HOSPIRA™ CEFAZOLIN SODIUM POWDER FOR INJECTION

NAME OF THE MEDICINE
Cefazolin sodium

Chemical Name: Sodium (6R, 7R)-3-[(5-methyl-1, 3, 4-thiadiazol-2-yl)sulphanyl]methyl]-8-oxo-7-[(1H-tetrazol-1-ylacetyl) amino]-5-thia-1-azabicyclo[4.2.0] oct-2-ene-2-carboxylate
Molecular formula: C_{14}H_{13}N_{8}NaO_{4}S_{3}
Molecular weight: 476.5
CAS: 27164-46-1

DESCRIPTION
Cefazolin sodium is a white to off white crystalline powder with a solubility in water of greater than or equal to 100 mg/mL. Hospira™ Cefazolin Sodium Powder for Injection contains cefazolin sodium as a single ingredient.

Hospira™ Cefazolin Sodium Powder for Injection is a powder for parenteral administration following reconstitution. Each vial contains 1.05 g of cefazolin sodium which is approximately equivalent to 1 g of cefazolin. Each gram of cefazolin sodium contains 48.3 mg of sodium.

PHARMACOLOGY
Microbiology
In vitro tests demonstrate that the bactericidal action of cephalosporins results from inhibition of cell wall synthesis. Cefazolin sodium is active against the following organisms in vitro:

Staphylococcus aureus (penicillin-sensitive and penicillin-resistant).
Group A beta-haemolytic streptococci and other strains of streptococci (many strains of enterococci are resistant).

Streptococcus pneumoniae  Klebsiella species
Escherichia coli  Enterobacter aerogenes
Proteus mirabilis  Haemophilus influenzae
Most strains of \textit{Enterobacter cloacae} and indole-positive \textit{Proteus (Pr. vulgaris, Pr. morganii, Pr. rettgeri)} are resistant. Methicillin-resistant Staphylococci, \textit{Serratia, Pseudomonas, Acinetobacter calcoaceticus} (formerly \textit{Mima} and \textit{Herellea} species) are almost uniformly resistant to cefazolin.

\textit{Disc Susceptibility tests}
Quantitative methods that require measurements of zone diameters give the most precise estimates of antibiotic susceptibility. One such procedure has been recommended for use with discs for testing susceptibility to cephalosporin class antibiotics. Interpretations correlate diameters of the disc with minimum inhibitory concentration (MIC) values for cefazolin. With this procedure, a report from the laboratory of “susceptible” indicates that the infecting organism is likely to respond to therapy. A report of “resistant” indicates that the infecting organism is not likely to respond to therapy. A report of “intermediate susceptibility” suggests that the organism would be susceptible if high dosage is used, or if the infection is confined to tissues and fluids (e.g. urine) in which high antibiotic levels are attained.

\textbf{Pharmacokinetics}
The following table demonstrates the blood levels and duration of cefazolin following intramuscular (IM) administration:

| Serum Concentrations (micrograms/mL) of Cefazolin after intramuscular administration | Time after dose (hours) |
|---|---|---|---|---|---|---|
| DOSE | 0.5 | 1 | 2 | 4 | 6 | 8 |
| 250 mg | 15.5 | 17.0 | 13.0 | 5.1 | 2.5 | - |
| 500 mg | 36.2 | 36.8 | 37.9 | 15.5 | 6.3 | 3.0 |
| 1 g* | 60.1 | 63.8 | 54.3 | 29.3 | 13.2 | 7.1 |

* Average of two studies

Clinical pharmacology studies in patients hospitalised with infections indicate that cefazolin produces mean peak serum levels approximately equivalent to those seen in normal volunteers.

In a study (using normal volunteers) of constant intravenous (IV) infusion with dosages of 3.5 mg/kg for one hour (approximately 250 mg) and 1.5 mg/kg the next two hours (approximately 100 mg), cefazolin produced a steady serum level at the third hour of approximately 28 micrograms/mL.

