwe soos urien, gal, velblaasvog, peritoneale vloeistof en sputum, en weefsels soos die brongiale slymvlies, blindederm, prostaat en galblaas gevind. Die gemiddelde eliminasiehalfleeftyd van sefepiem is ongeveer twee ure.

Daar bestaan geen bewys van akkumulasie in gesonde indiwidue wat dosisse van tot soveel as 2 g intraveneus, elke 8 ure vir 'n periode van 9 dae ontvang het nie. Die totale liggaamsuiwering is gemiddeld 120 mL/min.

Die gemiddelde niersuiwering van sefepiem is 110 mL/min, wat aantoon dat sefepiem byna uitsluitlik deur niermeganismes, hoofsaaklik deur glomerulêre filtrasie, geëlimineer word. Urienherwinning van onveranderde sefepiem verteenwoordig ongeveer 85 % van die dosis, wat gevolglik tot hoë sefepiemkonsentrasies in die urien lei.

Die serumproteïenbinding van sefepiem is gemiddeld 16,4 % en is onafhanklik van die serumkonsentrasie. Gesonde indiwidue van 65 jaar of ouer wat 'n enkel 1 g intraveneuse dosis sefepiem ontvang het, se area onder die konsentrasie-tydkurwe waarde was hoër en hul niersuiweringswaardes was kleiner as dié van jonger, gesonde vrywilligers. In bejaarde pasiënte met belemmerde nierfunksie word 'n aanpassing van die dosis aanbeveel (sien **"WAARSKUWINGS EN SPESIALE VOORSORGMAATREËLS"** en "**DOSIS EN GEBRUIKSAANWYSINGS**").

Die farmakokinetika van sefepiem was onveranderd in pasiënte met belemmerde lewerfunksie wat 'n enkel 1 g dosis ontvang het. Die eliminasiehalfleeftyd is langer in pasiënte met wisselende grade van ontoereikende nierfunksie, met 'n lineêre verband tussen totale liggaamsuiwering en kreatiniensuiwering. Dit dien as 'n basis vir dosisaanpassingaanbevelings in hierdie groep pasiënte (sien **"DOSIS EN GEBRUIKSAANWYSINGS"**). Die gemiddelde halfleeftyd in erg ontoereikende pasiënte wat dialiseterapie vereis is 13 ure vir hemodialise en 19 ure vir aanhoudende ambulatoriese peritoneale dialise.

Pediatriese pasiënte:
Die enkel- en veelvuldige dosis farmakokinetika van sefepiem is in pasiënte vanaf 2 maande tot 16 jaar oud wat 50 mg/kg dosisse, toegedien per IV infusie of IM inspuiting, ontvang het, geëvalueer. Veelvuldige dosisse is elke 8 tot 12 ure vir ten minste 48 uur toegedien. Die gemiddelde plasmakonsentrasies van sefepiem na die eerste dosis was soortgelyk aan dié teen stabielestaat, met slegs 'n effense akkumulasie waargeneem met herhaalde dosering. Na IM inspuiting onder stabielestaat kondisies, is gemiddelde piek sefepiemkonsentrasies van 68 μg/mL teen 'n gemiddelde tyd van 0,75 ure bereik, in vergelyking met 185,6 μg/mL na IV toediening. Die gemiddelde trogkonsentrasie na IM inspuiting teen stabielestaat was 6,0 μg/mL na 8 ure. Die biobeskikbaarheid was gemiddeld 82 % na IM inspuiting. Ander farmakokinetiese parameters het nie tussen eerstedosis- en stabielestaatbepalings gewissel nie, ongeag die dosisskedule (q12h of q8h). Daar was ook geen verskille in die farmakokinetika tussen verskillende ouderdomme of tussen mans en vroue nie.

Na 'n enkel IV dosis, was die totale liggaamsuiwering (in kinders ouer as 6 maande) gemiddeld 3,4 mL/min/kg, terwyl die gemiddelde volume van verspreiding 0,3 l/kg was. Die algehele eliminasiehalfleeftyd was 1,6 ure. Die urienherwinning van onveranderde sefepiem was 60,4 % van die toegediende dosis, terwyl niersuiwering die primêre baan van eliminasie was, gemiddeld 2,0 mL/min/kg.

Eliminasie was stadiger in kinders tussen 2 en 6 maande ouderdom (t½ 1,89 ure, suiwering 2,97 mL/min/kg). Konsentrasies van sefepiem in die serebrospinale vloeistof (SSV) relatief tot dié in die plasma word in Tabel 1 aangedui.

TABEL 1: Gemiddelde (SD) Plasma (PL) en SSV Konsentrasies, en SSV/PL Verhoudings in Babas en Kinders*

Tyd van monsterneming (uur)	N	Plasmakonsentrasie (μg/mL)	SSV konsentrasie(μg/mL)	Verhouding SSV/PL
0,5	6	70,4 (55,4)	5,7 (8)	0,12 (0,14)
1	4	44,1 (7,8)	4,3 (1,5)	0,10 (0,04)
2	5	23,9 (12,9)	3,6 (2,0)	0,17 (0,09)
4	5	11,7 (15,7)	4,2 (1,1)	0,87 (0,56)
8	5	4,9 (5,9)	3,3 (2,8)	1,02 (0,64)

*Pasiënte het in ouderdom gewissel vanaf 3,1 maande tot 14,7 jaar, met 'n gemiddelde (SD) ouderdom van 2,9 (3,9) jaar. Pasiënte met vermoedelik infeksie van die sentrale senuweestelsel is met sefepiem teen 'n dosis van 50 mg/kg, toegedien as 'n IV infusie oor 'n periode van 5 tot 20 minute elke 8 ure, behandel. Enkel plasma- en SSV-monsters is van geselekteerde pasiënte met die monsternemingstye aangedui, relatief tot die einde van infusie op dag 2 of 3 van die sefepiembehandeling, geneem.

INDIKASIES:

Volwassenes:
AURO CEFEPIME INJECTION word aangedui vir die behandeling van die infeksies wanneer deur vatbare bakterieë hieronder genoem, veroorsaak word. Kweking en vatbaarheidstudies behoort uitgevoer te word om die vatbaarheid van die oorsaaklike organisme(s) teen sefepiem vas te stel.

