For the use only of Registered Medical Practitioners or a Hospital or a Laboratory

AUGMENTIN ES

1. GENERIC NAME

Amoxicillin and Potassium Clavulanate Oral Suspension IP

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each 5 mL of the reconstituted suspension contains:

Amoxicillin Trihydrate IP equivalent to Amoxicillin 600 mg
Potassium Clavulanate Diluted IP equivalent to Clavulanic Acid 42.9 mg

3. DOSAGE FORM AND STRENGTH

AUGMENTIN ES is an off-white powder which, when reconstituted, yields an off-white to tan colored, strawberry flavoured suspension.

Each 5 mL of the reconstituted suspension contains:

Amoxicillin Trihydrate IP equivalent to Amoxicillin 600 mg
Potassium Clavulanate Diluted IP equivalent to Clavulanic Acid 42.9 mg

4. CLINICAL PARTICULARS

4.1. Therapeutic Indications

Amoxicillin-clavulanate should be used in accordance with local official antibiotic-prescribing guidelines and local susceptibility data.

AUGMENTIN ES is indicated for short term treatment of paediatric patients with bacterial infections at the following sites when caused by amoxicillin-clavulanate-susceptible organisms:

- Upper Respiratory Tract Infections (including ENT) e.g.
  
  Acute otitis media (AOM), persistent AOM, or recurrent AOM, typically caused by Streptococcus pneumoniae*, Haemophilus influenzae* and Moraxella catarrhalis*.
  
  Tonsillo-pharyngitis and sinusitis, typically caused by Streptococcus pneumoniae*, Haemophilus influenzae*, Moraxella catarrhalis* and Streptococcus pyogenes.

- Lower Respiratory Tract Infections e.g. lobar and bronchopneumonia typically caused by Streptococcus pneumoniae*, Haemophilus influenzae* and Moraxella catarrhalis*
Penicillin minimum inhibitory concentration (MIC) less than or equal to 4 micrograms/mL.

Some members of these species of bacteria produce beta-lactamase, rendering them insensitive to amoxicillin alone (see 5 Pharmacological Properties, 5.2 Pharmacodynamic Properties for further information).

Susceptibility to amoxicillin-clavulanate will vary with geography and time. Local susceptibility data should be consulted where available, and microbiological sampling and susceptibility testing performed where necessary.

Infections caused by amoxicillin-susceptible organisms are amenable to amoxicillin-clavulanate treatment due to its amoxicillin content. Mixed infections caused by amoxicillin-susceptible organisms in conjunction with amoxicillin-clavulanate - susceptible beta-lactamase-producing organisms may therefore be treated by amoxicillin-clavulanate.

4.2 Posology and Method of Administration

Dosage should be expressed in terms of the age of the child and either in mg/kg/day or mL of suspension per dose.

Dosages are expressed throughout in terms of amoxicillin/clavulanate content except when doses are stated in terms of an individual component.

To minimize potential gastrointestinal intolerance, administer at the start of a meal.

The absorption of amoxicillin-clavulanate is optimized when taken at the start of a meal.

Therapy can be started parenterally and continued with an oral preparation.

Treatment should not be extended beyond 14 days without review.

Populations

AUGMENTIN ES is recommended for use in children aged 3 months and older.

- Adults

There is no experience with AUGMENTIN ES in adults.

- Children (3 months and older)
**AUGMENTIN ES** is recommended for dosing at 90/6.4 mg/kg/day in 2 divided doses at 12-hourly intervals for 10 days.

There is no experience in paediatric patients weighing more than 40 kg.

There are no clinical data on amoxicillin-clavulanate in children under 3 months of age.

<table>
<thead>
<tr>
<th>Body Weight (kg)</th>
<th>Volume of <strong>AUGMENTIN ES</strong> providing 90/6.4 mg/kg/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>3.0 mL twice daily</td>
</tr>
<tr>
<td>12</td>
<td>4.5 mL twice daily</td>
</tr>
<tr>
<td>16</td>
<td>6.0 mL twice daily</td>
</tr>
<tr>
<td>20</td>
<td>7.5 mL twice daily</td>
</tr>
<tr>
<td>24</td>
<td>9.0 mL twice daily</td>
</tr>
<tr>
<td>28</td>
<td>10.5 mL twice daily</td>
</tr>
<tr>
<td>32</td>
<td>12.0 mL twice daily</td>
</tr>
<tr>
<td>36</td>
<td>13.5 mL twice daily</td>
</tr>
</tbody>
</table>

