

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use CEFTIN® safely and effectively. See full prescribing information for CEFTIN.

CEFTIN (cefuroxime axetil) tablets, for oral use
CEFTIN (cefuroxime axetil) for oral suspension
Initial U.S. Approval: 1987

RECENT MAJOR CHANGES

Indications and Usage, Acute Bacterial Exacerbations of Chronic Bronchitis and Secondary Bacterial Infections of Acute Bronchitis: Secondary Bacterial Infections of Acute Bronchitis (1.4)-Removed 11/2016
 Dosage and Administration, Dosage for CEFTIN Tablets: Secondary Bacterial Infections of Acute Bronchitis (2.2)-Removed 11/2016

INDICATIONS AND USAGE

CEFTIN is a cephalosporin antibacterial drug indicated for the treatment of the following infections due to susceptible bacteria: (1)

- Pharyngitis/tonsillitis (adults and pediatric patients) (1.1)
- Acute bacterial otitis media (pediatric patients) (1.2)
- Acute bacterial maxillary sinusitis (adults and pediatric patients) (1.3)
- Acute bacterial exacerbations of chronic bronchitis (adults and pediatric patients 13 years and older) (1.4)
- Uncomplicated skin and skin-structure infections (adults and pediatric patients 13 years and older) (1.5)
- Uncomplicated urinary tract infections (adults and pediatric patients 13 years and older) (1.6)
- Uncomplicated gonorrhea (adults and pediatric patients 13 years and older) (1.7)
- Early Lyme disease (adults and pediatric patients 13 years and older) (1.8)
- Impetigo (pediatric patients) (1.9)

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

DOSAGE AND ADMINISTRATION

- Tablets and oral suspension are not bioequivalent and are therefore not substitutable on a milligram-per-milligram basis. (2.1)
- Administer tablets with or without food. (2.2)
- Administer oral suspension with food. (2.3)
- Administer CEFTIN tablets or CEFTIN for oral suspension as described in the dosage guidelines. (2.2, 2.3, 2.4)
- Dosage adjustment is required for patients with impaired renal function. (2.5)

Infection	Dosage	Duration (Days)
Adults and Adolescents (13 years and older)		
Pharyngitis/tonsillitis (mild to moderate)	250 mg every 12 hours	10
Acute bacterial maxillary sinusitis (mild to moderate)	250 mg every 12 hours	10
Acute bacterial exacerbations of chronic bronchitis (mild to moderate)	250 or 500 mg every 12 hours	10

Uncomplicated skin and skin-structure infections	250 or 500 mg every 12 hours	10
Uncomplicated urinary tract infections	250 mg every 12 hours	7 to 10
Uncomplicated gonorrhea	1,000 mg	single dose
Early Lyme disease	500 mg every 12 hours	20
Pediatric Patients younger than 13 years (who can swallow tablets whole)		
Acute bacterial otitis media	250 mg every 12 hours	10
Acute bacterial maxillary sinusitis	250 mg every 12 hours	10

Pediatric Patients (3 months to 12 years) Dosage Guidelines for CEFTIN for Oral Suspension

Infection	Recommended Daily Dose ^a	Maximum Daily Dose	Duration (Days)
Pharyngitis/tonsillitis	20 mg/kg	500 mg	10
Acute bacterial otitis media	30 mg/kg	1,000 mg	10
Acute bacterial maxillary sinusitis (mild to moderate)	30 mg/kg	1,000 mg	10
Impetigo	30 mg/kg	1,000 mg	10

^a Total daily dose given twice daily divided in equal doses.

DOSAGE FORMS AND STRENGTHS

- Tablets: 250 mg and 500 mg (3)
- For oral suspension: 125 mg/5 mL and 250 mg/5 mL (3)

CONTRAINDICATIONS

Known hypersensitivity (e.g., anaphylaxis) to CEFTIN or to other β-lactams (e.g., penicillins and cephalosporins). (4)

WARNINGS AND PRECAUTIONS

- Serious hypersensitivity (anaphylactic) reactions: In the event of a serious reaction, discontinue CEFTIN and institute appropriate therapy. (5.1)
- *Clostridium difficile*-associated diarrhea (CDAD): If diarrhea occurs, evaluate patients for CDAD. (5.2)

ADVERSE REACTIONS

The most common adverse reactions (≥3%) for CEFTIN tablets are diarrhea, nausea/vomiting, Jarisch-Herxheimer reaction, and vaginitis (early Lyme disease). (6.1)

The most common adverse reactions (≥2%) for CEFTIN for oral suspension are diarrhea, dislike of taste, diaper rash, and nausea/vomiting. (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact GlaxoSmithKline at 1-888-825-5249 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

DRUG INTERACTIONS

- Oral Contraceptives: Effects on gut flora may lower estrogen reabsorption and reduce efficacy of oral contraceptives. (7.1)
- Drugs that reduce gastric acidity may lower the bioavailability of CEFTIN. (7.2)
- Coadministration with probenecid increases systemic exposure to CEFTIN and is therefore not recommended. (7.3)

See 17 for PATIENT COUNSELING INFORMATION.

Revised: 11/2016

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1 **FULL PRESCRIBING INFORMATION**

2 **1 INDICATIONS AND USAGE**

3 **1.1 Pharyngitis/Tonsillitis**

4 CEFTIN tablets are indicated for the treatment of adult patients and pediatric patients (13 years
5 and older) with mild-to-moderate pharyngitis/tonsillitis caused by susceptible strains of
6 *Streptococcus pyogenes*.

7 CEFTIN for oral suspension is indicated for the treatment of pediatric patients aged 3 months to
8 12 years with mild-to-moderate pharyngitis/tonsillitis caused by susceptible strains of
9 *Streptococcus pyogenes*.

10 Limitations of Use

- 11 • The efficacy of CEFTIN in the prevention of rheumatic fever was not established in clinical
12 trials.
- 13 • The efficacy of CEFTIN in the treatment of penicillin-resistant strains of *Streptococcus*
14 *pyogenes* has not been demonstrated in clinical trials.

15 **1.2 Acute Bacterial Otitis Media**

16 CEFTIN tablets are indicated for the treatment of pediatric patients (who can swallow tablets
17 whole) with acute bacterial otitis media caused by susceptible strains of *Streptococcus*
18 *pneumoniae*, *Haemophilus influenzae* (including β -lactamase-producing strains), *Moraxella*
19 *catarrhalis* (including β -lactamase-producing strains), or *Streptococcus pyogenes*.