LAE LUGWEGINFEKSIES:
Hospitaal- en Gemeenskapsverworwe Pneumonie veroorsaak deur *Staphylococcus aureus* (metisillienvatbare stamme), *Pseudomonas aeruginosa,* Klebsiella spp. (insluitende *Klebsiella pneumoniae*), Enterobacter spp., *Escherichia coli, Proteus mirabilis, Streptococcus pneumoniae* (insluitende intermediêr penisillienweerstandbiedende stamme), *Haemophilus influenzae* (insluitende beta-laktamase produserende stamme), *Haemophilus parainfluenzae* en *Moraxella (Branhamella) catarrhalis* (insluitende beta-laktamase produserende stamme), insluitende gevalle wat met bakteremie geassosieer word. Wanneer *Pseudomonas aeruginosa* geïsoleer of vermoed word, behoort kombinasieterapie met 'n aminoglukosied gebruik te word.

Akute Bakteriese Verergering van Chroniese Brongitis en Akute Brongitis weens *Streptococcus pneumoniae* (insluitende intermediêr penisillienweerstandbiedende stamme), *Haemophilus influenzae* (insluitende beta-laktamase produserende stamme), *Moraxella (Branhamella) catarrhalis* (insluitende beta-laktamase produserende stamme).

URIENWEGINFEKSIES:
Gekompliseerde Urienweginfeksies veroorsaak deur *Escherichia coli, Pseudomonas aeruginosa, Klebsiella pneumoniae, Proteus mirabilis* en Enterobacter spp., insluitende gevalle geassosieer met bakteremie.

Wanneer *Pseudomonas aeruginosa* geïsoleer of vermoed word, behoort kombinasieterapie met 'n aminoglukosied gebruik te word.

Ongekompliseerde urienweginfeksies weens *Escherichia coli, Proteus mirabilis,* Klebsiella spp. en Enterobacter spp.

INFEKSIES VAN DIE VEL EN VELSTRUKTURE:
Infeksies van die vel en velstrukture veroorsaak deur *Staphylococcus aureus* (metisillienvatbare stamme), *Streptococcus pyogenes* (Groep A streptokokke), *Streptococcus agalactiae* (Groep B streptokokke), ander beta-hemolitiese Streptococcus spp., Enterobacter spp., Klebsiella spp., *Proteus mirabilis, Morganella morganii, Escherichia coli, Serratia marcescens* en *Acinetobacter calcoaceticus.*

INTRA-ABDOMINALE INFEKSIES:
Gekompliseerde Intra-abdominale Infeksies, Insluitende Peritonitis en Galbuisinfeksies veroorsaak deur *Escherichia coli* en sensitiewe *Pseudomonas aeruginosa.* Peritonitis is dikwels polimikrobies en mag anaërobe mikroörganismes soos Bacteroides spp. wat weerstandbiedend teen sefepiem is, insluit. Wanneer weerstandbiedende anaërobe vermoed word, behoort sefepiem met 'n antibiotika wat doeltreffend teen hierdie organismes is, gekombineer word, insluitende gevalle wat met bakteremie geassosieer word. In pasiënte met 'n risiko van 'n gemengde aërobe/anaërobe infeksie, insluitende infeksies waar *Bacteroides fragilis* by betrokke is, word meegaande terapie met 'n anti-anaërobe middel aanbeveel.

EMPIRIESE BEHANDELING IN FEBRIELE NEUTROPENIE:
AURO CEFEPIME INJECTION word aangedui vir empiriese monoterapie van febriele neutropenie. Die kombinasie van **AURO CEFEPIME INJECTION** met ander gepaste antimikrobiese middels behoort oorweeg te word in pasiënte met 'n hoë risiko van erge infeksie (insluitende pasiënte met 'n geskiedenis van onlangse beenmurgoorplanting, hipotensie met presentering, 'n onderliggende hemolitiese kwaadaardigheid, of erge of verlengde neutropenie), of wanneer deur gasheer- of plaaslike epidemiologiese faktore aangedui word.

Kinders:
AURO CEFEPIME INJECTION word aangedui in kinders (2 maande en ouer) vir die behandeling van die infeksies hieronder genoem, wanneer deur vatbare bakterieë veroorsaak word, (wanneer *Pseudomonas aeruginosa* geïsoleer of vermoed word, behoort kombinasieterapie met 'n aminoglukosied gebruik te word).

LAE LUGWEGINFEKSIES:
Pneumonie veroorsaak deur *Staphylococcus aureus, Streptococcus pneumoniae, Haemophilus influenzae.*

URIENWEGINFEKSIES:
Veroorsaak deur *Escherichia coli.*

VEL EN VELSTRUKTUUR:
Infeksies veroorsaak deur *Staphylococcus epidermidis,* Streptokokke, *Staphylococcus aureus, Streptococcus pyogenes.*

EMPIRIESE BEHANDELING IN FEBRIELE NEUTROPENIE:
AURO CEFEPIME INJECTION word aangedui vir empiriese monoterapie van febriele neutropenie. Die kombinasie van **AURO CEFEPIME INJECTION** met ander gepaste antimikrobiese middels behoort oorweeg te word in pasiënte met 'n groot risiko van erge infeksie (insluitende pasiënte met 'n geskiedenis van onlangse beenmurgoorplanting, hipotensie met presentering, 'n onderliggende hemolitiese kwaadaardigheid, of erge of verlengde neutropenie), of wanneer deur gasheer- of plaaslike epidemiologiese faktore aangedui word.