**AUGMENTIN ES** (Amoxicillin 600 mg/Clavulanic Acid 42.9 mg per 5 mL), does not contain the same amount of clavulanic acid (as the potassium salt) as any of the other **AUGMENTIN** suspensions. **AUGMENTIN ES** contains 42.9 mg of clavulanic acid per 5 mL whereas **AUGMENTIN DUO** (Amoxicillin 200 mg/Clavulanic Acid 28.5 mg per 5 mL) suspension contains 28.5 mg of clavulanic acid per 5 mL and **AUGMENTIN DDS** (Amoxicillin 400 mg/Clavulanic Acid 57 mg per 5 mL) suspension contains 57 mg of clavulanic acid per 5 mL. Therefore, the **AUGMENTIN DUO** and **AUGMENTIN DDS** suspensions should not be substituted for **AUGMENTIN ES**, as they are not interchangeable.

- **Renal impairment**

No dosage adjustment is necessary in patients with creatinine clearance of greater than or equal to 30 mL/min. There are no dosage recommendations available for **AUGMENTIN ES** in patients with creatinine clearance of less than 30 mL/min.

- **Hepatic impairment**

Dose with caution; monitor hepatic function at regular intervals.

There are insufficient data on which to base a dosage recommendation.

**4.3. Contraindications**

**AUGMENTIN ES** is contraindicated
• in patients with a history of hypersensitivity to beta-lactams, e.g. penicillins and cephalosporins.
• in patients with a previous history of amoxicillin-clavulanate associated jaundice/hepatic dysfunction.

4.4. Special Warnings and Precautions for Use

Before initiating therapy with amoxicillin-clavulanate, careful enquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, or other allergens.

Serious and occasionally fatal hypersensitivity reactions (including anaphylactoid and severe cutaneous adverse reactions) have been reported in patients on penicillin therapy. These reactions are more likely to occur in individuals with a history of penicillin hypersensitivity (see 4.3 Contraindications). If an allergic reaction occurs, amoxicillin-clavulanate therapy should be discontinued and appropriate alternative therapy instituted. Serious anaphylactic reactions require immediate emergency treatment with adrenaline. Oxygen, intravenous (i.v.) steroids and airway management, including intubation may also be required.

Amoxicillin-clavulanate should be avoided if infectious mononucleosis is suspected since the occurrence of a morbilliform rash has been associated with this condition following the use of amoxicillin.

Prolonged use may also occasionally result in overgrowth of non-susceptible organisms.

Pseudomembranous colitis has been reported with the use of antibiotics and may range in severity from mild to life-threatening. Therefore, it is important to consider its diagnosis in patients who develop diarrhoea during or after antibiotic use. If prolonged or significant diarrhoea occurs or the patient experiences abdominal cramps, treatment should be discontinued immediately and the patient investigated further.

In general amoxicillin-clavulanate is well tolerated and possesses the characteristic low toxicity of the penicillin group of antibiotics. Periodic assessment of organ system functions, including renal, hepatic and haematopoietic function is advisable during prolonged therapy.

Abnormal prolongation of prothrombin time (increased INR) has been reported rarely in patients receiving amoxicillin-clavulanate and oral anticoagulants. Appropriate monitoring should be undertaken when anticoagulants are prescribed concurrently. Adjustments in the dose of oral anticoagulants may be necessary to maintain the desired level of anticoagulation.

Amoxicillin-clavulanate should be used with caution in patients with evidence of hepatic dysfunction.

In patients with reduced urine output, crystalluria has been observed very rarely, predominantly with parenteral therapy. During the administration of high doses of amoxicillin, it is advisable to maintain adequate fluid intake and urinary output in order to reduce the possibility of amoxicillin crystalluria (see 4.9 Overdose).

AUGMENTIN ES contains aspartame, which is a source of phenylalanine and so should be used with
caution in patients with phenylketonuria. Each 5 mL of AUGMENTIN ES suspension contains 7 mg of phenylalanine.

4.5. Drug Interactions

Concomitant use of probenecid is not recommended. Probenecid decreases the renal tubular secretion of amoxicillin. Concomitant use with amoxicillin-clavulanate may result in increased and prolonged blood levels of amoxicillin but not of clavulanic acid.

Concomitant use of allopurinol during treatment with amoxicillin can increase the likelihood of allergic skin reactions. There are no data on the concomitant use of amoxicillin-clavulanate and allopurinol.

