# PRODUCT MONOGRAPH INCLUDING PATIENT MEDICIATION INFORMATION

# PrAPO-AMOXICILLIN

**Amoxicillin Capsules** 

Capsules, 250 mg and 500 mg Amoxicillin (as amoxicillin trihydrate) Oral

Amoxicillin Powder for Oral Suspension

Powder for Oral Suspension, 125 mg / 5 mL, 250 mg / 5 mL Amoxicillin (as amoxicillin trihydrate), Oral

USP

Antibiotic

APOTEX INC.
150 Signet Drive
Toronto, Ontario
M9L 1T9
www.apotex.ca/products

Date of Initial Authorization: APR 13, 2021

Date of Revision: AUG 28, 2023

Submission Control Number: 270923

# **RECENT MAJOR LABEL CHANGES**

3 SERIOUS WARNINGS AND PRECAUTIONS BOX	08/2023
7 WARNINGS AND PRECAUTIONS	08/2023

# **TABLE OF CONTENTS**

Section	ns or s	subsections that are not applicable at the time of authorization are not listed.	
RECEN	NT MA.	IOR LABEL CHANGES	2
TABLE	OF CO	ONTENTS	2
PART	I: HEA	LTH PROFESSIONAL INFORMATION	5
1	INDI	CATIONS	5
	1.1	Pediatrics	6
	1.2	Geriatrics	6
2	CON	TRAINDICATIONS	6
3	SERIC	OUS WARNINGS AND PRECAUTIONS BOX	6
4	DOSA	AGE AND ADMINISTRATION	6
	4.1	Dosing Considerations	6
	4.2	Recommended Dose and Dosage Adjustment	7
	4.3	Reconstitution	8
	4.4	Administration	9
	4.5	Missed Dose	9
5	OVE	RDOSAGE	9
6	DOSA	AGE FORMS, STRENGTHS, COMPOSITION AND PACKAGING	9
7	WAR	NINGS AND PRECAUTIONS	10
	7.1	Special Populations	12
	7.1.1	Pregnant Women	12
	7.1.2	Breast-feeding	12
	7.1.3	Pediatrics	12
	7.1.4	Geriatrics	12
8	ADVI	ERSE REACTIONS	12
	8.1	Adverse Reaction Overview	12
	8.5	Post-Market Adverse Reactions	14

9	DRUG	INTERACTIONS	14
	9.4	Drug-Drug Interactions	14
	9.5	Drug-Food Interactions	15
	9.6	Drug-Herb Interactions	15
	9.7	Drug-Laboratory Test Interactions	15
10	CLINI	CAL PHARMACOLOGY	15
	10.1	Mechanism of Action	15
	10.2	Pharmacodynamics	15
	10.3	Pharmacokinetics	16
11	STOR	AGE, STABILITY AND DISPOSAL	17
12	SPECI	AL HANDLING INSTRUCTIONS	17
PART I	I: SCIE	NTIFIC INFORMATION	20
13	PHAR	MACEUTICAL INFORMATION	20
14	CLINI	CAL TRIALS	20
15	MICR	OBIOLOGY	20
16	NON-	CLINICAL TOXICOLOGY	22
17	SUPP	ORTING PRODUCT MONOGRAPH	25
PΔTIFN	NT ME	DICATION INFORMATION	24

#### PART I: HEALTH PROFESSIONAL INFORMATION

#### 1 INDICATIONS

APO-AMOXICILLIN (Amoxicillin Capsules and Amoxicillin Powder for Oral Suspension) is indicated for:

- Treatment of infections due to susceptible strains of the following micro-organisms:
  - Gram-negative organisms: H. influenzae, P. mirabilis and N. gonorrhoeae.
  - Gram-positive organisms: Streptococci (including *Streptococcus faecalis* and *Streptococcus pneumoniae*).

Amoxicillin is not active against *Pseudomonas aeruginosa*, indole-positive *Proteus* species, *Serratia marcescens*, *Klebsiella* and *Enterobacter* species.