20 CEFTIN for oral suspension is indicated for the treatment of pediatric patients aged 3 months to
21 12 years with acute bacterial otitis media caused by susceptible strains of *Streptococcus*
22 *pneumoniae*, *Haemophilus influenzae* (including β -lactamase-producing strains), *Moraxella*
23 *catarrhalis* (including β -lactamase-producing strains), or *Streptococcus pyogenes*.

24 **1.3 Acute Bacterial Maxillary Sinusitis**

25 CEFTIN tablets are indicated for the treatment of adult and pediatric patients (13 years and
26 older) with mild-to-moderate acute bacterial maxillary sinusitis caused by susceptible strains of

27 *Streptococcus pneumoniae* or *Haemophilus influenzae* (non- β -lactamase-producing strains
28 only).

29 CEFTIN for oral suspension is indicated for the treatment of pediatric patients aged 3 months to
30 12 years with mild-to-moderate acute bacterial maxillary sinusitis caused by susceptible strains
31 of *Streptococcus pneumoniae* or *Haemophilus influenzae* (non- β -lactamase-producing strains
32 only).

33 Limitations of Use

34 The effectiveness of CEFTIN for sinus infections caused by β -lactamase-producing
35 *Haemophilus influenzae* or *Moraxella catarrhalis* in patients with acute bacterial maxillary
36 sinusitis was not established due to insufficient numbers of these isolates in the clinical trials
37 [see *Clinical Studies (14.1)*].

38 **1.4 Acute Bacterial Exacerbations of Chronic Bronchitis**

39 CEFTIN tablets are indicated for the treatment of adult patients and pediatric patients (aged 13
40 and older) with mild-to-moderate acute bacterial exacerbations of chronic bronchitis caused by
41 susceptible strains of *Streptococcus pneumoniae*, *Haemophilus influenzae* (β -lactamase-negative
42 strains), or *Haemophilus parainfluenzae* (β -lactamase-negative strains).

43 **1.5 Uncomplicated Skin and Skin-Structure Infections**

44 CEFTIN tablets are indicated for the treatment of adult patients and pediatric patients (aged 13
45 and older) with uncomplicated skin and skin-structure infections caused by susceptible strains of
46 *Staphylococcus aureus* (including β -lactamase-producing strains) or *Streptococcus pyogenes*.

47 **1.6 Uncomplicated Urinary Tract Infections**

48 CEFTIN tablets are indicated for the treatment of adult patients and pediatric patients (aged 13
49 and older) with uncomplicated urinary tract infections caused by susceptible strains of
50 *Escherichia coli* or *Klebsiella pneumoniae*.

51 **1.7 Uncomplicated Gonorrhea**

52 CEFTIN tablets are indicated for the treatment of adult patients and pediatric patients (aged 13
53 and older) with uncomplicated gonorrhea, urethral and endocervical, caused by penicillinase-
54 producing and non-penicillinase-producing susceptible strains of *Neisseria gonorrhoeae* and
55 uncomplicated gonorrhea, rectal, in females, caused by non-penicillinase-producing susceptible
56 strains of *Neisseria gonorrhoeae*.

57 **1.8 Early Lyme Disease (erythema migrans)**

58 CEFTIN tablets are indicated for the treatment of adult patients and pediatric patients (aged 13
59 and older) with early Lyme disease (erythema migrans) caused by susceptible strains of *Borrelia*
60 *burgdorferi*.

61 **1.9 Impetigo**

62 CEFTIN for oral suspension is indicated for the treatment of pediatric patients aged 3 months to
63 12 years with impetigo caused by susceptible strains of *Staphylococcus aureus* (including β -
64 lactamase-producing strains) or *Streptococcus pyogenes*.

65 **1.10 Usage**

66 To reduce the development of drug-resistant bacteria and maintain the effectiveness of CEFTIN
67 and other antibacterial drugs, CEFTIN should be used only to treat or prevent infections that are
68 proven or strongly suspected to be caused by susceptible bacteria. When culture and
69 susceptibility information are available, they should be considered in selecting or modifying
70 antibacterial therapy. In the absence of such data, local epidemiology and susceptibility patterns
71 may contribute to the empiric selection of therapy.

72 **2 DOSAGE AND ADMINISTRATION**

73 **2.1 Important Administration Instructions**

- 74 • CEFTIN tablets and CEFTIN for oral suspension are not bioequivalent and are therefore not
75 substitutable on a milligram-per-milligram basis [see *Clinical Pharmacology* (12.3)].
- 76 • Administer CEFTIN tablets or oral suspension as described in the appropriate dosage
77 guidelines [see *Dosage and Administration* (2.2, 2.3, 2.4)].
- 78 • Administer CEFTIN tablets with or without food.
- 79 • Administer CEFTIN for oral suspension with food.
- 80 • Pediatric patients (aged 13 years and older) who cannot swallow the CEFTIN tablets whole
81 should receive CEFTIN for oral suspension because the tablet has a strong, persistent bitter
82 taste when crushed [see *Dosage and Administration* (2.2)].

83 **2.2 Dosage for CEFTIN Tablets**

84 Administer CEFTIN tablets as described in the dosage guidelines table below with or without
85 food.

86 **Table 1. Adult Patients and Pediatric Patients Dosage Guidelines for CEFTIN Tablets**

Infection	Dosage	Duration (Days)
Adults and Adolescents (13 years and older)		
Pharyngitis/tonsillitis (mild to moderate)	250 mg every 12 hours	10
Acute bacterial maxillary sinusitis (mild to moderate)	250 mg every 12 hours	10
Acute bacterial exacerbations of chronic bronchitis (mild to moderate)	250 or 500 mg every 12 hours	10 ^a
Uncomplicated skin and skin-structure infections	250 or 500 mg every 12 hours	10
Uncomplicated urinary tract infections	250 mg every 12 hours	7 to 10
Uncomplicated gonorrhea	1,000 mg	single dose
Early Lyme disease	500 mg every 12 hours	20
Pediatric Patients younger than 13 years (who can swallow tablets whole)^b		
Acute bacterial otitis media	250 mg every 12 hours	10
Acute bacterial maxillary sinusitis	250 mg every 12 hours	10

87 ^a The safety and effectiveness of CEFTIN administered for less than 10 days in patients with
 88 acute exacerbations of chronic bronchitis have not been established.

89 ^b When crushed, the tablet has a strong, persistent bitter taste. Therefore, patients who cannot
 90 swallow the tablet whole should receive the oral suspension.