KONTRA-INDIKASIES:
- **AURO CEFEPIME INJECTION** word teenaangedui in pasiënte wat voorheen enige hipersensitiwiteitsreaksies teen enige komponent van die formulasie, die kefalosporienklas vanantibiotika, penisilliene of ander beta-laktaamantibiotika getoon het.
- Swangerskap en laktasie

WAARSKUWINGS EN SPESIALE VOORSORGSMAATREËLS:
Daar bestaan ń ernstige risiko vir neurologiese newe-effekte, veral enkefalopatie (bv. afwyking van die bewussyn, verwarring, mioklonus, stuiptrekkings).
In pasiënte met belemmerde nierfunksie, soos 'n afname in urienuitset weens ontoereikende nierfunksie (kreatiniensuiwerring ≤ 50 mL/min) of ander kondisies wat nierfunksie mag beïnvloed, behoort die dosis **AURO CEFEPIME INJECTION** aangepas te word om vir die stadiger tempo van nieruitskeiding te kompenseer. Aangesien hoë en verlengde antibiotikakonsentrasies in die serum van normale dosisse in pasiënte met ontoereikende nierfunksie of ander kondisies wat nierfunksie mag beïnvloed, mag voorkom, behoort die onderhoudsdosis verminder te word wanneer **AURO CEFEPIME INJECTION** aan sulke pasiënte toegedien word. Voortgesette dosering behoort vasgestel te word op grond van die graad van ontoereikende nierfunksie, die graad van erns van die infeksie en die vatbaarheid van die oorsaaklike organismes (sien **"DOSIS EN GEBRUIKSAANWYSINGS"** en **"FARMAKOLOGIESE WERKING: Farmakokinetika"**). Antibiotika moet met sorg aan enige pasiënt toegedien word wat een of ander vorm van allergie, veral teen medisyne, getoon het. Indien 'n allergiese reaksie teen **AURO CEFEPIME INJECTION** ontwikkel, moet die medisyne onttrek word en toepaslike behandeling toegedien word. Ernstige onmiddellike hipersensitiwiteitsreaksies mag epinefrien en ander ondersteunende terapie vereis. Pseudomembraneuse kolitis is met byna alle wye-spektrum antibiotika, insluitende **AURO CEFEPIME INJECTION,** aangemeld; daarom is dit nodig om hierdie diagnose in pasiënte wat diarree in samewerking met die gebruik van antibiotika ontwikkel, te oorweeg. Gevalle van geringe kolitis mag op onttrekking van die middel alleen reageer; matige tot ernstige gevalle mag meer uitgebreide bestuur vereis.

Die gebruik van **AURO CEFEPIME INJECTION** mag lei tot oorgroeiing van nie-vatbare organismes. Indien superinfeksie gedurende terapie voorkom, behoort toepaslike maatreëls ingestel te word.

Belemmerde nierfunksie:
Nierfunksie behoort noukeurig gemonitor te word indien middels met nefrotoksiese potensiaal, soos aminoglikosiede en sterk diuretika, saam met **AURO CEFEPIME INJECTION** toegedien word.

Gebruik in bejaardes:
Dit is bekend dat **AURO CEFEPIME INJECTION** tot 'n groot mate deur die niere uitgeskei word en die risiko van toksiese reaksies teen hierdie middel mag groter wees in pasiënte met belemmerde nierfunksie. Aangesien bejaarde pasiënte meer tot 'n afname in nierfunksie neig, behoort sorg aan die dag gelê te word in die keuse van die dosis en nierfunksie behoort gemonitor te word (sien "**"NEWE EFFEKTE"** en **"FARMAKOLOGIESE WERKING").** Ernstige newe effekte, insluitende omkeerbare enkefalopatie (afwyking van die bewussyn, insluitende verwarring, hallusinasies, bedwelming en koma), mioklonus, stuiptrekkings (insluitende nie-konvulsiewe status epilepticus), en/of nierversaking het in bejaarde pasiënte met ontoereikende nierfunksie, wat die normale dosis **AURO CEFEPIME INJECTION** ontvang het, voorgekom.

INTERAKSIES:
AURO CEFEPIME INJECTION toon fisiese of chemiese onverenigbaarheid wanneer met vankomisienhidrochloried, gentamisiensulfaat en aminofillien vermeng word. In pasiënte wat met **AURO CEFEPIME INJECTION** behandel word, mag vals-positiewe urientoetse vir glukose volg wanneer reduserende middels gebruik word. Vals-positiewe resultate word nie met glukose- oksidasemetodes verkry nie.

SWANGERSKAP EN LAKTASIE:
Die veilige gebruik van **AURO CEFEPIME INJECTION** is nie in swangerskap en laktasie vasgestel nie.

DOSIS EN GEBRUIKSAANWYSINGS:
AURO CEFEPIME INJECTION kan intraveneus of intramuskulêr toegedien word. Die dosis en roete van toediening wissel na gelang die vatbaarheid van die oorsaaklike organismes, graad van erns van die infeksie en die algehele kondisie en nierfunksie van die pasiënt.

Volwassenes:
Riglyne vir die dosering van **AURO CEFEPIME INJECTION** in volwassenes word in Tabel 2 aangedui.

TABEL 2: Aanbevole dosisskedule vir volwassenes met normale nierfunksie (12 jaar en ouer)*

Plek van en tipe infeksie	Dosis	Frekwensie
Geringe tot matige urienweginfeksies(ongekompliseerd en gekompliseerd)	500 mg - 1 g IV of IM	Elke 12 ure
Geringe tot matige infeksies, insluitende brongitis, infeksies van die vel en velstrukture	1 g IV of IM	Elke 12 ure
Erge infeksies soos pneumonie urienweginfeksies, gekompliseerde intra- abdominale infeksies, insluitende gevalle met geassosieerde bakteremie	2 g IV	Elke 12 ure
Empiriese behandeling van koors in neutropeniese pasiënte	2 g IV	Elke 8 ure

*Die normale duurte van terapie is 7-10 dae; meer ernstige infeksies mag langer periodes van behandeling vereis.

In die behandeling van beta-hemolitiese streptokokinfeksies moet die terapeutiese dosis vir ten minste 10 dae toegedien word. Vir die empiriese behandeling van febriele neutropenie is die normale duurte van terapie 7 dae, of totdat die neutropenie verdwyn het.

Pediatriese pasiënte (1 maand tot 12 jaar oud met normale nierfunksie):

Normale aanbevole dosisse:
Pneumonie, urienweginfeksies en infeksies van velstrukture: Pasiënte van 2 maande oud met 'n liggaamsmassa ≤ 40 kg: 50 mg/kg q12h vir 10 dae. Vir meer ernstige infeksies kan 'n dosisskedule van q8h gebruik word.