In common with other antibiotics, amoxicillin-clavulanate may affect the gut flora, leading to lower oestrogen reabsorption and reduced efficacy of combined oral contraceptives.

In the literature there are rare cases of increased international normalised ratio in patients maintained on acenocoumarol or warfarin and prescribed a course of amoxicillin. If coadministration is necessary, the prothrombin time or international normalised ratio should be carefully monitored with the addition or withdrawal of amoxicillin.

In patients receiving mycophenolate mofetil, reduction in pre-dose concentration of the active metabolite mycophenolic acid of approximately 50% has been reported following commencement of oral amoxicillin plus clavulanic acid. The change in pre-dose level may not accurately represent changes in overall MPA exposure.

4.6. Use in Special Populations (such as pregnant women, lactating women, paediatric patients, geriatric patients etc.)

Hepatic Impairment

Dose with caution; monitor hepatic function at regular intervals.

There are insufficient data on which to base a dosage recommendation.

Renal Impairment

No dosage adjustment is necessary in patients with creatinine clearance of greater than or equal to 30 mL/min. There are no dosage recommendations available for AUGMENTIN ES in patients with creatinine clearance of less than 30 mL/min.

Pregnancy

Reproduction studies in animals (mice and rats at doses up to 10 times the human dose) with orally and parenterally administered amoxicillin-clavulanate have shown no teratogenic effects. In a single study in women with pre-term, premature rupture of the foetal membrane (pPROM), it was reported that prophylactic treatment with amoxicillin-clavulanate may be associated with an increased risk of
necrotising enterocolitis in neonates. As with all medicines, use should be avoided in pregnancy, unless considered essential by the physician.

**Lactation**

Amoxicillin-clavulanate may be administered during the period of lactation. With the exception of the risk of sensitization, associated with the excretion of trace quantities in breast milk, there are no known detrimental effects for the breast-fed infant.

**4.7. Effects on Ability to Drive and Use Machines**

Adverse effects on the ability to drive or operate machinery have not been observed.

**4.8. Undesirable Effects**

Data from large clinical trials were used to determine the frequency of very common to rare undesirable effects. The frequencies assigned to all other undesirable effects (i.e. those occurring at < 1/10,000) were mainly determined using post-marketing data and refer to a reporting rate rather than a true frequency.

The following convention has been used for the classification of frequency:

- **Very common** ≥ 1/10
- **Common** ≥ 1/100 to < 1/10
- **Uncommon** ≥ 1/1000 to < 1/100
- **Rare** ≥ 1/10,000 to < 1/1000
- **Very rare** < 1/10,000.

**Infections and infestations:**

- **Common** Mucocutaneous candidiasis

**Blood and lymphatic system disorders:**

- **Rare** Reversible leucopenia (including neutropenia) and thrombocytopenia
- **Very rare** Reversible agranulocytosis and haemolytic anaemia. Prolongation of bleeding time and prothrombin time

**Immune system disorders:**

- **Very rare** Angioneuotic oedema, anaphylaxis, serum sickness-like syndrome, hypersensitivity vasculitis

**Nervous system disorders:**

- **Uncommon** Dizziness, headache
Very rare   Reversible hyperactivity, aseptic meningitis, convulsions. Convulsions may occur in patients with impaired renal function or in those receiving high doses.

**Gastrointestinal disorders:**

Common   Diarrhoea, nausea, vomiting

Nausea is more often associated with higher oral dosages. If gastrointestinal reactions are evident, they may be reduced by taking amoxicillin-clavulanate at the start of a meal.

Uncommon   Indigestion

Very rare   Antibiotic-associated colitis (including pseudomembranous colitis and haemorrhagic colitis – see 4.4 Special Warning and Precautions for Use).

Black hairy tongue

Superficial tooth discolouration has been reported very rarely in children. Good oral hygiene may help to prevent tooth discolouration as it can usually be removed by brushing.

**Hepatobiliary disorders**

Uncommon   A moderate rise in AST and/or ALT has been noted in patients treated with beta-lactam class antibiotics, but the significance of these findings is unknown.

Very rare   Hepatitis and cholestatic jaundice. These events have been noted with other penicillins and cephalosporins.

Hepatic events have been reported predominantly in males and elderly patients and may be associated with prolonged treatment. These events have been very rarely reported in children.

Signs and symptoms usually occur during or shortly after treatment but in some cases may not become apparent until several weeks after treatment has ceased. These are usually reversible. Hepatic events may be severe and in extremely rare circumstances, deaths have been reported. These have almost always occurred in patients with serious underlying disease or taking concomitant medications known to have the potential for hepatic effects.