91 **2.3 Dosage for CEFTIN for Oral Suspension**

92 Administer CEFTIN for oral suspension as described in the dosage guidelines table below with
 93 food.

94 **Table 2. Pediatric Patients (3 months to 12 years) Dosage Guidelines for CEFTIN for Oral**
 95 **Suspension**

Infection	Recommended Daily Dose ^a	Maximum Daily Dose	Duration (Days)
Pharyngitis/tonsillitis	20 mg/kg	500 mg	10
Acute bacterial otitis media	30 mg/kg	1,000 mg	10
Acute bacterial maxillary sinusitis	30 mg/kg	1,000 mg	10
Impetigo	30 mg/kg	1,000 mg	10

96 ^a Recommended daily dose given twice daily divided in equal doses.

97 **2.4 Preparation and Administration of CEFTIN for Oral Suspension**

98 Prepare a suspension at the time of dispensing as follows:

- 99 1. Shake the bottle to loosen the powder.
- 100 2. Remove the cap.
- 101 3. Add the total amount of water for reconstitution (Table 3) and replace the cap.
- 102 4. Invert the bottle and vigorously rock the bottle from side to side so that water rises through
- 103 the powder.

- 104 5. Once the sound of the powder against the bottle disappears, turn the bottle upright and
 105 vigorously shake it in a diagonal direction.

106 **Table 3. Amount of Water Required for Reconstitution of Labeled Volumes of CEFTIN for**
 107 **Oral Suspension**

Oral Suspension	Amount of Water Required for Reconstitution	Labeled Volume after Reconstitution
125 mg/5 mL	37 mL	100 mL
250 mg/5 mL	19 mL	50 mL
	35 mL	100 mL

- 108 • Shake the oral suspension well before each use.
 109 • Replace cap securely after each opening.
 110 • Store the reconstituted suspension refrigerated between 2° and 8°C (36° and 46°F).
 111 • Discard the reconstituted suspension after 10 days.

112 **2.5 Dosage in Patients with Impaired Renal Function**

113 A dosage interval adjustment is required for patients whose creatinine clearance is <30 mL/min,
 114 as listed in Table 4 below, because cefuroxime is eliminated primarily by the kidney [*see*
 115 *Clinical Pharmacology (12.3)*].

116 **Table 4. Dosing in Adults with Renal Impairment**

Creatinine Clearance (mL/min)	Recommended Dosage
≥30	No dosage adjustment
10 to <30	Standard individual dose given every 24 hours
<10 (without hemodialysis)	Standard individual dose given every 48 hours
Hemodialysis	A single additional standard dose should be given at the end of each dialysis

117 **3 DOSAGE FORMS AND STRENGTHS**

118 CEFTIN tablets are white, capsule-shaped, film-coated tablets available in the following
 119 strengths:

- 120 • 250 mg of cefuroxime (as cefuroxime axetil) with "GX ES7" engraved on one side and blank
 121 on the other side.
 122 • 500 mg of cefuroxime (as cefuroxime axetil) with "GX EG2" engraved on one side and blank
 123 on the other side.

124 CEFTIN for oral suspension is provided as dry, white to off-white, tutti-frutti-flavored powder.
 125 When reconstituted as directed, the suspension provides the equivalent of 125 mg or 250 mg of
 126 cefuroxime (as cefuroxime axetil) per 5 mL.

127 **4 CONTRAINDICATIONS**

128 CEFTIN is contraindicated in patients with a known hypersensitivity (e.g., anaphylaxis) to
129 CEFTIN or to other β -lactam antibacterial drugs (e.g., penicillins and cephalosporins).

130 **5 WARNINGS AND PRECAUTIONS**

131 **5.1 Anaphylactic Reactions**

132 Serious and occasionally fatal hypersensitivity (anaphylactic) reactions have been reported in
133 patients on β -lactam antibacterials. These reactions are more likely to occur in individuals with a
134 history of β -lactam hypersensitivity and/or a history of sensitivity to multiple allergens. There
135 have been reports of individuals with a history of penicillin hypersensitivity who have
136 experienced severe reactions when treated with cephalosporins. CEFTIN is contraindicated in
137 patients with a known hypersensitivity to CEFTIN or other β -lactam antibacterial drugs [*see*
138 *Contraindications (4)*]. Before initiating therapy with CEFTIN, inquire about previous
139 hypersensitivity reactions to penicillins, cephalosporins, or other allergens. If an allergic reaction
140 occurs, discontinue CEFTIN and institute appropriate therapy.

141 **5.2 *Clostridium difficile*-Associated Diarrhea**

142 *Clostridium difficile*-associated diarrhea (CDAD) has been reported with use of nearly all
143 antibacterial agents, including CEFTIN, and may range in severity from mild diarrhea to fatal
144 colitis. Treatment with antibacterial agents alters the normal flora of the colon leading to
145 overgrowth of *C. difficile*.

146 *C. difficile* produces toxins A and B which contribute to the development of CDAD. Hypertoxin-
147 producing strains of *C. difficile* cause increased morbidity and mortality, as these infections can
148 be refractory to antimicrobial therapy and may require colectomy. CDAD must be considered in
149 all patients who present with diarrhea following antibiotic use. Careful medical history is
150 necessary since CDAD has been reported to occur over 2 months after the administration of
151 antibacterial agents.

152 If CDAD is suspected or confirmed, ongoing antibiotic use not directed against *C. difficile* may
153 need to be discontinued. Appropriate fluid and electrolyte management, protein supplementation,
154 antibiotic treatment of *C. difficile*, and surgical evaluation should be instituted as clinically
155 indicated.

156 **5.3 Potential for Microbial Overgrowth**

157 The possibility of superinfections with fungal or bacterial pathogens should be considered during
158 therapy.

159 **5.4 Development of Drug-Resistant Bacteria**

160 Prescribing CEFTIN either in the absence of a proven or strongly suspected bacterial infection or
161 a prophylactic indication is unlikely to provide benefit to the patient and increases the risk of the
162 development of drug-resistant bacteria.

163 **5.5 Phenylketonuria**

164 CEFTIN for oral suspension 125 mg/5 mL contains phenylalanine 11.8 mg per 5 mL
165 (1 teaspoonful) of reconstituted suspension. CEFTIN for oral suspension 250 mg/5 mL contains
166 phenylalanine 25.2 mg per 5 mL (1 teaspoonful) of reconstituted suspension.

167 **5.6 Interference with Glucose Tests**

168 A false-positive result for glucose in the urine may occur with copper reduction tests, and a
169 false-negative result for blood/plasma glucose may occur with ferricyanide tests in subjects
170 receiving CEFTIN [*see Drug Interactions (7.4)*].

171 **6 ADVERSE REACTIONS**

172 The following serious and otherwise important adverse reaction is described in greater detail in
173 the Warnings and Precautions section of the label:

174 Anaphylactic Reactions [*see Warnings and Precautions (5.1)*]

175 **6.1 Clinical Trials Experience**

176 Because clinical trials are conducted under widely varying conditions, adverse reaction rates
177 observed in the clinical trials of a drug cannot be directly compared with rates in the clinical
178 trials of another drug and may not reflect the rates observed in practice.