Empiriese behandeling van febriele neutropenie: Pasiënte > 2 maande met 'n liggaamsmassa ≤ 40 kg: 50 mg/kg q8h vir 7-10 dae. Ondervinding met die gebruik van **AURO CEFEPIME INJECTION** in pediatriese pasiënte < 2 maande oud is beperk. Terwyl hierdie ondervinding opgedoen is met gebruikmaking van die 50 mg/kg dosis, dui die model van die farmakokinetiese data wat in pasiënte > 2 maande oud ingewin is daarop dat 'n dosis van 30 mg/kg q12h of 8qh
vir pasiënte tussen 1 en 2 maande oud oorweeg kan word.

Die toediening van **AURO CEFEPIME INJECTION** in hierdie pasiënte behoort noukeurig gemonitor te word.

Vir pediatriese pasiënte met liggaams massa > 40 kg, geld die dosisaanbevelings vir volwassenes (sien Tabel 2). Vir pasiënte ouer as 12 jaar en ≤ 40 kg, behoort die dosisaanbevelings vir jonger pasiënte ≤ 40 kg gebruik te word. Die dosis in pediatriese pasiënte behoort nie die maksimum aanbevole dosis in volwassenes (2 g q8h) te oorskry nie. Ondervinding met intramuskulêre toediening in pediatriese pasiënte is beperk.

Bejaardes:
Dosisaanpassing word nie vereis nie, tensy daar meegaande belemmerde nierfunksie is.

Belemmerde lewerfunksie:
Geen dosisaanpassing is nodig in pasiënte met belemmerde lewerfunksie nie.

Belemmerde nierfunksie:
Die aanvanklike dosis van **AURO CEFEPIME INJECTION** is dieselfde as in pasiënte met normale nierfunksie. Die dosis van **AURO CEFEPIME INJECTION** moet verlaag word by pasiënte wie se kreatinienopruiming 50 mL/min of minder is. Die aanbevole onderhoudsdosis van **AURO CEFEPIME INJECTION** in pasiënte met ontoereikende nierfunksie word in Tabel 3 aangedui.

TABEL 3: Onderhoudsdosisskedule In volwasse pasiënte met belemmerde nierfunksie*

Kreatiniensuiwering (mL/min)	Aanbevole onderhoudsdosis			
> 50	Normale dosis, geen aanpassing nodig nie			
	2 g elke 8 ure	2 g elke 12 ure	1 g elke 12 ure	500 mg elke 12 ure
30 - 50	1 g elke 8 ure	2 g per dag**	1 g per dag**	500 mg per dag**
11 - 29	1 g elke 12 ure	1 g per dag**	500 mg per dag**	500 mg per dag**
≤10	1 g per dag**	500 mg per dag**	250 mg per dag**	250 mg per dag**

* Die aanvanklike dosis is dieselfde as in pasiënte met normale nierfunksie.
** Per dag word bereken per 24 uur.

Wanneer slegs serumkreatinienwaardes beskikbaar is, kan die formule (Cockroft en Gault se formule) gebruik word om kreatiniensuiwering te skat. Serumkreatinien behoort 'n stabielestaat van nierfunksie te verteenwoordig.

Mans:

$$\text{Kreatiniensuiwering (mL/min)} = \frac{\text{Massa (kg)} \times (140 - \text{ouderdom})}{0{,}82 \times \text{serumkreatinien } (\mu\text{mol/l})}$$

Vroue:
0,85 x waarde bereken met gebruikmaking van die formule vir mans.

Dialisepasiënte:
In pasiënte wat hemodialise ondergaan, sal ongeveer 68 % van die totale hoeveelheid van **AURO CEFEPIME INJECTION** teenwoordig in die liggaam aan die begin van dialise oor 'n dialiseperiode van 3 ure verwyder word. 'n Herhaalde dosis, ekwivalent aan die aanvanklike dosis, behoort met voltooiing van elke dialisesessie toegedien te word. In pasiënte wat aanhoudende ambulatoriese peritoneale dialise ondergaan, mag **AURO CEFEPIME INJECTION** teen dieselfde dosisse wat vir pasiënte met normale nierfunksie aanbeveel word, toegedien word, nl. 0,5 g, 1,0 g of 2,0 g afhangende van die graad van erns van die infeksie, maar teen 'n dosisinterval van elke 48 uur.

Kinders met belemmerde nierfunksie:
Aangesien urienuitskeiding die primêre roete van eliminasie van **AURO CEFEPIME INJECTION** in pediatriese pasiënte is (sien **"FARMAKOLOGIESE WERKING: Farmakokinetika"**), behoort 'n aanpassing van die dosis **AURO CEFEPIME INJECTION** in kinders < 12 jaar met belemmerde nierfunksie oorweeg te word.

Voorbereiding van die oplossing en toediening:
AURO CEFEPIME INJECTION poeier behoort hersaamgestel te word met gebruikmaking van die volumes van die oplosmiddel soos aangetoon in Tabel 4; die oplosmiddels wat gebruik moet word, word geïdentifiseer met gebruikmaking van hierdie tabel.

TABEL 4: Voorbereidings van oplossings van AURO CEFEPIME INJECTION

	Hoeveelheid oplosmiddel om by te voeg (mL)	Benaderde beskikbare volume (mL)	Benaderde sefepiem konsentrasie (mg/mL)
Intraveneus			
0,5 g flessie	5	5,7	90
1,0 g flessie	10	11,4	90
2,0 g flessie	10	12,8	160
Intramuskulêr			
0,5 g flessie	1,5	2,2	230
1 g flessie	3,0	4,4	230

Intraveneuse (IV) toediening:
Die IV roete van toediening word verkies in pasiënte met ernstige of lewensbedreigende infeksies, veral indien die moontlikheid van skok bestaan.