**Skin and subcutaneous tissue disorders**

Uncommon   Skin rash, pruritus, urticaria

Rare   Erythema multiforme

Very rare   Stevens-Johnson syndrome, toxic epidermal necrolysis, bullous exfoliative-dermatitis, acute generalised exanthemous pustulosis (AGEP), and drug reaction with eosinophilia and systemic symptoms (DRESS)
If any hypersensitivity dermatitis reaction occurs, treatment should be discontinued.

**Renal and urinary disorders**

Very rare Interstitial nephritis, crystalluria (see 4.9 Overdose)

4.9. Overdose

**Symptoms and Signs**

Gastrointestinal symptoms and disturbance of the fluid and electrolyte balances may be evident.

Amoxicillin crystalluria, in some cases leading to renal failure, has been observed (see 4.4 Special Warnings and Precautions for Use).

**Treatment**

GI symptoms may be treated symptomatically, with attention to the water/electrolyte balance. Amoxicillin-clavulanate can be removed from the circulation by haemodialysis.

A prospective study of 51 paediatric patients at a poison control centre suggested that overdosages of less than 250 mg/kg of amoxicillin are not associated with significant clinical symptoms and do not require gastric emptying.

**Drug abuse and dependence:**

Drug dependency, addiction and recreational abuse have not been reported as a problem with this compound.

5. PHARMACOLOGICAL PROPERTIES

5.1. Mechanism of Action

Amoxicillin is a semisynthetic antibiotic with a broad spectrum of bactericidal activity against many gram-positive and gram-negative microorganisms. Amoxicillin is however susceptible to degradation by beta-lactamase and therefore the spectrum of activity of amoxicillin alone does not include organisms which produce these enzymes.

Clavulanic acid is a beta-lactam, structurally related to the penicillins, which possesses the ability to inactivate a wide range of beta-lactamase enzymes commonly found in micro-organisms resistant to penicillins and cephalosporins. In particular, it has good activity against the clinically important plasmid mediated beta-lactamases frequently responsible for transferred drug resistance. It is generally less effective against chromosomally-mediated type 1 beta-lactamases.

The presence of clavulanic acid in amoxicillin-clavulanate formulations protects amoxicillin from degradation by beta-lactamase enzymes and effectively extends the antibacterial spectrum of amoxicillin to include many bacteria normally resistant to amoxicillin and other penicillins and
cephalosporins. Thus amoxicillin-clavulanate possesses the distinctive properties of a broad spectrum antibiotic and a beta-lactamase inhibitor.

5.2 Pharmacodynamic Properties

ATC code
Anatomical Therapeutic Chemical (ATC) code: J01CR02.
Pharmacotherapeutic group: Combinations of penicillins, incl. beta-lactamase inhibitors.

In the list below, organisms are categorized according to their in vitro susceptibility to amoxicillin-clavulanate.

<table>
<thead>
<tr>
<th>In vitro susceptibility of micro-organisms to amoxicillin-clavulanate</th>
</tr>
</thead>
</table>
| Where clinical efficacy of amoxicillin-clavulanate has been demonstrated in clinical trials this is indicated with an asterisk (*).

Organisms that do not produce beta-lactamase are identified (with †). If an isolate is susceptible to Amoxicillin, it can be considered susceptible to amoxicillin-clavulanate.