179 Tablets

180 *Multiple-Dose Dosing Regimens with 7 to 10 Days' Duration:* In multiple-dose clinical
181 trials, 912 subjects were treated with CEFTIN (125 to 500 mg twice daily). It is noted that 125
182 mg twice daily is not an approved dosage. Twenty (2.2%) subjects discontinued medication due
183 to adverse reactions. Seventeen (85%) of the 20 subjects who discontinued therapy did so
184 because of gastrointestinal disturbances, including diarrhea, nausea, vomiting, and abdominal
185 pain. The percentage of subjects treated with CEFTIN who discontinued study drug because of
186 adverse reactions was similar at daily doses of 1,000, 500, and 250 mg (2.3%, 2.1%, and 2.2%,
187 respectively). However, the incidence of gastrointestinal adverse reactions increased with the
188 higher recommended doses.

189 The adverse reactions in Table 5 are for subjects (n = 912) treated with CEFTIN in multiple-dose
190 clinical trials.

191 **Table 5. Adverse Reactions ($\geq 1\%$) after Multiple-Dose Regimens with CEFTIN Tablets**

Adverse Reaction	CEFTIN (n = 912)
Blood and lymphatic system disorders	
Eosinophilia	1%
Gastrointestinal disorders	
Diarrhea	4%
Nausea/Vomiting	3%
Investigations	
Transient elevation in AST	2%
Transient elevation in ALT	2%
Transient elevation in LDH	1%

192 The following adverse reactions occurred in less than 1% but greater than 0.1% of subjects
 193 (n = 912) treated with CEFTIN in multiple-dose clinical trials.

194 *Immune System Disorders:* Hives, swollen tongue.

195 *Metabolism and Nutrition Disorders:* Anorexia.

196 *Nervous System Disorders:* Headache.

197 *Cardiac Disorders:* Chest pain.

198 *Respiratory Disorders:* Shortness of breath.

199 *Gastrointestinal Disorders:* Abdominal pain, abdominal cramps, flatulence,
 200 indigestion, mouth ulcers.

201 *Skin and Subcutaneous Tissue Disorders:* Rash, itch.

202 *Renal and Urinary Disorders:* Dysuria.

203 *Reproductive System and Breast Disorders:* Vaginitis, vulvar itch.

204 *General Disorders and Administration Site Conditions:* Chills, sleepiness, thirst.

205 *Investigations:* Positive Coombs' test.

206 *Early Lyme Disease with 20-Day Regimen:* Two multicenter trials assessed CEFTIN 500 mg
 207 twice daily for 20 days. The most common drug-related adverse experiences were diarrhea
 208 (10.6%), Jarisch-Herxheimer reaction (5.6%), and vaginitis (5.4%). Other adverse experiences
 209 occurred with frequencies comparable to those reported with 7 to 10 days' dosing.

210 *Single-Dose Regimen for Uncomplicated Gonorrhea:* In clinical trials using a single 1,000-
 211 mg dose of CEFTIN, 1,061 subjects were treated for uncomplicated gonorrhea.

212 The adverse reactions in Table 6 were for subjects treated with a single dose of 1,000 mg
 213 CEFTIN in U.S. clinical trials.

214 **Table 6. Adverse Reactions ($\geq 1\%$) after Single-Dose Regimen with 1,000-mg CEFTIN**
 215 **Tablets for Uncomplicated Gonorrhea**

Adverse Reaction	CEFTIN (n = 1,061)
Gastrointestinal disorders	
Nausea/Vomiting	7%
Diarrhea	4%

216 The following adverse reactions occurred in less than 1% but greater than 0.1% of subjects
 217 (n = 1,061) treated with a single dose of CEFTIN 1,000 mg for uncomplicated gonorrhea in U.S.
 218 clinical trials.

219 *Infections and Infestations:* Vaginal candidiasis.

220 *Nervous System Disorders:* Headache, dizziness, somnolence.

221 *Cardiac Disorders:* Tightness/pain in chest, tachycardia.

222 *Gastrointestinal Disorders:* Abdominal pain, dyspepsia.

223 *Skin and Subcutaneous Tissue Disorders:* Erythema, rash, pruritus.

224 *Musculoskeletal and Connective Tissue Disorders:* Muscle cramps, muscle stiffness,
 225 muscle spasm of neck, lockjaw-type reaction.

226 *Renal and Urinary Disorders:* Bleeding/pain in urethra, kidney pain.

227 *Reproductive System and Breast Disorders:* Vaginal itch, vaginal discharge.

228 Oral Suspension

229 In clinical trials using multiple doses of CEFTIN, pediatric subjects (96.7% were younger than
 230 12 years) were treated with CEFTIN (20 to 30 mg/kg/day divided twice daily up to a maximum
 231 dose of 500 or 1,000 mg/day, respectively). Eleven (1.2%) U.S. subjects discontinued medication
 232 due to adverse reactions. The discontinuations were primarily for gastrointestinal disturbances,
 233 usually diarrhea or vomiting. Thirteen (1.4%) U.S. pediatric subjects discontinued therapy due to
 234 the taste and/or problems with drug administration.

235 The adverse reactions in Table 7 are for U.S. subjects (n = 931) treated with CEFTIN in
 236 multiple-dose clinical trials.

237 **Table 7. Adverse Reactions ($\geq 1\%$) after Multiple-Dose Regimens with CEFTIN for Oral**
 238 **Suspension**

Adverse Reaction	CEFTIN (n = 931)
Gastrointestinal disorders	
Diarrhea	9%
Dislike of taste	5%
Nausea/vomiting	3%
Skin and subcutaneous tissue disorders	
Diaper rash	3%

239 The following adverse reactions occurred in less than 1% but greater than 0.1% of U.S. subjects
 240 (n = 931) treated with CEFTIN for oral suspension in multiple-dose clinical trials.

241 *Infections and Infestations:* Gastrointestinal infection, candidiasis, viral illness, upper
 242 respiratory infection, sinusitis, urinary tract infection.

243 *Blood and Lymphatic System Disorders:* Eosinophilia.

244 *Psychiatric Disorders:* Hyperactivity, irritable behavior.

245 *Gastrointestinal Disorders:* Abdominal pain, flatulence, ptyalism.

246 *Skin and Subcutaneous Tissue Disorders:* Rash.

247 *Musculoskeletal and Connective Tissue Disorders:* Joint swelling, arthralgia.

248 *Reproductive System and Breast Disorders:* Vaginal irritation.

249 *General Disorders and Administration Site Conditions:* Cough, fever.