The following table shows the average serum concentration after IV injection of a single 1 g dose; average half life was 1.4 hours:

| Serum Concentrations (micrograms/mL) of Cefazolin after intravenous administration | Time after dose (minutes) |
|---|---|---|---|---|---|---|
| DOSE | 5 | 15 | 30 | 60 | 120 | 240 |
| 1 g | 188.4 | 135.8 | 106.8 | 73.7 | 45.6 | 16.5 |

Controlled studies on adult normal volunteers receiving 1 g four times a day for ten days, monitoring CBC, SGOT, SGPT, bilirubin, alkaline phosphatase, serum urea, creatinine, and urinalysis, indicated no clinically significant changes attributed to cefazolin.
Cefazolin is excreted unchanged in the urine. Following IM injection of 500 mg, 56 to 89% of the administered dose was recovered within six hours and 80 to nearly 100% was recovered in twenty-four hours.

Cefazolin achieved peak urine concentrations greater than 1000 micrograms/mL and 4000 micrograms/mL respectively following 500 mg and 1 g IM doses.

When cefazolin is administered to patients with unobstructed biliary tracts, high concentrations, well over serum levels, occur in the gallbladder tissue and bile. In the presence of obstruction however, the concentration of the antibiotic in bile is considerably lower than the serum level.

Cefazolin readily crosses an inflamed synovial membrane and the concentration of the antibiotic achieved in the joint space is comparable to levels measured in serum.

Cefazolin readily crosses the placental barrier into the cord blood and amniotic fluid. Cefazolin is present in very low concentrations in the milk of nursing mothers.

**INDICATIONS**

Hospira™ Cefazolin Sodium Powder for Injection is indicated in the treatment of the following serious infections due to susceptible organisms:

1. **Respiratory tract infections** due to *S. pneumoniae*, *Klebsiella* species, *H. influenzae*, *Staph. aureus* (penicillin-sensitive and penicillin-resistant), and group A beta-haemolytic streptococci. Injectable benzathine penicillin is considered to be the drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. Cefazolin is effective in the eradication of streptococci from the nasopharynx; however, data establishing the efficacy of cefazolin in the subsequent prevention of rheumatic fever are not available at present.

2. **Genitourinary tract infections** due to *E. coli*, *P. mirabilis*, *Klebsiella* species, and some strains of *Enterobacter* and enterococci.

3. **Skin and soft tissue infections** due to *Staph. aureus* (penicillin-sensitive and penicillin-resistant) and Group A beta-haemolytic streptococci and other strains of streptococci.

4. **Biliary Tract Infections** Due to *E. coli*, various strains of streptococci, *P. mirabilis*, *Klebsiella* sp., and *Staph. aureus*.

5. **Bone and joint infections** due to *Staph. aureus*.

6. **Septicaemia** due to *S. pneumoniae*, *Staph. aureus* (penicillin-sensitive and penicillin-resistant), *P. mirabilis*, *E. coli* and *Klebsiella* species.

7. **Endocarditis** due to *Staph. aureus* (penicillin-sensitive and penicillin-resistant) and group A beta-haemolytic streptococci.

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to cefazolin.

8. **Perioperative Prophylaxis:**

   The prophylactic administration of cefazolin preoperatively, intraoperatively, and postoperatively may reduce the incidence of certain postoperative infections in patients undergoing surgical procedures that are classified as contaminated or potentially contaminated (e.g. vaginal...
hysterectomy, or cholecystectomy in high-risk patients, such as those over 70 years of age who have acute cholecystitis, obstructive jaundice, or common-bile-duct stones).

The perioperative use of Hospira™ Cefazolin Sodium Powder for Injection may also be effective in surgical patients in whom infection at the operative site would present a serious risk (e.g. during open-heart surgery and prosthetic arthroplasty).