<table>
<thead>
<tr>
<th>Commonly susceptible species</th>
</tr>
</thead>
</table>
| **Gram-positive aerobes:**
  * Bacillus anthracis
  * Enterococcus faecalis
  * Listeria monocytogenes
  * Nocardia asteroides
  * Streptococcus pneumoniae*
  * Streptococcus pyogenes*
  * Streptococcus agalactiae*
  * Viridans group streptococcus†
  * Streptococcus spp. (other beta-haemolytic) *†
  * Staphylococcus aureus (methicillin susceptible)*
  * Staphylococcus saprophyticus (methicillin susceptible)
  * Coagulase negative staphylococcus (methicillin susceptible)
  * Staphylococcus saprophyticus
  * Neisseria gonorrhoeae
  * Pasteurella multocida
  * Vibrio cholerae
| **Gram-negative aerobes:**
  * Bordetella pertussis
  * Haemophilus influenzae*
  * Haemophilus parainfluenzae
  * Helicobacter pylori
  * Moraxella catarrhalis*
  * Neisseria gonorrhoeae
  * Pasteurella multocida
  * Vibrio cholerae
  * Other:
    * Borrelia burgdorferi
    * Leptospira icterohaemorrhagiae
    * Treponema pallidum
<table>
<thead>
<tr>
<th>Gram positive anaerobes:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Clostridium</em> spp.</td>
</tr>
<tr>
<td><em>Peptococcus niger</em></td>
</tr>
<tr>
<td><em>Peptostreptococcus magnus</em></td>
</tr>
<tr>
<td><em>Peptostreptococcus micros</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gram-negative anaerobes:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Bacteroides fragilis</em></td>
</tr>
<tr>
<td><em>Bacteroides</em> spp.</td>
</tr>
<tr>
<td><em>Capnocytophaga</em> spp.</td>
</tr>
<tr>
<td><em>Eikenella corrodens</em></td>
</tr>
<tr>
<td><em>Fusobacterium nucleatum</em></td>
</tr>
<tr>
<td><em>Fusobacterium</em> spp.</td>
</tr>
<tr>
<td><em>Porphyromonas</em> spp.</td>
</tr>
<tr>
<td><em>Prevotella</em> spp.</td>
</tr>
</tbody>
</table>

Species for which acquired resistance may be a problem

<table>
<thead>
<tr>
<th>Gram-negative aerobes:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli</em></td>
</tr>
<tr>
<td><em>Klebsiella oxytoca</em></td>
</tr>
<tr>
<td><em>Klebsiella pneumoniae</em></td>
</tr>
<tr>
<td><em>Klebsiella</em> spp.</td>
</tr>
<tr>
<td><em>Proteus mirabilis</em></td>
</tr>
<tr>
<td><em>Proteus vulgaris</em></td>
</tr>
<tr>
<td><em>Proteus</em> spp.</td>
</tr>
<tr>
<td><em>Salmonella</em> spp.</td>
</tr>
<tr>
<td><em>Shigella</em> spp.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gram-positive aerobes:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Corynebacterium</em> spp.</td>
</tr>
<tr>
<td><em>Enterococcus faecium</em></td>
</tr>
</tbody>
</table>

Inherently resistant organisms

<table>
<thead>
<tr>
<th>Gram-negative aerobes:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Acinetobacter</em> spp.</td>
</tr>
<tr>
<td><em>Citrobacter freundii</em></td>
</tr>
<tr>
<td><em>Enterobacter</em> spp.</td>
</tr>
<tr>
<td><em>Hafnia alvei</em></td>
</tr>
<tr>
<td><em>Legionella pneumophila</em></td>
</tr>
<tr>
<td><em>Morganella morganii</em></td>
</tr>
<tr>
<td><em>Providencia</em> spp.</td>
</tr>
<tr>
<td><em>Pseudomonas</em> spp.</td>
</tr>
<tr>
<td><em>Serratia</em> spp.</td>
</tr>
<tr>
<td><em>Stenotrophomas maltophilia</em></td>
</tr>
<tr>
<td><em>Yersinia enterolitica</em></td>
</tr>
</tbody>
</table>
5.3. Pharmacokinetic Properties

Absorption

The two components, of amoxicillin-clavulanate, amoxicillin and clavulanic acid are fully dissociated in aqueous solution at physiological pH. Both components are rapidly and well absorbed by the oral route of administration.

Absorption of amoxicillin-clavulanate is optimized when taken at the start of a meal.

Pharmacokinetic parameters are given below for AUGMENTIN ES administered at 45 mg/kg every 12 hours to paediatric patients.

<table>
<thead>
<tr>
<th>Formulation</th>
<th>C max (mg/L)</th>
<th>Tmax (hours)</th>
<th>AUC (mg.h/L)</th>
<th>T1/2 (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUGMENTIN ES</td>
<td>Amoxicillin</td>
<td>15.7</td>
<td>2.0</td>
<td>59.8</td>
</tr>
<tr>
<td>dosed at 45 mg/kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>amoxicillin 12-hourly</td>
<td>Clavulanate</td>
<td>1.7</td>
<td>1.1</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Amoxicillin serum concentrations achieved with amoxicillin-clavulanate are similar to those produced by the oral administration of equivalent doses of amoxicillin alone.

Distribution

Following i.v. administration therapeutic concentrations of both amoxicillin and clavulanic acid may be detected in the tissues and interstitial fluid. Therapeutic concentrations of both drugs have been found in gall bladder, abdominal tissue, skin, fat, and muscle tissues; fluids found to have therapeutic levels include synovial and peritoneal fluids, bile and pus.