In emergency cases, where the causative organism is not yet identified, therapy may be initiated with amoxicillin on the basis of clinical judgment while awaiting bacteriologic tests to determine its antimicrobial sensitivity.

- Prophylaxis against alpha-hemolytic (Viridan's group) Streptococci before dental, oral or upper respiratory tract surgery or instrumentation.
- Prophylaxis of bacterial endocarditis in patients with any of the following conditions:
  - congenital cardiac malformations,
  - rheumatic and other acquired valvular lesions,
  - prosthetic heart valves,
  - previous history of bacterial endocarditis,
  - hypertrophic cardiomyopathy,
  - surgically constructed systemic pulmonary shunts,
  - mitral valve prolapse with valvular regurgitation or mitral valve prolapse without valvular regurgitation but associated with thickening and/or redundancy of the valve leaflets.

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

#### 1.1 Pediatrics

Pediatrics (<18 years of age): See <u>4.2 Recommended Dose and Dosage Adjustment</u> and <u>7.1.3</u> Pediatrics.

## 1.2 Geriatrics

Geriatrics (≥65 years of age): See 7.1.4 Geriatrics.

## 2 CONTRAINDICATIONS

APO-AMOXICILLIN is contraindicated in:

- Patients who are hypersensitive to this drug or to any ingredient in the formulation, including any non-medicinal ingredient, or component of the container. For a complete listing, see 6 DOSAGE FORMS, STRENGTHS, COMPOSITION AND PACKAGING.
- Patients with a history of previous hypersensitivity reaction to any of the penicillins or cephalosporins.
- Cases where infectious mononucleosis is either suspected or confirmed.

#### 3 SERIOUS WARNINGS AND PRECAUTIONS BOX

## **Serious Warnings and Precautions**

Hypersensitivity Reactions: Serious and occasionally fatal hypersensitivity (anaphylactoid) and severe cutaneous adverse reactions (SCAR) have been reported in patients receiving therapy with beta-lactams, including amoxicillin. See <u>7 WARNINGS AND PRECAUTIONS</u>, <a href="Immune">Immune</a> and <u>7 WARNINGS AND PRECAUTIONS</u>, <a href="Skin">Skin</a>.

#### 4 DOSAGE AND ADMINISTRATION

## 4.1 Dosing Considerations

Periodic assessment of renal, hepatic and hematopoietic functions should be made during prolonged APO-AMOXICILLIN therapy.

Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection, and it may be useful to monitor renal function.

## 4.2 Recommended Dose and Dosage Adjustment

Infections of the upper respiratory tract (ear, nose and throat) due to susceptible strains of streptococci (beta-hemolytic and *Streptococcus pneumoniae*), non penicillinase-producing staphylococci and *H. influenzae*.

Infections of the urinary tract due to *Proteus mirabilis* and *Streptococcus faecalis*.

Infections of the skin and soft-tissues due to streptococci and staphylococci (non penicillinase producing).

## **USUAL DOSAGE:**

Adults: 250 mg every 8 hours

Children < 20 kg: 20 mg/kg/day in divided doses every 8 hours. This dosage should not

exceed the recommended adult dosage.

Children weighing 20 kg or more should be dosed according to the adult recommendations.

In severe infections or infections associated with organisms where sensitivity determinations require higher blood concentrations: 500 mg every 8 hours for adults, and 40 mg/kg/day in divided doses every 8 hours for children less than 20 kg may be needed.

Infections of the lower respiratory tract, due to susceptible strains of the causative organism and acute otitis media.

# **USUAL DOSAGE**:

Adults: 500 mg every 8 hours

Children < 20 kg: 40 mg/kg/day in divided doses every 8 hours. This dosage should not

exceed the recommended adult dosage.

Children weighing 20 kg or more should be dosed according to the adult recommendations.

Urethritis due to non-penicillinase, producing *N. gonorrhoeae* acquired in area with active monitoring for resistance to penicillin and where the percentage of penicillin-resistant isolates is <3.0°/o:

Adults and children > 45 kg: (3 g as a single oral dose); 1 g of oral probenecid should be

administered concomitantly as well as appropriate therapy for presumptive or proven infection with *C. trachomatis*.