250 *Investigations:* Elevated liver enzymes, positive Coombs' test.

251 **6.2 Postmarketing Experience**

252 The following adverse reactions have been identified during post-approval use of CEFTIN.
 253 Because these reactions are reported voluntarily from a population of uncertain size, it is not
 254 always possible to reliably estimate their frequency or establish a causal relationship to drug
 255 exposure.

256 Blood and Lymphatic System Disorders

257 Hemolytic anemia, leukopenia, pancytopenia, thrombocytopenia.

258 Gastrointestinal Disorders

259 Pseudomembranous colitis [see Warnings and Precautions (5.2)].

260 Hepatobiliary Disorders

261 Hepatic impairment including hepatitis and cholestasis, jaundice.

262 Immune System Disorders

263 Anaphylaxis, serum sickness-like reaction.

264 Investigations

265 Increased prothrombin time.

266 Nervous System Disorders

267 Seizure, encephalopathy.

268 Renal and Urinary Disorders

269 Renal dysfunction.

270 Skin and Subcutaneous Tissue Disorders

271 Angioedema, erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis,
272 urticaria.

273 **7 DRUG INTERACTIONS**

274 **7.1 Oral Contraceptives**

275 Cefuroxime axetil may affect the gut flora, leading to lower estrogen reabsorption and reduced
276 efficacy of combined oral estrogen/progesterone contraceptives. Counsel patients to consider
277 alternate supplementary (non-hormonal) contraceptive measures during treatment.

278 **7.2 Drugs that Reduce Gastric Acidity**

279 Drugs that reduce gastric acidity may result in a lower bioavailability of CEFTIN compared with
280 administration in the fasting state. Administration of drugs that reduce gastric acidity may negate
281 the food effect of increased absorption of CEFTIN when administered in the postprandial state.
282 Administer CEFTIN at least 1 hour before or 2 hours after administration of short-acting
283 antacids. Histamine-2 (H₂) antagonists and proton pump inhibitors should be avoided.

284 **7.3 Probenecid**

285 Concomitant administration of probenecid with cefuroxime axetil tablets increases serum
286 concentrations of cefuroxime [*see Clinical Pharmacology (12.3)*]. Coadministration of
287 probenecid with cefuroxime axetil is not recommended.

288 **7.4 Drug/Laboratory Test Interactions**

289 A false-positive reaction for glucose in the urine may occur with copper reduction tests (e.g.,
290 Benedict's or Fehling's solution), but not with enzyme-based tests for glycosuria. As a
291 false-negative result may occur in the ferricyanide test, it is recommended that either the glucose
292 oxidase or hexokinase method be used to determine blood/plasma glucose levels in patients
293 receiving cefuroxime axetil. The presence of cefuroxime does not interfere with the assay of
294 serum and urine creatinine by the alkaline picrate method.

295 **8 USE IN SPECIFIC POPULATIONS**

296 **8.1 Pregnancy**

297 Pregnancy Category B. There are no adequate and well-controlled studies in pregnant women.
298 Because animal reproduction studies are not always predictive of human response, CEFTIN
299 should be used during pregnancy only if clearly needed.

300 Reproduction studies have been performed in mice at doses up to 3,200 mg/kg/day (14 times the
301 recommended maximum human dose based on body surface area) and in rats at doses up to
302 1,000 mg/kg/day (9 times the recommended maximum human dose based on body surface area)
303 and have revealed no evidence of impaired fertility or harm to the fetus due to cefuroxime axetil.

304 **8.3 Nursing Mothers**

305 Because cefuroxime is excreted in human milk, caution should be exercised when CEFTIN is
306 administered to a nursing woman.

307 **8.4 Pediatric Use**

308 The safety and effectiveness of CEFTIN have been established for pediatric patients aged
309 3 months to 12 years for acute bacterial maxillary sinusitis based upon its approval in adults. Use
310 of CEFTIN in pediatric patients is supported by pharmacokinetic and safety data in adults and
311 pediatric patients, and by clinical and microbiological data from adequate and well-controlled
312 trials of the treatment of acute bacterial maxillary sinusitis in adults and of acute otitis media
313 with effusion in pediatric patients. It is also supported by postmarketing adverse events
314 surveillance. [*See Indications and Usage (1), Dosage and Administration (2), Adverse Reactions*
315 *(6), Clinical Pharmacology (12.3).*]

316 **8.5 Geriatric Use**

317 Of the total number of subjects who received CEFTIN in 20 clinical trials, 375 were aged 65 and
318 older while 151 were aged 75 and older. No overall differences in safety or effectiveness were
319 observed between these subjects and younger adult subjects. Reported clinical experience has
320 not identified differences in responses between the elderly and younger adult patients, but
321 greater sensitivity of some older individuals cannot be ruled out.

322 Cefuroxime is substantially excreted by the kidney, and the risk of adverse reactions may be
323 greater in patients with impaired renal function. Because elderly patients are more likely to have
324 decreased renal function, care should be taken in dose selection, and it may be useful to monitor
325 renal function.

326 **8.6 Renal Impairment**

327 Reducing the dosage of CEFTIN is recommended for adult patients with severe renal
328 impairment (creatinine clearance <30 mL/min) [*see Dosage and Administration (2.5), Clinical*
329 *Pharmacology (12.3)*].

355 **12.3 Pharmacokinetics**

356 Absorption

357 After oral administration, cefuroxime axetil is absorbed from the gastrointestinal tract and
358 rapidly hydrolyzed by nonspecific esterases in the intestinal mucosa and blood to cefuroxime.
359 Serum pharmacokinetic parameters for cefuroxime following administration of CEFTIN tablets
360 to adults are shown in Table 8.

361 **Table 8. Pharmacokinetics of Cefuroxime Administered in the Postprandial State as**
362 **CEFTIN Tablets to Adults^a**

Dose^b (Cefuroxime Equivalent)	Peak Plasma Concentration (mcg/mL)	Time of Peak Plasma Concentration (h)	Mean Elimination Half-life (h)	AUC (mcg•h/mL)
125 mg	2.1	2.2	1.2	6.7
250 mg	4.1	2.5	1.2	12.9
500 mg	7.0	3.0	1.2	27.4
1,000 mg	13.6	2.5	1.3	50.0

363 ^a Mean values of 12 healthy adult volunteers.

364 ^b Drug administered immediately after a meal.

365 *Food Effect:* Absorption of the tablet is greater when taken after food (absolute bioavailability
366 increases from 37% to 52%). Despite this difference in absorption, the clinical and bacteriologic
367 responses of subjects were independent of food intake at the time of tablet administration in
368 2 trials where this was assessed.