Vir direkte IV toediening, herkonstitueer **AURO CEFEPIME INJECTION** met steriele water vir inspuiting, 5 % dekstrose inspuiting of 0,9 % natriumchloried, met gebruikmaking van die oplosmiddelvolumes in Tabel 4. Die gevolglike oplossing behoort direk in die aar oor 'n periode van drie tot vyf minute, of in die buis van 'n toedieningstel terwyl die pasiënt 'n verenigbare IV vloeistof ontvang, toegedien te word (sien **"Verenigbaarheid en Stabiliteit"**). Vir intraveneuse infusie, herkonstitueer die 0,5 g, 1,0 of 2,0 g flessie soos hierbo vir IV inspuiting. Voeg daarna die toepaslike hoeveelheid van die gevolglike oplossing by 'n IV houer met een van die verenigbare IV vloeistowwe wat onder **"Verenigbaarheid en Stabiliteit"** genoem word. IV infusies met 'n volume van tussen 50 mL en 100 mL behoort oor 'n periode van ongeveer 30 minute toegedien te word.

Intramuskulêre (IM) toediening:
AURO CEFEPIME INJECTION moet met een van die volgende oplosmiddels geherkonstitueer word, met gebruikmaking van die volumes soos aangedui in Tabel 4. Steriele water vir inspuiting, 0,9 % natriumchloried inspuiting, 5 % dekstrose inspuiting, bakteriostatiese water vir inspuiting met parabens of bensielalkohol, waarna dit per diep intramuskulêre (IM) inspuiting in 'n groot spiergroep (soos bv. die boonste kwadrant van die gluteus maximus) ingespuit word. Alhoewel **AURO CEFEPIME INJECTION** met 0,5 % of 1,0 % lidokaïen hidrochloried geherkonstitueer kan word, is dit gewoonlik nie nodig nie aangesien **AURO CEFEPIME INJECTION** min of geen pyn met intramuskulêre inspuiting veroorsaak.

Verenigbaarheid en Stabiliteit:

Intraveneus:
AURO CEFEPIME INJECTION is verenigbaar teen konsentrasies tussen 1 en 40 mg/mL met een van die volgende IV infusievloeistowwe: 0,9 % natriumchloried inspuiting, 5 % en 10 % dekstrose inspuiting, M/6 natriumLaktaat inspuiting, 5 % dekstrose en 0,9 % natriumchloried inspuiting, ringerslaktaat en 5 % dekstrose inspuiting. Hierdie oplossings is stabiel vir 24 uur teen kamertemperatuur benede 25 °C of 7 dae onder verkoeling (2 °C tot 8 °C). Inligting oor die verenigbaarheid en stabiliteit van **AURO CEFEPIME INJECTION** mengmiddels word in die tabel aangedui:

TABEL 5: Sefepiem mengmiddelstabiliteit

AURO CEFEPIME INJECTION konsentrasie	Mengmiddel en konsentrasie	IV infusie oplossings	Stabiliteitstyd vir	
			KT/L (benede 25 °C)	Verkoeling (2 °C tot 8 °C)
40 mg/mL	Amikasien 6 mg/mL	NS of D5W	24 uur	7 dae
4-40 mg/mL	Klindamisien 0,25 - 6 mg/mL	NS of D5W	24 uur	7 dae
4 mg/mL	Heparien 10 - 25 eenhede/mL	NS of D5W	24 uur	7 dae
4 mg/mL	Kaliumchloried 10 - 40 mEkw/l	NS of D5W	24 uur	7 dae
4 mg/mL	Theophylline 0,8 mg/mL	D5W	24 uur	24 ure

NS = 0,9 % Natriumchloried inspuiting; D5W = 5 % dekstrose inspuiting; KT/L = Kamertemperatuur en lig.

Weens fisiese of chemiese onverenigbaarheid behoort oplossings van **AURO CEFEPIME INJECTION**, soos dié van die meeste beta-laktaam antibiotika, nie by oplossings van metronidasool, vankomisien, gentamisien of tobramisiensulfaat toegevoeg te word nie. Indien gelyktydige terapie met **AURO CEFEPIME INJECTION** aangedui word, kan elk van hierdie antibiotika egter apart toegedien word.

Intramuskulêr:
AURO CEFEPIME INJECTION, geherkonstitueer soos aangedui (in Tabel 4) is vir 24 uur stabiel teen kamertemperatuur benede 25 °C, of vir 7 dae onder verkoeling (2 °C tot 8 °C) wanneer met die oplosmiddels gebruik word: steriele water vir inspuiting, 0,9 % natriumchloried, 5 % dekstrose inspuiting, bakteriostatiese water vir inspuiting met parabens of bensielalkohol, of 0,5 % of 1 % lidokaïen hidrochloried.

NB: Parenterale medisyne behoort voor toediening visueel vir partikulêre materiaal nagegaan te word, en nie gebruik te word indien partikulêre materiaal voorkom nie. Soos met ander kefalosporiene, mag die kleur van **AURO CEFEPIME INJECTION** poeier en oplossing tydens berging verdonker. Die effektiwiteit van die produk word egter nie nadelig daardeur beïnvloed nie.

NEWE EFFEKTE:

Hematologiese afwykings:
Dikwels: Hemolitiese anemie, verbygaande leukopenie, neutropenie en trombositopenie.
Die volgende newe effekte is aangemeld en die frekwensie is nie bekend nie: Agranulositose, aplastiese anemie, bloeding.

Afwykings van die immuunstelsel:
Baie dikwels: Eosinofilie.
Dikwels: Anafilakse.
Die volgende newe effek is aangemeld en die frekwensie is nie bekend nie: Koors.

Afwykings van die senuweestelsel:
Baie dikwels: Hoofpyn.
Dikwels: Duiseligheid, stuiptrekkings.
Die volgende newe effek is aangemeld en die frekwensie is nie bekend nie: Parestesie.

Vaskulêre afwykings:
Die volgende newe effek is aangemeld en die frekwensie is nie bekend nie: Vasodilatasie.

Respiratoriese, bors- en mediastinale afwykings:
Die volgende newe effekte is aangemeld en die frekwensie is nie bekend nie: Dispnee, koors, kouekoors.