Neither amoxicillin nor clavulanic acid is highly protein bound, studies show that about 25% for clavulanic acid and 18% for amoxicillin of total plasma drug content is bound to protein.

From animal studies there is no evidence to suggest that either component accumulates in any organ.

Amoxicillin, like most penicillins, can be detected in breast milk. Trace quantities of clavulanate can also be detected in breast milk. With the exception of the risk of sensitisation associated with this excretion, there are no known detrimental effects for the breast-fed infant.

Reproduction studies in animals have shown that both amoxicillin and clavulanic acid penetrate the
placental barrier. However, no evidence of impaired fertility or harm to the foetus was detected.

**Metabolism**

Amoxicillin is partly excreted in the urine as the inactive penicilloic acid in quantities equivalent to 10 to 25% of the initial dose. Clavulanic acid is extensively metabolized in man to 2,5-dihydro-4-(2-hydroxyethyl)-5-oxo-1H-pyrrole-3-carboxylic acid and 1-amino-4-hydroxy-butan-2-one and eliminated in urine and faeces as carbon dioxide in expired air.

**Elimination**

As with other penicillins, the major route of elimination for amoxicillin is via the kidney, whereas for clavulanate it is by both renal and non-renal mechanisms. Approximately 60 to 70% of the amoxicillin and approximately 40 to 65% of the clavulanic acid are excreted unchanged in urine during the first 6 hours after administration of a single 250/125 mg or a single 500/125 mg tablet.

Concomitant use of probenecid delays amoxicillin excretion but does not delay renal excretion of clavulanic acid (see 4.5 Drug Interactions).

6. **NONCLINICAL PROPERTIES**

6.1. **Animal Toxicology and Pharmacology**

No further information of relevance.

7. **DESCRIPTION**

**General Description**

Amoxicillin-clavulanate (beta-lactam antibacterial penicillin coformulated with a beta-lactamase inhibitor) is an antibiotic agent with a notably broad spectrum of activity against the commonly occurring bacterial pathogens in general practice and hospital. The beta-lactamase inhibitory action of clavulanate extends the spectrum of amoxycillin to embrace a wider range of organisms, including many resistant to other beta-lactam antibiotics.

**Chemical Structure**

Amoxicillin-clavulanate is a coformulation of amoxicillin trihydrate and potassium clavulanate.

**Amoxicillin trihydrate**

| Chemical name | (2S,5R,6R)-6-[(R)-(−)-2-amino-2-(p-hydroxyphenyl) acetamido]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid trihydrate. |

12
Potassium clavulanate

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Potassium (Z)-(2R,5R)-3-(2-hydroxyethylidene)-7-oxo-4-oxa-1-azabicyclo[3.2.0]heptane-2-carboxylate.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural formula</td>
<td><img src="image" alt="Structural formula" /></td>
</tr>
<tr>
<td>Molecular formula</td>
<td>C₈H₈NO₅K</td>
</tr>
<tr>
<td>Relative molecular mass</td>
<td>237.3 (as the potassium salt)</td>
</tr>
<tr>
<td></td>
<td>199.2 (as the free acid)</td>
</tr>
</tbody>
</table>

Excipients: Xanthan Gum, Aspartame, Silica (colloidal anhydrous), Carboxymethylcellulose Sodium 12, Artificial Strawberry Cream Flavour, Silicon Dioxide

8. PHARMACEUTICAL PARTICULARS

8.1. Incompatibilities

None known.

8.2. Shelf Life

24 months.

The expiry date is indicated on the label and packaging.

Once reconstituted, 10 days when refrigerated (2°C to 8°C) (see 8.4 Storage and Handling Information).
8.3. Packaging Information

*AUGMENTIN ES* powder for oral suspension is supplied in clear glass bottles with a plastic child-resistant cap and a removable foil backed seal on the bottle.

The primary packs are supplied with a CE marked spoon manufactured from polystyrene. Graduations of 2.5 mL and 5.0 mL are engraved on the spoon bowl (2.5 mL) and the handle (5 mL).

The product will be supplied as a dry powder suitable for constitution in two presentation sizes: 50 mL and 100 mL.

Not all pack sizes may be marketed in the country.

8.4. Storage and Handling Information

Store in a dry place in the original package to protect from moisture. Store below 30°C.

Keep out of reach of children.