369 All pharmacokinetic and clinical effectiveness and safety trials in pediatric subjects using the
370 suspension formulation were conducted in the fed state. No data are available on the absorption
371 kinetics of the suspension formulation when administered to fasted pediatric subjects.

372 *Lack of Bioequivalence:* Oral suspension was not bioequivalent to tablets when tested in
373 healthy adults. The tablet and oral suspension formulations are NOT substitutable on a
374 milligram-per-milligram basis. The area under the curve for the suspension averaged 91% of that
375 for the tablet, and the peak plasma concentration for the suspension averaged 71% of the peak
376 plasma concentration of the tablets. Therefore, the safety and effectiveness of both the tablet and
377 oral suspension formulations were established in separate clinical trials.

378 Distribution

379 Cefuroxime is distributed throughout the extracellular fluids. Approximately 50% of serum
380 cefuroxime is bound to protein.

381 Metabolism

382 The axetil moiety is metabolized to acetaldehyde and acetic acid.

383 Excretion

384 Cefuroxime is excreted unchanged in the urine; in adults, approximately 50% of the administered
385 dose is recovered in the urine within 12 hours. The pharmacokinetics of cefuroxime in pediatric
386 subjects have not been studied. Until further data are available, the renal elimination of
387 cefuroxime axetil established in adults should not be extrapolated to pediatric subjects.

388 Specific Populations

389 *Renal Impairment:* In a trial of 28 adults with normal renal function or severe renal impairment
390 (creatinine clearance <30 mL/min), the elimination half-life was prolonged in relation to severity
391 of renal impairment. Prolongation of the dosage interval is recommended in adult patients with
392 creatinine clearance <30 mL/min [see *Dosage and Administration (2.5)*].

393 *Pediatric Patients:* Serum pharmacokinetic parameters for cefuroxime in pediatric subjects
394 administered CEFTIN for oral suspension are shown in Table 9.

395 **Table 9. Pharmacokinetics of Cefuroxime Administered in the Postprandial State as**
396 **CEFTIN for Oral Suspension to Pediatric Subjects^a**

Dose^b (Cefuroxime Equivalent)	n	Peak Plasma Concentration (mcg/mL)	Time of Peak Plasma Concentration (h)	Mean Elimination Half-life (h)	AUC (mcg•h/mL)
10 mg/kg	8	3.3	3.6	1.4	12.4
15 mg/kg	12	5.1	2.7	1.9	22.5
20 mg/kg	8	7.0	3.1	1.9	32.8

397 ^a Mean age = 23 months.

398 ^b Drug administered with milk or milk products.

399 *Geriatric Patients:* In a trial of 20 elderly subjects (mean age = 83.9 years) having a mean
400 creatinine clearance of 34.9 mL/min, the mean serum elimination half-life was prolonged to
401 3.5 hours; however, despite the lower elimination of cefuroxime in geriatric patients, dosage
402 adjustment based on age is not necessary [see *Use in Specific Populations (8.5)*].

403 Drug Interactions

404 Concomitant administration of probenecid with cefuroxime axetil tablets increases the
405 cefuroxime area under the serum concentration versus time curve and maximum serum
406 concentration by 50% and 21%, respectively.

407 **12.4 Microbiology**

408 Mechanism of Action

409 Cefuroxime axetil is a bactericidal agent that acts by inhibition of bacterial cell wall synthesis.
410 Cefuroxime axetil has activity in the presence of some β -lactamases, both penicillinases and
411 cephalosporinases, of gram-negative and gram-positive bacteria.

412 Mechanism of Resistance

413 Resistance to cefuroxime axetil is primarily through hydrolysis by β -lactamase, alteration of
414 penicillin-binding proteins (PBPs), decreased permeability, and the presence of bacterial efflux
415 pumps.

416 Susceptibility to cefuroxime axetil will vary with geography and time; local susceptibility data
417 should be consulted, if available. Beta-lactamase-negative, ampicillin-resistant (BLNAR)
418 isolates of *H. influenzae* should be considered resistant to cefuroxime axetil.

419 Cefuroxime axetil has been shown to be active against most isolates of the following bacteria,
420 both in vitro and in clinical infections [see *Indications and Usage (1)*]:

- 421 • Gram-positive bacteria
- 422 *Staphylococcus aureus* (methicillin-susceptible isolates only)
- 423 *Streptococcus pneumoniae*
- 424 *Streptococcus pyogenes*
- 425 • Gram-negative bacteria
- 426 *Escherichia coli*^a
- 427 *Klebsiella pneumoniae*^a
- 428 *Haemophilus influenzae*
- 429 *Haemophilus parainfluenzae*
- 430 *Moraxella catarrhalis*
- 431 *Neisseria gonorrhoeae*

432 ^a Most extended spectrum β -lactamase (ESBL)-producing and carbapenemase-producing
433 isolates are resistant to cefuroxime axetil.

- 434 • Spirochetes
- 435 *Borrelia burgdorferi*

436 The following in vitro data are available, but their clinical significance is unknown. At least
437 90 percent of the following microorganisms exhibit an in vitro minimum inhibitory concentration
438 (MIC) less than or equal to the susceptible breakpoint for cefuroxime axetil of 1 mcg/mL.
439 However, the efficacy of cefuroxime axetil in treating clinical infections due to these
440 microorganisms has not been established in adequate and well-controlled clinical trials.

- 441 • Gram-positive bacteria
- 442 *Staphylococcus epidermidis* (methicillin-susceptible isolates only)
- 443 *Staphylococcus saprophyticus* (methicillin-susceptible isolates only)
- 444 *Streptococcus agalactiae*
- 445 • Gram-negative bacteria
- 446 *Morganella morganii*
- 447 *Proteus inconstans*
- 448 *Proteus mirabilis*

449 *Providencia rettgeri*

450 • Anaerobic bacteria

451 *Peptococcus niger*

452 Susceptibility Test Methods

453 When available, the clinical microbiology laboratory should provide the results of in vitro
454 susceptibility tests for antimicrobial drug products used in local hospitals and practice areas to
455 the physician as periodic reports that describe the susceptibility profile of nosocomial and
456 community-acquired pathogens. These reports should aid the physician in selecting an
457 antibacterial drug product for treatment.