Gastroïntestinale afwykings:
Baie dikwels: Diarree, naarheid, braking, orale moniliase.
Dikwels: Pseudomembraneuse kolitis, dispepsie.
Die volgende newe effekte is aangemeld en die frekwensie is nie bekend nie: Kolitis, smaakafwyking, hardlywigheid, buikpyn.

Hepatobileêre afwykings:
Die volgende newe effekte is aangemeld en die frekwensie is nie bekend nie: Hepatitis, cholestatiese geelsug.

Afwykings van die vel en subkutane weefsel:
Dikwels: Uitslag, pruritus, urtikarie, eriteem, toksiese epidermale nekrolise, erythema multiforme, Stevens-Johnson se sindroom.
Die volgende newe effek is aangemeld en die frekwensie is nie bekend nie: Ongespesifiseerde moniliase.

Afwykings van die bors en reproduksiestelsel:
Dikwels: Vaginitis.
Die newe effek is aangemeld en die frekwensie is onbekend: Genitale pruritus.

Algemene afwykings en kondisies by die plek van toediening:
Dikwels: Plaaslike reaksies soos flebitis en inflammasie by die plek van die IV inspuiting en inflammasie of pyn by die plek van intramuskulêre inspuiting.

Na bemarking data
Ernstige neurologiese newe-effekte, veral enkefalopatie, is gerapporteer, meesal by pasiënte met belemmerde nierfunksie (kreatinienopruiming 50 mL/min of minder) wat dosisse ontvang het wat die aanbe velings oorskry het.

BEKENDE SIMPTOME VAN OORDOSERING EN BESONDERHEDE VAN DIE BEHANDELING DAARVAN:
(Sien "**NEWE EFFEKTE**").
Behandeling behoort simptomaties en ondersteunend te wees. In die geval van erge oordosering in pasiënte met belemmerde nierfunksie, sal hemodialise help in die verwydering van **AURO CEFEPIME INJECTION** vanuit die liggaam; peritoneale dialise is van geen waarde nie. Toevallige oordosering het voorgekom wanneer groot dosisse toegedien is aan pasiënte met belemmerde nierfunksie (sien **"DOSIS EN GEBRUIKSAANWYSINGS"** en **"NEWE EFFEKTE"**).

IDENTIFIKASIE:
AURO CEFEPIME INJECTION 500 mg:
Wit tot liggeelgekleurde poeier. Wanneer gerekonstitueer is dit 'n kleurlose tot liggeelgekleurde oplossing.

AURO CEFEPIME INJECTION 1000 mg:
Wit tot liggeelgekleurde poeier. Wanneer gerekonstitueer is dit 'n kleurlose tot liggeelgekleurde oplossing.

AURO CEFEPIME INJECTION 2000 mg:
Wit tot liggeelgekleurde poeier. Wanneer gerekonstitueer is dit 'n kleurlose tot liggeelgekleurde oplossing.

AANBIEDING:
AURO CEFEPIME INJECTION 500 mg:
20 mL Tipe-1 gevormde, kleurlose, deursigtige glas flessie met 'n 20 mm grys, bromobutiel rubberprop en geseël met 'n 20 mm beigekleurige mapra aluminium PP disk.

AURO CEFEPIME INJECTION 1000 mg:
20 mL Tipe-1 gevormde, kleurlose, deursigtige glas flessie met 'n 20 mm grys, bromobutiel rubberprop en geseël met 'n 20 mm donker groenkleurige aluminium PP disk.

AURO CEFEPIME INJECTION 2000 mg:
50 mL Tipe-1 gevormde, kleurlose, deursigtige glas flessie met 'n 32 mm grys, bromobutiel rubberprop en geseël met 'n 33 mm ligte oranjekleurige aluminium PP disk.

Pakgrootte:
1. 'n Enkel flessie in 'n voorafgedrukte kartondosie met 'n voubiljet.
2. 10 flessies verpak in voorafgedrukte E-gegroefde boks met afskorting en 'n voubiljet.

BERGINGSINSTRUKSIES:
Bewaar by of benede 30 °C. Hou die flessie in die kartonhouer tot wanneer vir gebruik benodig word.

HOU BUITE BEREIK VAN KINDERS.

REGISTRASIENOMMERS:
SUID-AFRIKA:
AURO CEFEPIME INJECTION 500 mg: 41/20.1.1/0689
AURO CEFEPIME INJECTION 1000 mg: 41/20.1.1/0690
AURO CEFEPIME INJECTION 2000 mg: 41/20.1.1/0691

NAMIBIË:
AURO CEFEPIME INJECTION 500 mg: 10/20.1.1/0318
AURO CEFEPIME INJECTION 1000 mg: 10/20.1.1/0319
AURO CEFEPIME INJECTION 2000 mg: 10/20.1.1/0320

NAAM EN BESIGHEIDSADRES VAN DIE HOUER VAN DIE SERTIFIKAAT VAN REGISTRASIE:
AUROGEN SOUTH AFRICA (EDMS.) BPK.
Woodhillkantoorpark, Gebou 1, Eerste Vloer
Phillip Engelbrechtlaan 53
Meyersdal, Uitbr. 12, 1448
Johannesburg
Suid-Afrika

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DETACH BEFORE DISPENSING

PASIËNTINLIGTINGSBLAD

SUID-AFRIKA: S4
NAMIBIË: NS2

AURO CEFEPIME INJECTION 500 mg (Poeier vir inspuiting)
AURO CEFEPIME INJECTION 1000 mg (Poeier vir inspuiting)
AURO CEFEPIME INJECTION 2000 mg (Poeier vir inspuiting)
Cefepiem dihidrochloried monohidraat
Suikervry

Lees asseblief hierdie blaadjie noukeurig voordat u begin om hierdie medisyne te neem.
- Hou hierdie blaadjie. U mag dit moontlik weer wil lees.
- Indien u enige verdere vrae het, moet u asseblief u dokter of apteker raadpleeg.
- **AURO CEFEPIME INJECTION** is vir u persoonlik voorgeskryf en u behoort dit nie met ander te deel nie. Dit mag hulle skade aandoen, ookal toon hulle dieselfde simptome as u.