Children <45 kg: a single 50 mg/kg dose (maximum 3 g) given with a single

25 mg/kg (up to 1 g) dose of probenecid. However,

probenecid is not recommended in children under 2 years of age. Appropriate therapy of presumptive or proven infection with *C. trachomatis* should be included as well. Cases of gonorrhea with a suspected lesion of syphilis should have darkfield examinations before receiving amoxicillin, and monthly serological tests for a minimum of four months.

For prevention of endocarditis:

Adults: 3 g orally 1 hour before procedure; then 1.5 g 6 hours after the initial

dose.

Children: 50 mg/kg (not to exceed adult dose) orally 1 hour before procedure;

then 25 mg/kg 6 hours after the initial dose.

It should be recognized that in the treatment of chronic urinary tract infections, frequent bacteriological and clinical appraisals are necessary. Smaller doses than those recommended above should not be used. Even higher doses may be needed at times and in stubborn infections therapy may be required for several weeks. It may be necessary to continue clinical and/or bacteriological follow-up for several months after cessation of therapy. Except for gonorrhoea, treatment should be continued for a minimum of 48 to 72 hours beyond the time that the patient becomes asymptomatic or evidence of bacterial eradication has been obtained. It is recommended that there be at least 10 days treatment for any infection caused by betahemolytic streptococci to prevent the occurrence of acute rheumatic fever or glomerulonephritis.

## **Dosage Adjustment**

**Renal Impairment:** Because amoxicillin is excreted mostly by the kidney, the dosage for patients with renal impairment should be reduced in proportion to the degree of loss of renal function.

## 4.3 Reconstitution

## **Reconstituted Solution**

## Instructions for Reconstitution:

At the time of dispensing, SHAKE BOTTLE to LOOSEN THE POWDER. To reconstitute, add the following quantities of water:

	Regular Suspension				
<u>Package</u> Size	125 <u>mg/5</u> mL	250 <u>mg/5</u> mL			
75mL	52	51			
100 mL	70	68			
150 mL	103	101			

Shake thoroughly to obtain a uniform suspension. See 11 STORAGE, STABILITY AND DISPOSAL.

## 4.4 Administration

In order to obtain optimal absorption of drug from APO-AMOXICILLIN capsules they should be administered between meals with a glass of water (250 mL or 8 fl. oz.).

## 4.5 Missed Dose

If the patient misses a dose, instruct the patient to take the dose as soon as they remember. If it is almost time for the next dose, inform the patient to skip the missed dose and continue the regular dosing schedule.

## 5 OVERDOSAGE

Treatment of overdosage would likely be needed only in patients with severely impaired renal function, since patients with normal kidneys excrete penicillins at a fast rate. Hemodialysis would, therefore, represent the main form of treatment.

Activated charcoal may be administered to aid in the removal of unabsorbed drug. General supportive measures are recommended.

For management of a suspected drug overdose, contact your regional poison control centre.

# 6 DOSAGE FORMS, STRENGTHS, COMPOSITION AND PACKAGING

Table 1 - Dosage Forms, Strengths, Composition and Packaging

Route of Administration	Dosage Form / Strength/Composition	Non-medicinal Ingredients
Oral	Capsules 250 mg, 500 mg of amoxicillin (as amoxicillin trihydrate)	Colloidal silicon dioxide, croscarmellose sodium, stearic acid and talc.  The capsule shell contains the nonmedicinal ingredients D&C red #28, D&C yellow #10, FD&C blue #1, FD&C red #40, FD&C yellow #6, gelatin and titanium dioxide.  The edible ink contains the non-medicinal ingredients D&C yellow #10 aluminum lake, FD&C blue #1 aluminum lake, FD&C blue #2 aluminum lake, FD&C red #40 aluminum lake, iron oxide black, propylene glycol and shellac.