458 *Dilution Techniques:* Quantitative methods are used to determine antimicrobial MICs. These
459 MICs provide reproducible estimates of the susceptibility of bacteria to antimicrobial
460 compounds. The MICs should be determined using a standardized test method (broth or agar).^{1,2}
461 The MIC values should be interpreted according to criteria provided in Table 10.^{2,3}

462 *Diffusion Techniques:* Quantitative methods that require measurement of zone diameters also
463 provide reproducible estimates of the susceptibility of bacteria to antimicrobial compounds. The
464 zone size provides an estimate of the susceptibility of bacteria to antimicrobial compounds. The
465 zone size should be determined using a standardized test method.⁴ This procedure uses paper
466 disks impregnated with 30 mcg cefuroxime axetil to test the susceptibility of microorganisms to
467 cefuroxime axetil. The disk diffusion interpretive criteria are provided in Table 10.³

468 **Table 10. Susceptibility Test Interpretive Criteria for Cefuroxime Axetil**

Pathogen	Minimum Inhibitory Concentrations (mcg/mL)			Disk Diffusion Zone Diameters (mm)		
	(S) Susceptible	(I) Intermediate	(R) Resistant	(S) Susceptible	(I) Intermediate	(R) Resistant
<i>Enterobacteriaceae</i> ^a	≤4	8 - 16	≥32	≥23	15 - 22	≤14
<i>Haemophilus</i> spp. ^{a,b}	≤4	8	≥16	≥20	17 - 19	≤16
<i>Moraxella</i> <i>catarrhalis</i> ^a	≤4	8	≥16	-	-	-
<i>Streptococcus</i> <i>pneumoniae</i>	≤1	2	≥4	-	-	-

469 ^a For *Enterobacteriaceae*, *Haemophilus* spp., and *Moraxella catarrhalis*, susceptibility
470 interpretive criteria are based on a dose of 500 mg every 12 hours in patients with normal renal
471 function.

472 ^b *Haemophilus* spp. includes only isolates of *H. influenzae* and *H. parainfluenzae*.

473 Susceptibility of staphylococci to cefuroxime may be deduced from testing only penicillin and
474 either cefoxitin or oxacillin.

475 Susceptibility of *Streptococcus pyogenes* may be deduced from testing penicillin.³

476 A report of “Susceptible” indicates that the antimicrobial drug is likely to inhibit growth of the
 477 pathogen if the antimicrobial drug reaches the concentration usually achievable at the site of
 478 infection. A report of “Intermediate” indicates that the result should be considered equivocal, and
 479 if the microorganism is not fully susceptible to alternative, clinically feasible drugs, the test
 480 should be repeated. This category implies possible clinical applicability in body sites where the
 481 drug is physiologically concentrated or in situations where a high dosage of drug can be used.
 482 This category also provides a buffer zone that prevents small uncontrolled technical factors from
 483 causing major discrepancies in interpretation. A report of “Resistant” indicates that the
 484 antimicrobial drug is not likely to inhibit growth of the pathogen if the antimicrobial drug
 485 reaches the concentrations usually achievable at the infection site; other therapy should be
 486 selected.

487 **Quality Control:** Standardized susceptibility test procedures require the use of laboratory
 488 controls to monitor and ensure the accuracy and precision of supplies and reagents used in the
 489 assay, and the techniques of the individual performing the test.^{1,2,4} The QC ranges for MIC and
 490 disk diffusion testing using the 30-mcg disk are provided in Table 11.³

491 **Table 11. Acceptable Quality Control (QC) Ranges for Cefuroxime Axetil**

QC Strain	Minimum Inhibitory Concentrations (mcg/mL)	Disk Diffusion Zone Diameters (mm)
<i>Escherichia coli</i> ATCC 25922	2 to 8	20 to 26
<i>Staphylococcus aureus</i> ATCC 25923	-	27 to 35
<i>Staphylococcus aureus</i> ATCC 29213	0.5 to 2	-
<i>Streptococcus pneumoniae</i> ATCC 49619	0.25 to 1	-
<i>Haemophilus influenzae</i> ATCC 49766	0.25 to 1	28 to 36
<i>Neisseria gonorrhoeae</i> ATCC 49226	0.25 to 1	33 to 41

492 ATCC = American Type Culture Collection.

493 13 NONCLINICAL TOXICOLOGY

494 13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

495 Although lifetime studies in animals have not been performed to evaluate carcinogenic potential,
 496 no mutagenic activity was found for cefuroxime axetil in a battery of bacterial mutation tests.
 497 Positive results were obtained in an in vitro chromosome aberration assay; however, negative
 498 results were found in an in vivo micronucleus test at doses up to 1.5 g/kg. Reproduction studies
 499 in rats at doses up to 1,000 mg/kg/day (9 times the recommended maximum human dose based
 500 on body surface area) have revealed no impairment of fertility.

501 **14 CLINICAL STUDIES**

502 **14.1 Acute Bacterial Maxillary Sinusitis**

503 One adequate and well-controlled trial was performed in subjects with acute bacterial maxillary
504 sinusitis. In this trial, each subject had a maxillary sinus aspirate collected by sinus puncture
505 before treatment was initiated for presumptive acute bacterial sinusitis. All subjects had
506 radiographic and clinical evidence of acute maxillary sinusitis. In the trial, the clinical
507 effectiveness of CEFTIN in treating acute maxillary sinusitis was comparable to an oral
508 antimicrobial agent containing a specific β -lactamase inhibitor. However, microbiology data
509 demonstrated CEFTIN to be effective in treating acute bacterial maxillary sinusitis due only to
510 *Streptococcus pneumoniae* or non- β -lactamase-producing *Haemophilus influenzae*. Insufficient
511 numbers of β -lactamase-producing *Haemophilus influenzae* and *Moraxella catarrhalis* isolates
512 were obtained in this trial to adequately evaluate the effectiveness of CEFTIN in treating acute
513 bacterial maxillary sinusitis due to these 2 organisms.

514 This trial randomized 317 adult subjects, 132 subjects in the U.S. and 185 subjects in South
515 America. Table 12 shows the results of the intent-to-treat analysis.

516 **Table 12. Clinical Effectiveness of CEFTIN Tablets in the Treatment of Acute Bacterial**
517 **Maxillary Sinusitis**

	U.S. Subjects ^a		South American Subjects ^b	
	CEFTIN 250 mg Twice Daily (n = 49)	Control ^c (n = 43)	CEFTIN 250 mg Twice Daily (n = 49)	Control ^c (n = 43)
Clinical success (cure + improvement)	65%	53%	77%	74%
Clinical cure	53%	44%	72%	64%
Clinical improvement	12%	9%	5%	10%

518 ^a 95% confidence interval around the success difference [-0.08, +0.32].

519 ^b 95% confidence interval around the success difference [-0.10, +0.16].

520 ^c Control was an antibacterial drug containing a β -lactamase inhibitor.

521 In this trial and in a supporting maxillary puncture trial, 15 evaluable subjects had non-
522 β -lactamase-producing *Haemophilus influenzae* as the identified pathogen. Of these, 67%
523 (10/15) had this pathogen eradicated. Eighteen (18) evaluable subjects had *Streptococcus*
524 *pneumoniae* as the identified pathogen. Of these, 83% (15/18) had this pathogen eradicated.