1. WAT BEVAT AURO CEFEPIME INJECTION:
Die aktiewe bestanddeel is sefepiem.

AURO CEFEPIME INJECTION 500 mg.
Elke botteltjie bevat sefipiemdihidrochloried-monohidraat ekwivalent aan 500 mg sefepiem.

AURO CEFEPIME INJECTION 1000 mg.
Elke botteltjie bevat sefipiemdihidrochloried-monohidraat ekwivalent aan 1000 mg sefepiem.

AURO CEFEPIME INJECTION 2000 mg.
Elke botteltjie bevat sefipiemdihidrochloried-monohidraat ekwivalent aan 20000 mg sefepiem.

Die ander bestanddeel in **AURO CEFEPIME INJECTION** botteltjies is L-arginien.

2. WAARVOOR WORD AURO CEFEPIME INJECTION GEBRUIK:
Sefepiem is 'n antibiotika wat aan die kefalosporienklas behoort. Antibiotika word gebruik om bakterieë te dood wat infeksies veroorsaak. **AURO CEFEPIME INJECTION** word gebruik om baie soorte bakteriese infeksies te behandel, insluitende infeksies van die bors, urienwegsisteem, galblaas en vel.

3. VOORDAT U BEGIN OM AURO CEFEPIME INJECTION TE NEEM:
Moenie AURO CEFEPIME INJECTION neem:
- As u al ooit 'n ongewone of allergiese reaksie teen sefepiem, of enige van die kefolosporienantibiotika, penisillien of L-arginien gehad het nie.
- As u swanger is of borsvoed nie.

Wees veral versigtig met AURO CEFEPIME INJECTION:
- Lig u dokter in as u voorheen 'n allergiese reaksie ondervind het, veral teen medisyne. As u enige allergiese simptome ondervind terwyl u **AURO CEFEPIME INJECTION** ontvang, moet u daarmee staak en u dokter onmiddellik raadpleeg. Kry noodhulp as u enige van hierdie tekens van 'n ernstige allergiese reaksie toon: urtikarie, moeite met asemhaling, swelling van die gesig, lippe, tong of keel.
- Lig u dokter in as u aan niersiekte ly.
- Hierdie medikasie mag 'n ernstige intestinale kondisie nl. pseudomembraneuse kolitis veroorsaak. Kontak u dokter onmiddellik as maagpyn of -krampe, erge of waterige diaree of 'n bloederige stoelgang voorkom. U dokter mag moontlik die behandeling moet verander.
- **AURO CEFEPIME INJECTION** mag met die uriene glukosetoets inmeng en moontlik vals positiewe toetsresultate veroorsaak. As u aan diabetes ly en u toets gereeld u uriene vir suiker, maak seker dat al u dokters weet dat u **AURO CEFEPIME INJECTION** gebruik.
- Nierfunksie neem af namate u ouer word. Hierdie medisyne word deur die niere verwyder. Daarom mag ouer mense 'n groter risiko vir newe effekte hê terwyl hulle **AURO CEFEPIME INJECTION** gebruik.

Swangerskap en borsvoeding
Die veiligheid van **AURO CEFEPIME INJECTION** tydens swangerskap en borsvoeding is nie vasgestel nie. Lig u dokter in as u swanger is, beplan om swanger te raak of as u borsvoed. As u swanger raak terwyl u **AURO CEFEPIME INJECTION** gebruik, moet u u dokter daaroor inlig.

As u swanger is of u baba borsvoed, raadpleeg asseblief u dokter, apteker of ander gesondheidsorgbeampte vir advies voordat **AURO CEFEPIME INJECTION** aan jou toegedien word.

Die neem van ander medisyne saam met AURO CEFEPIME INJECTION:
Lig u dokter in as u aminoglikosiede (bv. gentamisien) of diuretika/waterpille (bv. furosemied) gebruik, aangesien dit die risiko van toksiese effekte op die niere mag verhoog.
Voordat u **AURO CEFEPIME INJECTION** neem, moet u u dokter inlig as u enige ander inspuitmedisyne soos die volgende gebruik.
- Metronidasool.
- Vankomisien.
- Gentamisien of tobramisien.
- Aminofillien.

Lig altyd u gesondheidsorgbeampte in as u enige ander medisyne gebruik.
(Dit sluit komplementêre en tradisionele medisyne in).

4. HOE OM AURO CEFEPIME INJECTION TE GEBRUIK:
- **AURO CEFEPIME INJECTION** word gewoonlik as 'n inspuiting by u dokter se spreekkamer, hospitaal of kliniek toegedien. Die medikasie word per inspuiting soos deur u dokter voorgeskryf, in 'n spier of aar toegedien.
- As u **AURO CEFEPIME INJECTION** tuis gebruik, sal 'n gesondheidsorgbeampte u wys hoe om dit te gebruik. Maak seker dat u verstaan hoe om **AURO CEFEPIME INJECTION** te gebruik. Volg die prosedures soos aan u gewys is wanneer u die dosis gebruik. Kontak u gesondheidsorgbeampte as u enige vrae het.
- Voordat u **AURO CEFEPIME INJECTION** toedien, moet u noukeurig na die oplossing kyk. Dit moet helder en vry van drywende materiaal en partikels wees.
- Hou hierdie produk, asook die spuite en naalde buite bereik van kinders en troeteldiere. Vra u gesondheidsorgbeampte hoe om van hierdie materiaal na gebruik ontslae te raak.
- U dosis sal van die tipe infeksie en die graad van erns daarvan afhang.
- U dokter sal op die dosis en vir hoelank u **AURO CEFEPIME INJECTION** moet gebruik, besluit.
- Vir babas en kinders word die dosis op liggaamsmassa gebaseer.
- Gaan voort met hierdie medikasie totdat die volle voorskriftydperk voltooi is, selfs al verdwyn die simptome na 'n paar dae. Deur te vroeg met die medikasie op te hou, mag tot 'n terugkeer van die infeksie lei.
- Lig u dokter in as u aan nierprobleme ly – u dosis moet moontlik verminder word.