Check foil-backed bottle seal is intact before using.

Before reconstitution shake bottle to loosen powder.

After reconstitution, invert and shake bottle well before each use.

Reconstituted suspension should be stored refrigerated at 2°C to 8°C. Do not freeze.

Discard unused suspension after 10 days.

For administration to children up to 2 years old, *AUGMENTIN ES* suspension may be diluted to half-strength using water.

Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

9. PATIENT COUNSELLING INFORMATION

Registered medical practitioners are requested to counsel their patients or the patients’ parents based on the patient information provided in this section.

**WHAT AUGMENTIN ES IS AND WHAT IT IS USED FOR**

*AUGMENTIN ES* is an antibiotic which contains two active ingredients. One of these is a penicillin called amoxicillin (present as amoxicillin trihydrate) and the other is clavulanic acid (present as potassium clavulanate).
AUGMENTIN ES is used to treat children with infections caused by bacteria.

Do not use this medicine if:

- Your child is allergic to amoxicillin or beta-lactam antibiotics (such as penicillins and cephalosporins) or any of the other ingredients of AUGMENTIN ES. If they have had an allergic reaction (such as a rash) when taking an antibiotic, you should talk to your doctor before you give AUGMENTIN ES.
- Your child has ever had jaundice (yellowing of the skin and/or eyes) or liver disease while taking AUGMENTIN ES.

Take special care and get advice from your doctor if:

- Your child develops a skin rash while taking AUGMENTIN ES.
- Do not give any more suspension and tell the doctor at once.
- Your child has glandular fever (mononucleosis) and they are prescribed AUGMENTIN ES. Please tell the doctor before you give the medicine.
- Your child has liver or kidney problems. The dosage may need to be reduced or they may need to be given a different medicine.
- Your child suffers from a condition called phenylketonuria (PKU). This is because AUGMENTIN ES contains aspartame.

Interactions
Some medicines may cause unwanted effects if they are taken at the same time as AUGMENTIN ES. Please tell your doctor if your child is taking or has recently taken any other medicines or supplements, even those that can be bought without a prescription.

It is particularly important that the doctor knows if your child is taking the following medicines:
Allopurinol
Probenecid
Anticoagulants (used to prevent blood clots) such as warfarin
Mycophenolate mofetil

HOW TO USE AUGMENTIN ES
You must follow the doctor's advice and use the medicine as instructed. The doctor will decide how much medicine you need to give each day, and how many days you should give it for.

If there is anything you do not understand please ask your doctor.

It is better to give AUGMENTIN ES at the same time as a meal, but AUGMENTIN ES still works if it is given without food.

- Instructions on how to prepare AUGMENTIN ES suspension are provided in Section 8.4 Storage and Handling Information.
- Shake the bottle well before taking each dose.
- A dosing device may be supplied with the pack, which you can use to measure the dose accurately. Make sure the whole dose is swallowed every time.
If you are giving AUGMENTIN ES to a child up to 2 years old, the dose can be diluted to half-strength using water immediately before you give it. Do not store diluted medicine.

ONCE YOU HAVE STARTED GIVING AUGMENTIN ES

Keep giving the medicine until the complete course has been finished. Do not stop when your child feels better.

If your child has taken more AUGMENTIN ES than they should:

Give plenty of water to drink and contact a doctor. Show the doctor the pack of AUGMENTIN ES.

If you forget to give a dose of AUGMENTIN ES:

Give it as soon as you remember, then carry on as before, but do not give two doses within an hour of each other.

POSSIBLE SIDE EFFECTS

Like all medicines, AUGMENTIN ES can cause side effects, but not everybody gets them.

Look out for important symptoms

Severe allergic reactions

These are very rare in people taking AUGMENTIN ES. Signs include:

- Raised, itchy rash (hives)
- Inflammation of blood vessels (vasculitis) which may be visible as red or purple raised spots on the skin, but can affect other parts of the body
- Fever, joint pain, swollen glands in the neck, armpit or groin
- Swelling, sometimes of the face or mouth (angioedema), which may cause difficulty in swallowing or breathing
- Collapse.

Get medical help immediately if your child gets any of these symptoms. Stop giving your child AUGMENTIN ES.