The prophylactic administration of Hospira™ Cefazolin Sodium Powder for Injection should usually be discontinued within a 24-hour period after the surgical procedure. For surgery in which the occurrence of infection may be particularly devastating (e.g. open-heart surgery and prosthetic arthroplasty), the prophylactic administration of Hospira™ Cefazolin Sodium Powder for Injection may be continued for 3 to 5 days following the completion of surgery. If there are signs of infection, specimens for cultures should be obtained for the identification of the causative organism so that appropriate therapy may be instituted. (See DOSAGE AND ADMINISTRATION).

CONTRAINDICATIONS
Hospira™ Cefazolin Sodium Powder for Injection is contraindicated in patients with known allergy to the cephalosporin group of antibiotics or who have previously experienced a major allergy to penicillin (see PRECAUTIONS).

PRECAUTIONS
Before cefazolin therapy is instituted, careful inquiry should be made concerning previous hypersensitivity reactions to cephalosporins and penicillins (see CONTRAINDICATIONS). Cephalosporin C derivatives should be given cautiously in penicillin-sensitive patients. Serious acute hypersensitivity reactions may require adrenaline and other emergency measures. There is some clinical and laboratory evidence of partial cross-allergenicity of the penicillins and the cephalosporins. Patients have been reported to have had severe reactions (including anaphylaxis) to both drugs. Antibiotics, including cefazolin, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs. If an allergic reaction to Hospira™ Cefazolin Sodium Powder for Injection occurs, the drug should be discontinued and the patient treated with the usual agents (e.g. adrenaline or other pressor amines, antihistamines, or corticosteroids).

Antibiotic associated pseudomembranous colitis has been reported with many antibiotics including cefazolin. A toxin produced with Clostridium difficile appears to be the primary cause. The severity of the colitis may range from mild to life threatening. It is important to consider this diagnosis in patients who develop diarrhoea or colitis in association with antibiotic use (this may occur up to several weeks after cessation of antibiotic therapy). Mild cases usually respond to drug discontinuation alone. However, in moderate to severe cases, appropriate therapy such as oral antibacterial agents effective against Cl. difficile should be considered. Fluids, electrolytes and protein replacement should be provided when indicated.

Drugs which delay peristalsis, e.g. opiates and diphenoxylate with atropine (Lomotil) may prolong and/or worsen the condition and should not be used.

Prothrombin time-Prolonged prothrombin time may occur in patients receiving protracted antimicrobial therapy.
Prolonged use of cefazolin may result in the overgrowth of non-susceptible organisms. Careful clinical observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

The intrathecal administration of Hospira™ Cefazolin Sodium Powder for Injection is not an approved route of administration for this antibiotic; in fact, there have been reports of severe central nervous system (CNS) toxicity including seizures when cefazolin was administered in this manner.

The intraventricular administration of Hospira™ Cefazolin Sodium Powder for Injection is not an approved route of administration for this antibiotic; in fact, there have been reports of tremulousness, headache, agitation, lightheadedness and sensations of seeing flashing lights when cefazolin was administered in this manner for the treatment of infected ventricular shunts.

**History of gastrointestinal disease**
Cefazolin, as with all cephalosporins, should be prescribed with caution in individuals with a history of gastrointestinal disease.

**Impaired renal function**
As with other beta-lactam antibiotics, seizures may occur if inappropriately high doses are administered to patients with impaired renal function. When cefazolin is administered to patients with low urinary output because of impaired renal function, lower daily dosage is required (see DOSAGE AND ADMINISTRATION).

Encephalopathy has been reported with the use of cefazolin in patients with renal failure. The symptoms have included tonic-clonic seizures, lethargy, disorientation, memory loss, asterixis and multifocal myoclonus. Toxicity has been attributed to increased cefazolin serum levels and increased permeability of the blood brain barrier caused by uraemia. When cefazolin is administered to patients with low urinary output because of impaired renal function, lower daily dosage is required (see DOSAGE AND ADMINISTRATION).