Gebruik altyd **AURO CEFEPIME INJECTION** presies soos deur u dokter voorgeskryf. Raadpleeg asseblief u dokter of apteker as u onseker is. Indien u van mening is dat die effek van **AURO CEFEPIME INJECTION** te sterk of te swak is, raadpleeg asseblief u dokter of apteker.

Indien u meer AURO CEFEPIME INJECTION gebruik as wat voorgeskryf is.

In die geval van oordosering moet u u dokter of apteker raadpleeg. Indien hulle nie beskikbaar is nie, moet u u naaste hospitaal of Gifbeheersentrum kontak.

As u vergeet om AURO CEFEPIME INJECTION te gebruik.
U medikasie sal gewoonlik deur 'n gesondheidsorgbeampte aan u gegee word. As u dink dat u moontlik 'n dosis oorgeslaan het, lig asseblief u dokter of verpleegster in.

5 MOONTLIKE NEWE EFFEKTE:
AURO CEFEPIME INJECTION mag newe effekte hê.

As u dink dat u 'n allergiese (hipersensitiwiteit) reaksie teen **AURO CEFEPIME INJECTION** het, moet u onmiddellik u dokter daaroor inlig of na die ongevalle afdeling van u naaste hospitaal gaan.

Simptome sluit die volgende in:
- Veluitslag, jeuk of urtikarie.
- Swelling van die gesig, lippe, mond of keel.
- Moeite met asemhaling en sluk.
- Ineenstorting.

Kontak u dokter onmiddellik as u enige van die volgende ernstige newe effekte ondervind:
- Waterige of bloederige diaree, erge maagkrampe.
- Maklike kneusing of bloeding, ongewone swakheid.
- Koors, kouekoors, liggaamspyn, griepagtige simptome
- Koors, seer keel en hoofpyn met erge blasievorming, afskilfering en rooi veluitslag.
- Stuiptrekkings (floute of konvulsies).
- Geel verkleuring van die oë/vel.
- Hallusinasies.
- Spiertrekkings (mioklonus).

Ander newe effekte sluit die volgende in: Koors, hoofpyn, duiseligheid, gevoelloosheid, prikkeling, diaree, naarheid, braking, wit vlekke of seer in die mond of op die lippe (mondspru), indigestie, smaakafwyking, hardlywigheid, buikpyn, vaginale jeuk of uitskeiding, swelling, pyn of teerheid by die plek van inspuiting.
Lig u dokter in as enige van die bogenoemde newe effekte erg is, of hinder, nie wil verdwyn nie, of enigiets anders wat u hinder wanneer u **AURO CEFEPIME INJECTION** gebruik.

Nie al die newe effekte wat vir **AURO CEFEPIME INJECTION** aangemeld is word in hierdie blaadjie genoem nie. Indien u algemene gesondheid agteruitgaan of u ondervind enige ongewenste effekte terwyl terwyl u **AURO CEFEPIME INJECTION** ontvang, moet u asseblief u dokter, apteker of ander gesondheidsorgbeampte vir advies raadpleeg.

6. BERGING EN WEGDOEN VAN AURO CEFEPIME INJECTION:
Bewaar teen of benede 30 °C (kamertemperatuur). Hou die botteltjie in die karton tot voor gebruik.

Na hersamestelling met die aanbevole IV infusievloeistowwe en IM verdunmiddels, moet die oplossing binne 24 uur gebruik word as dit benede 25°C (kamertemperatuur) of binne 7 dae as dit in 'n yskas (2 – 8°C) bewaar word.

AURO CEFEPIME INJECTION word gewoonlik deur 'n gesondheidsorgbeampte geberg en hanteer. Indien u **AURO CEFEPIME INJECTION** tuis gebruik, moet u dit opberg soos deur u apteker of gesondheidsorgbeampte aangedui.

Hou alle medisyne buite bereik van kinders.

7. AANBIEDING VAN AURO CEFEPIME INJECTION:
AURO CEFEPIME INJECTION 500 mg:
20 mL Tipe 1 gevormde kleurlose, deursigtige glasbotteltjies met 20 mm grys bromopropiel rubberstoppers en geseël met 20 mm mapra beigegekleurde aluminium PP disk..

AURO CEFEPIME INJECTION 1000 mg:
20 mL Tipe 1 gevormde kleurlose, deursigtige glasbotteltjies met 20 mm grys bromopropiel rubberstoppers en geseël met 20 mm lig oranjegekleurde aluminium PP disk.

AURO CEFEPIME INJECTION 2000 mg:
50 mL Tipe 1 gevormde kleurlose, deursigtige glasbotteltjies met 20 mm grys bromopropiel rubberstoppers en geseël met 33 mm Lig oranjegekleurde aluminium PP disk.

Pakgrootte:
1. 'n Enkel flessie in 'n voorafgedrukte kartondosie met 'n voubiljet.
2. 10 flessies verpak in voorafgedrukte E-gegroefde boks met afskorting en 'n voubiljet.

8. IDENTIFIKASIE VAN AURO CEFEPIME INJECTION:
Wit tot liggeel poeier. Wanneer hersaamgestel is dit 'n helder, kleurlose tot liggeel oplossing.

9. REGISTRASIENOMMERS:
SUID-AFRIKA
AURO CEFEPIME INJECTION 500 mg: 41/20.1.1/0689
AURO CEFEPIME INJECTION 1000 mg: 41/20.1.1/0690
AURO CEFEPIME INJECTION 2000 mg: 41/20.1.1/0691

NAMIBIA:
AURO CEFEPIME INJECTION 500 mg: 10/20.1.1/0318
AURO CEFEPIME INJECTION 1000 mg: 10/20.1.1/0319
AURO CEFEPIME INJECTION 2000 mg: 10/20.1.1/0320

10. NAAM EN ADRES VAN DIE REGISTRASIEHOUER:
AUROGEN SOUTH AFRICA (EDMS.) BPK.
Phillip Engelbrechtlaan 53,
Woodhillkantoorpark, Gebou 1,
Meyersdal, Uitbreiding 12,
1448, Johannesburg,
Suid Afrika

11. DATUM VAN PUBLIKASIE
Datum van registrasie:
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Datum van hersiening:
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