525 **14.2 Early Lyme Disease**

526 Two adequate and well-controlled trials were performed in subjects with early Lyme disease. All
527 subjects presented with physician-documented erythema migrans, with or without systemic
528 manifestations of infection. Subjects were assessed at 1 month posttreatment for success in

529 treating early Lyme disease (Part I) and at 1 year posttreatment for success in preventing the
 530 progression to the sequelae of late Lyme disease (Part II).

531 A total of 355 adult subjects (181 treated with cefuroxime axetil and 174 treated with
 532 doxycycline) were randomized in the 2 trials, with diagnosis of early Lyme disease confirmed in
 533 79% (281/355). The clinical diagnosis of early Lyme disease in these subjects was validated by
 534 1) blinded expert reading of photographs, when available, of the pretreatment erythema migrans
 535 skin lesion, and 2) serologic confirmation (using enzyme-linked immunosorbent assay [ELISA]
 536 and immunoblot assay [“Western” blot]) of the presence of antibodies specific to *Borrelia*
 537 *burgdorferi*, the etiologic agent of Lyme disease. The efficacy data in Table 14 are specific to
 538 this “validated” patient subset, while the safety data below reflect the entire patient population
 539 for the 2 trials. Clinical data for evaluable subjects in the “validated” patient subset are shown in
 540 Table 13.

541 **Table 13. Clinical Effectiveness of CEFTIN Tablets Compared with Doxycycline in the**
 542 **Treatment of Early Lyme Disease**

	Part I (1 Month after 20 Days of Treatment) ^a		Part II (1 Year after 20 Days of Treatment) ^b	
	CEFTIN 500 mg Twice Daily (n = 125)	Doxycycline 100 mg 3 Times Daily (n = 108)	CEFTIN 500 mg Twice Daily (n = 105 ^c)	Doxycycline 100 mg 3 Times Daily (n = 83 ^c)
Satisfactory clinical outcome ^d	91%	93%	84%	87%
Clinical cure/success	72%	73%	73%	73%
Clinical improvement	19%	19%	10%	13%

543 ^a 95% confidence interval around the satisfactory difference for Part I (-0.08, +0.05).

544 ^b 95% confidence interval around the satisfactory difference for Part II (-0.13, +0.07).

545 ^c n’s include subjects assessed as unsatisfactory clinical outcomes (failure + recurrence) in
 546 Part I (CEFTIN - 11 [5 failure, 6 recurrence]; doxycycline - 8 [6 failure, 2 recurrence]).

547 ^d Satisfactory clinical outcome includes cure + improvement (Part I) and success +
 548 improvement (Part II).

549 CEFTIN and doxycycline were effective in prevention of the development of sequelae of late
 550 Lyme disease.

551 While the incidence of drug-related gastrointestinal adverse reactions was similar in the
 552 2 treatment groups (cefuroxime axetil - 13%; doxycycline - 11%), the incidence of drug-related
 553 diarrhea was higher in the cefuroxime axetil arm versus the doxycycline arm (11% versus 3%,
 554 respectively).

555 **15 REFERENCES**

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572 **16 HOW SUPPLIED/STORAGE AND HANDLING**

573 CEFTIN tablets, 250 mg of cefuroxime (as cefuroxime axetil), are white, capsule-shaped,
574 film-coated tablets engraved with "GX ES7" on one side and blank on the other side as follows:

575 20 Tablets/Bottle NDC 0173-0387-00

576 CEFTIN tablets, 500 mg of cefuroxime (as cefuroxime axetil), are white, capsule-shaped,
577 film-coated tablets engraved with "GX EG2" on one side and blank on the other side as follows:

578 20 Tablets/Bottle NDC 0173-0394-00

579 **Store the tablets between 15° and 30°C (59° and 86°F). Replace cap securely after each**
580 **opening.**

581 CEFTIN for oral suspension is provided as dry, white to off-white, tutti-frutti–flavored powder.
582 When reconstituted as directed, the suspension provides the equivalent of 125 mg or 250 mg of
583 cefuroxime (as cefuroxime axetil) per 5 mL. It is supplied in amber glass bottles as follows:

584 **125 mg/5 mL:**

585 100-mL Suspension NDC 0173-0740-00

586 **250 mg/5 mL:**

587 50-mL Suspension NDC 0173-0741-10

588 100-mL Suspension NDC 0173-0741-00

589 **Before reconstitution, store dry powder between 2° and 30°C (36° and 86°F).**
590 **After reconstitution, immediately store suspension refrigerated between 2° and 8°C (36°**
591 **and 46°F). DISCARD AFTER 10 DAYS.**

592 **17 PATIENT COUNSELING INFORMATION**

593 Allergic Reactions

594 Inform patients that CEFTIN is a cephalosporin that can cause allergic reactions in some
595 individuals [*see Warnings and Precautions (5.1)*].

596 Clostridium difficile-Associated Diarrhea

597 Inform patients that diarrhea is a common problem caused by antibacterials, and it usually ends
598 when the antibacterial is discontinued. Sometimes after starting treatment with antibacterials,
599 patients can develop watery and bloody stools (with or without stomach cramps and fever) even
600 as late as 2 or more months after having taken their last dose of the antibacterial. If this occurs,
601 advise patients to contact their physician as soon as possible.

602 Phenylketonuria

603 Inform patients and caregivers that CEFTIN for oral suspension contains phenylalanine (a
604 component of aspartame) [*see Warnings and Precautions (5.5)*].

605 Crushing Tablets

606 Instruct patients to swallow the tablet whole, without crushing the tablet. Patients who cannot
607 swallow the tablet whole should receive the oral suspension.

608 Oral Suspension

609 Instruct patients to shake the oral suspension well before each use, store in the refrigerator, and
610 discard after 10 days. The oral suspension should be taken with food.

611 Drug Resistance

612 Inform patients that antibacterial drugs, including CEFTIN, should only be used to treat bacterial
613 infections. They do not treat viral infections (e.g., the common cold). When CEFTIN is
614 prescribed to treat a bacterial infection, inform patients that although it is common to feel better
615 early in the course of therapy, the medication should be taken exactly as directed. Skipping doses
616 or not completing the full course of therapy may: (1) decrease the effectiveness of the immediate
617 treatment, and (2) increase the likelihood that bacteria will develop resistance and will not be
618 treatable by CEFTIN or other antibacterial drugs in the future.

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623 GlaxoSmithKline

624 Research Triangle Park, NC 27709

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626 CFT: XPI

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