**Use in pregnancy**
Category B1
Safety of this product for use during pregnancy has not been established in human clinical trials. Studies in animals are inadequate or lacking, but available data shows no evidence of an increased occurrence of foetal damage. Studies of cord blood show prompt transfer of cefazolin across the placenta. Drug levels in cord blood were approximately one quarter to one third of maternal drug levels.

**Use in lactation**
Cefazolin is present in very low concentrations in the milk of breast feeding mothers. Safety for use in lactating women has not been established.

**Use in infants**
Safety for use in premature infants and infants under one month of age has not been established.

**Carcinogenicity**
Long term studies in animals to determine the carcinogenic potential of cefazolin have not been performed.

**Genotoxicity**
Mutagenicity studies have not been performed.

**Interactions with other medicines**
Probenecid - Probenecid may decrease renal tubular secretion of cephalosporins when used concurrently, resulting in increased and more prolonged cephalosporin blood levels.
Aminoglycoside antibiotics - Coadministration of aminoglycoside antibiotics with cephalosporins could produce additive nephrotoxic effects. Use of these agents should be avoided in patients with prior renal insufficiency. If coadministration of these two antibiotic classes is necessary, patients should be monitored for evidence of nephrotoxicity.

Live typhoid vaccine - Antibiotics which possess bacterial activity against salmonella typhi organisms may interfere with the immunological response to the live typhoid vaccine. At least 24 hours should elapse between the last dose of the antibiotic and the administration of oral live typhoid vaccine.

Warfarin - Cefazolin may produce hypoprothrombinaemic and may enhance the anticoagulant effect of warfarin. Patients receiving oral anticoagulant therapy with warfarin should be closely monitored using the prothrombin time ratio or internationally normalized ratio (INR) during concurrent therapy with cefazolin. Adjustment of the warfarin dosage to maintain the desired anticoagulant effect may be necessary. An alternative would be to use a cephalosporin which does not possess hypoprothrombinaemic properties.

**Effects on laboratory tests**
A false-positive reaction for glucose in the urine may occur with Benedict's solution, Fehling's solution or with Clinitest® tablets but not with enzyme based tests, such as Clinistix® and Tes-Tape. Positive direct and indirect antiglobulin (Coombs) tests have occurred following cefazolin therapy; these may also occur in neonates whose mothers received cephalosporins before delivery.

**Ability to drive or operate machinery**
During the treatment with cefazolin, undesirable effects may occur (e.g. dizziness), which may influence the ability to drive and use machines. Patients should be cautious when driving or operating machinery.

**ADVERSE EFFECTS**
The following reactions have been reported:

Hypersensitivity - Drug fever, skin rash, vulvar pruritus, eosinophilia, itching, Stevens-Johnson syndrome, anaphylaxis have occurred. Cutaneous vasculitis may occur.

Haematological - Neutropenia, leucopenia, thrombocythaemia, thrombocytopenia, and positive direct and indirect Coombs tests have occurred.

Renal - Transient rise in BUN levels has been observed without clinical evidence of renal impairment. Interstitial nephritis and other renal disorders have been reported rarely. Most patients experiencing these effects have been seriously ill and were receiving multiple medicine therapies. The role of cefazolin in the development of nephropathies has not been determined.

Hepatic - Transient rise in AST, ALT and alkaline phosphatase levels has been observed rarely. As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.

Gastrointestinal – Nausea and vomiting have been reported rarely. Anorexia, diarrhoea, and oral candidiasis (oral thrush) have been reported. As with other broad spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy or after treatment with cefazolin (see PRECAUTIONS).

Other - Pain on IM injection sometimes with induration has occurred infrequently. Phlebitis at the site of injection. Other reactions have included genital and anal pruritus, genital moniliasis, and vaginitis

**DOSAGE AND ADMINISTRATION**
Hospira™ Cefazolin Sodium Powder for Injection may be administered intramuscularly or intravenously after reconstitution. The intrathecal administration of cefazolin is not an approved route of administration for this antibiotic; in fact, there have been reports of severe CNS toxicity including seizures when cefazolin was administered in this manner.