Serious skin reactions

These are rare in people taking AUGMENTIN ES. Signs include:

- Skin rash, which may blister, and looks like small targets (central dark spots
- Surrounded by a paler area, with a dark ring around the edge – erythema multiforme).
These are very rare in people taking *AUGMENTIN ES*. Signs include:

- A widespread rash with blisters and peeling skin, particularly around the mouth, nose, eyes, and genitals (Stevens-Johnson syndrome), and a more severe form, causing blisters and peeling skin on much of the body surface (toxic epidermal necrolysis).
- A widespread, red, skin rash with small blisters containing pus (exanthemous pustulosis).
- A red, itchy, scaly rash with blisters and bumps under the skin (bullous exfoliative dermatitis).
- Flu-like symptoms with a rash, fever, swollen glands, and abnormal blood test results (including white blood cells (eosinophilia) and liver enzymes) (Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS)).

Get medical help immediately if your child gets any of these symptoms. Stop giving your child *AUGMENTIN ES*.

**Serious liver problems**

On rare occasions, medicines like *AUGMENTIN ES* can cause liver problems, causing yellowing of the skin and/or whites of the eyes.

Tell your doctor as soon as possible if your child gets any of these symptoms.

**Severe diarrhoea (Pseudomembranous colitis)**

On rare occasions, medicines like *AUGMENTIN ES* can cause inflammation of the colon (large intestine), causing diarrhoea, usually with blood and mucus, stomach pain and fever.

Tell your doctor as soon as possible if your child gets any of these symptoms.

**Common side effects**

These may affect up to 1 in 10 people:

- Thrush (fungal infection caused by Candida in the vagina, mouth or skin folds)
- Feeling sick (nausea)
- Vomiting
- Diarrhoea

**Uncommon side effects**

These may affect up to 1 in 100 people:

- Dizziness
- Headache
- Indigestion
- Skin rash
- Itching
• Itchy, bumpy rash (hives)

Uncommon side effects that may show up in blood tests are:

• Increase in some substances (enzymes) produced by the liver

**Rare side effects**

These may affect up to 1 in 1,000 people:

• Skin rash, which may blister, and looks like small targets (central dark spots surrounded by a paler area, with a dark ring around the edge – erythema multiforme) (See ‘serious skin reactions’ above)

Rare side effects that may show up in blood tests are:

• Decrease in the number of white blood cells (leucopenia, including neutropenia)
• Decrease in the number of cells that help blood to clot (thrombocytopenia)

**Very rare side effects**

These may affect up to 1 in 10,000 people:

• Severe allergic reactions (See also ‘severe allergic reactions’ earlier in Section 4)
• Serious skin reactions (See also ‘serious skin reactions’ above)
• Inflammation of the liver (hepatitis) (See also ‘serious liver problems’ above)
• Yellowing of the whites of the eyes or skin (jaundice) (See also ‘serious liver problems’ above)
• Inflammation of the large intestines (See also ‘severe diarrhoea’ above)
• Inflammation of the kidney (nephritis)
• An increase in the time blood takes to clot
• Being unusually active (hyperactivity)
• Fits (seizures)
• Black tongue which looks hairy
• Inflammation of the protective membrane surrounding the brain (aseptic meningitis)
• Stained teeth that can usually be removed by brushing

**Very rare side effects that may show up in blood or urine tests are:**

• Severe decrease in the number of white blood cells (agranulocytosis)
• Red blood cells destroyed too quickly (haemolytic anaemia)
• Crystals in urine

Tell your doctor if any of the side effects listed becomes severe or troublesome for your child, or if your child has any side effects not listed in this leaflet.
STORING AUGMENTIN ES

Keep out of the sight and reach of children.

Do not take AUGMENTIN ES after the expiry date shown on the pack.

Store in a dry place in the original packaging to protect from moisture.

Once made up, the suspension should be stored in a refrigerator (2°C to 8°C). Do not freeze it.

Dispose of any unused suspension 10 days after first making up.

10. DETAILS OF MANUFACTURER

Batch Release site name and address:
Glaxo Wellcome Production
ZI de la Peyenniere
Mayenne, 53100
France

For further information please contact:
GlaxoSmithKline Pharmaceuticals Limited.
Registered Office:
Dr. Annie Besant Road, Worli
Mumbai 400 030, India.

11. DETAILS OF PERMISSION OR LICENSE NUMBER WITH DATE

Marketing Authorisation Number and Date: IMP-102/2020 dated 8 June 2020

12. DATE OF REVISION

19 April 2021

Trade marks are owned by or licensed to the GSK group of companies.

Version: AUG-ES/PI/IN/2021/01

Adapted from Amoxicillin-Clavulanate (ES) GDS 24/IPI 11 dated 13 June 2019.