**Intramuscular administration:** Reconstitute with Water for Injections or 0.9% Sodium chloride Injection according to the dilution table below. Shake well until dissolved. To facilitate putting the product into solution, the vial should be warmed in the hands while shaking. Do not use the reconstituted injection solution if there is any sign of turbidity. Hospira™ Cefazolin Sodium Powder for Injection should be injected into a large muscle mass.

### DILUTION TABLE

<table>
<thead>
<tr>
<th>Vial size</th>
<th>Solvent to be added</th>
<th>Approximate available volume</th>
<th>Approximate average concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 g</td>
<td>2.5 mL</td>
<td>3 mL</td>
<td>330 mg/mL</td>
</tr>
</tbody>
</table>

**Intravenous administration:** Hospira™ Cefazolin Sodium Powder for Injection may be administered by direct IV injection or by intermittent or continuous infusion. Total daily dosages are the same as with IM injection.

**Direct intravenous injection:** Dilute the reconstituted 1 g Hospira™ Cefazolin Sodium Powder for Injection in 5 mL of Water for Injections and then dilute to 10 mL. Inject solution slowly over three to five minutes. It may be administered directly into a vein or via the giving line for a patient receiving a compatible IV solution. Cefazolin sodium has been reported to be compatible with the following IV fluids: 0.9% Sodium Chloride Injection; 5% or 10% Glucose Injection; 5% Glucose and 0.9% Sodium Chloride Injection; Lactated Ringer's Injection.

**Intermittent intravenous infusion:** Hospira™ Cefazolin Sodium Powder for Injection can be administered along with primary IV fluid management programs in a volume control set or in a separate, secondary IV infusion bag. Reconstituted cefazolin (1 g Hospira™ Cefazolin Sodium Powder for Injection) may be diluted in 50 to 100 mL of Water for Injections or one of the previously listed compatible parenteral fluids, and infused over a period of 3 to 5 minutes. If a Y-type administration set is used, it is desirable to discontinue the other solution during the infusion of the solution containing cefazolin sodium.

**Continuous intravenous infusion:** The total daily dose of cefazolin sodium, diluted and well mixed with at least 50 mL of Water for Injections, may be added to an IV infusion bag containing one of the above parenteral fluids. The choice of saline or glucose solution and the volume to be employed are dictated by fluid and electrolyte management.

**Adults**
The usual adult dosages are given in the following table. In rare instances, doses of up to 12 g of cefazolin per day have been used.

<table>
<thead>
<tr>
<th>Type of Infection</th>
<th>Dose</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumococcal pneumonia</td>
<td>500 mg</td>
<td>12 hourly</td>
</tr>
<tr>
<td>Mild infections caused by susceptible gram-positive cocci</td>
<td>250 to 500 mg</td>
<td>8 hourly</td>
</tr>
<tr>
<td>Acute uncomplicated urinary tract infections</td>
<td>1 g</td>
<td>12 hourly</td>
</tr>
<tr>
<td>Moderate to severe infections</td>
<td>500 mg to 1 g</td>
<td>6 to 8 hourly</td>
</tr>
<tr>
<td>Severe, life threatening</td>
<td>1 to 1.5 g</td>
<td>6 hourly</td>
</tr>
</tbody>
</table>
infections (e.g. endocarditis and septicaemia)

In patients with renal impairment, cefazolin is not readily excreted. After a loading dose of 500 mg, the following recommendations for maintenance dosage may be used as a guide.

**Maintenance dosage of cefazolin in adults with reduced renal function**

<table>
<thead>
<tr>
<th>Renal function</th>
<th>Serum urea* (mg)</th>
<th>Creatinine clearance (mL/min)</th>
<th>Serum creatinine (mmol/L)</th>
<th>Dosage Mild to moderate infection</th>
<th>Dosage Moderate to severe infection</th>
<th>Serum half life (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild impairment</td>
<td>20 to 34</td>
<td>70 to 40</td>
<td>115 to 180</td>
<td>250 to 500 mg 12 hourly</td>
<td>500 mg to 1.25g 12 hourly</td>
<td>3 to 5</td>
</tr>
<tr>
<td>Moderate impairment</td>
<td>34 to 49</td>
<td>40 to 20</td>
<td>181 to 310</td>
<td>125 to 250 mg 12 hourly</td>
<td>250 to 600 mg 12 hourly</td>
<td>6 to 12</td>
</tr>
<tr>
<td>Severe impairment</td>
<td>50 to 75</td>
<td>20 to 5</td>
<td>311 to 620</td>
<td>75 to 150 mg 24 hourly</td>
<td>150 to 400 mg 24 hourly</td>
<td>15 to 30</td>
</tr>
<tr>
<td>Essentially no function</td>
<td>&gt;75</td>
<td>&lt;5</td>
<td>&gt;620</td>
<td>37.5 to 75 mg 24 hourly</td>
<td>75 to 200 mg 24 hourly</td>
<td>30 to 40</td>
</tr>
</tbody>
</table>

*If used to estimate degree of renal impairment, serum urea concentrations should reflect a steady state of renal azotaemia

**Perioperative Prophylactic Use**

To prevent postoperative infection in contaminated or potentially contaminated surgery, the recommended doses are as follows:

a) 1 g IV or IM administered one half to 1 hour prior to the start of surgery;

b) For lengthy operative procedures (e.g. 2 hours or longer), 0.5 to 1 g IV or IM during surgery (administration modified according to the duration of the operative procedure);

c) 0.5 to 1 g IV or IM every 6 to 8 hours for 24 hours postoperatively.

It is important that:

1. The preoperative dose be given just prior (one half to 1 hour) to the start of surgery so that adequate antibiotic levels are present in the serum and tissues at the time of the initial surgical incision and

2. If exposure to infectious organisms is likely, Hospira™ Cephazolin Sodium for Injection be administered at appropriate intervals during surgery in order that sufficient levels of the antibiotic be present when needed.

In surgery in which infection may be particularly devastating (e.g. open-heart surgery and prosthetic arthroplasty), the prophylactic administration of Hospira™ Cephazolin Sodium for Injection may be continued for 3 to 5 days following the completion of surgery.

**Children**

A total daily dosage of 25 to 50 mg per kg of body weight, divided into three or four equal doses, is effective for most mild to moderately severe infections. Total daily dosage may be increased to 100 mg per kg of body weight for severe infections.

In children with mild to moderate impairment of renal function (creatinine clearance of 70 to 40 mL/min) 60% of the normal daily dose given in divided doses every 12 hours should be sufficient. In patients with moderate impairment (creatinine clearance of 40 to 20 mL/min) 25% of the normal daily dose given in divided doses every 12 hours should be sufficient.
In children with marked impairment (creatinine clearance of 20 to 5 mL/min) 10% of the normal daily dose given every 24 hours should be adequate. All dosage recommendations apply after an initial loading dose.

Since safety for use in premature infants and in infants under one month has not been established, the use of cefazolin in these patients is not recommended.

Paediatric dosage guide for 25 mg/kg/day dose

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>25 mg/kg/day divided into 3 doses</th>
<th>Volume needed with dilution of 125 mg/mL</th>
<th>Approximate single dose (mg/8 hours)</th>
<th>25 mg/kg/day divided into 4 doses</th>
<th>Volume needed with dilution of 125 mg/mL</th>
<th>Approximate single dose (mg/6 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5</td>
<td>40 mg</td>
<td>0.35 mL</td>
<td>75 mg</td>
<td>30 mg</td>
<td>0.25 mL</td>
<td>55 mg</td>
</tr>
<tr>
<td>9.0</td>
<td>75 mg</td>
<td>0.6 mL</td>
<td>115 mg</td>
<td>85 mg</td>
<td>0.7 mL</td>
<td>110 mg</td>
</tr>
<tr>
<td>13.6</td>
<td>115 mg</td>
<td>0.9 mL</td>
<td>150 mg</td>
<td>1.2 mL</td>
<td>0.9 mL</td>
<td>140 mg</td>
</tr>
<tr>
<td>18.1</td>
<td>190 mg</td>
<td>1.5 mL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.7</td>
<td></td>
<td></td>
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</tbody>
</table>

Paediatric dosage guide for 50 mg/kg/day dose

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>50 mg/kg/day divided into 3 doses</th>
<th>Volume needed with dilution of 225 mg/mL</th>
<th>Approximate single dose (mg/8 hours)</th>
<th>50 mg/kg/day divided into 4 doses</th>
<th>Volume needed with dilution of 225 mg/mL</th>
<th>Approximate single dose (mg/6 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5</td>
<td>75 mg</td>
<td>0.35 mL</td>
<td>150 mg</td>
<td>0.7 mL</td>
<td>0.5 mL</td>
<td>110 mg</td>
</tr>
<tr>
<td>9.0</td>
<td>150 mg</td>
<td>0.7 mL</td>
<td>225 mg</td>
<td>1 mL</td>
<td>0.75 mL</td>
<td>170 mg</td>
</tr>
<tr>
<td>13.6</td>
<td>225 mg</td>
<td>1 mL</td>
<td>300 mg</td>
<td>1.35 mL</td>
<td>1 mL</td>
<td>225 mg</td>
</tr>
<tr>
<td>18.1</td>
<td>300 mg</td>
<td>1.35 mL</td>
<td></td>
<td></td>
<td></td>
<td>285 mg</td>
</tr>
<tr>
<td>22.7</td>
<td>375 mg</td>
<td>1.7 mL</td>
<td></td>
<td></td>
<td></td>
<td>1.25 mL</td>
</tr>
</tbody>
</table>

OVERDOSAGE

**Signs and symptoms** - Toxic signs and symptoms following an overdose of cefazolin may include pain, inflammation and phlebitis at the injection site.

The administration of inappropriately large doses of parenteral cephalosporins may cause dizziness, paraesthesias and headaches. Seizures may occur following overdosage with some cephalosporins, particularly in patients with renal impairment in whom accumulation is likely to occur.

Laboratory abnormalities that may occur after an overdose include elevations in creatinine, serum urea, liver enzymes and bilirubin, a positive Coombs test, thrombocytosis, thrombocytopenia, eosinophilia, leucopenia and prolongation of the prothrombin time.

**Treatment** - In managing overdosage, consider the possibility of multiple drug overdoses, interaction among drugs and unusual drug kinetics in your patient.

If seizures occur, the drug should be discontinued promptly; anticonvulsant therapy may be administered if clinically indicated. Protect the patient’s airway and support ventilation and perfusion. Meticulously monitor and maintain, within acceptable limits, the patient’s vital signs, blood gases, serum electrolytes, etc.
In cases of severe overdosage, especially in a patient with renal failure, combined haemodialysis and haemoperfusion may be considered if response to more conservative therapy fails. However, no data supporting such therapy are available.

In case of overdose, immediately contact the Poisons Information Centre for advice. (In New Zealand call 0800 764 766).
PRESENTATION AND STORAGE CONDITIONS
White to off white powder, filled in 10 mL clear glass moulded Type 1 vial, sealed with a bromo butyl rubber stopper and flip-off seal

**Strength**
Hospira™ Cefazolin Sodium Powder for Injection contains cefazolin sodium equivalent to cefazolin 1g

**Pack Size**
5 x 10mL vials

Powder for Injection: Store below 25°C. Protect from light and moisture.
Reconstituted solution: **To reduce microbiological hazard, use as soon as practicable after dilution. If storage is necessary, hold at 2-8°C for not more than 24 hours**

Product is for single use in one patient only

NAME AND ADDRESS OF THE SPONSOR
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MEDICINE CLASSIFICATION
Prescription Medicine

DATE OF PREPARATION
09 February 2017