Route of Administration	Dosage Form / Strength/Composition	Non-medicinal Ingredients
Oral	Powder for Oral Suspension 125 mg / 5 mL, 250 mg / 5 mL of amoxicillin (as amoxicillin trihydrate)	Artificial strawberry flavour (125 mg/5 mL only), artificial banana flavour (250 mg/5 mL only), D&C yellow #10 aluminum lake 14-18% (250 mg/5 mL only), guar gum, sodium benzoate, sodium citrate and sucrose.  Sugar content/5 mL: 125 mg suspension 0.12 g equivalent to 0.47 cal.; 250 mg suspension 0.23 g equivalent to 0.92 cal.

# **APO-AMOXICILLIN Capsules**

APO-AMOXICILLIN 250 mg Capsule: Hard gelatin capsule with gold opaque body, scarlet opaque cap and a loosely slugged powder fill. Printed 'APO 250'. Each capsule contains amoxicillin trihydrate equivalent to 250 mg of amoxicillin. Available in bottles of 1000 capsules.

APO-AMOXICILLIN 500 mg Capsule: Hard gelatin capsule with gold opaque body, scarlet opaque cap and a loosely slugged powder fill. Printed 'APO 500'. Each capsule contains amoxicillin trihydrate equivalent to 500 mg of amoxicillin. Available in bottles of 100, 500 capsules

APO-AMOXICILLIN Capsules meets USP Dissolution Test 2.

## APO-AMOXICILLIN (Regular) Suspension

APO-AMOXICILLIN 125 mg / 5 mL Suspension: White, granular powder with strawberry odor which forms an off-white suspension when reconstituted.

APO-AMOXICILLIN 250 mg / 5 mL Suspension: Yellow, granular powder with banana odor which forms a yellow suspension when reconstituted.

After reconstitution, each mL of strawberry or banana-flavoured suspension contains amoxicillin trihydrate equivalent to 25 or 50 mg of amoxicillin, respectively. The reconstituted suspension is stable for 7 days at room temperature and 14 days if refrigerated. Available in bottles of 75, 100 and 150 mL.

#### 7 WARNINGS AND PRECAUTIONS

See 3 SERIOUS WARNINGS AND PRECAUTIONS BOX.

## Cardiovascular

Kounis Syndrome, a serious allergic reaction that can result in myocardial infarction, can occur as chest pain in association with an allergic reaction to amoxicillin.

#### Gastrointestinal

Clostridium difficile-associated disease: Clostridium difficile-associated disease (CDAD) has been reported with use of many antibacterial agents, including amoxicillin (see <a href="8.1 Adverse">8.1 Adverse</a> Reaction Overview). CDAD may range in severity from mild diarrhea to fatal colitis. It is important to consider this diagnosis in patients who present with diarrhea, or symptoms of colitis, pseudomembranous colitis, toxic megacolon, or perforation of colon subsequent to the administration of any antibacterial agent. CDAD has been reported to occur over 2 months after the administration of antibacterial agents.

Treatment with antibacterial agents may alter the normal flora of the colon and may permit overgrowth of *Clostridium difficile*. *C. difficile* produces toxins A and B, which contribute to the development of CDAD. CDAD may cause significant morbidity and mortality. CDAD can be refractory to antimicrobial therapy.

If the diagnosis of CDAD is suspected or confirmed, appropriate therapeutic measures should be initiated. Mild cases of CDAD usually respond to discontinuation of antibacterial agents not directed against *Clostridium difficile*. In moderate to severe 5 cases, consideration should be given to management with fluids and electrolytes, protein supplementation, and treatment with an antibacterial agent clinically effective against *Clostridium difficile*. Surgical evaluation should be instituted as clinically indicated, as surgical intervention may be required in certain severe cases.

# Hematologic

Abnormal prolongation of prothrombin time (increased international normalized ratio (INR)) has been reported in patients receiving amoxicillin and oral anticoagulants. Appropriate monitoring should be undertaken when amoxicillin and oral anticoagulants are prescribed concurrently, particularly upon initiation or cessation of concurrent administration. Adjustments in the dose of oral anticoagulants may be necessary to maintain the desired level of anticoagulation.

Periodic assessment of hematopoietic function should be made during prolonged APO-AMOXICILLIN therapy.

## Hepatic/Biliary/Pancreatic

Periodic assessment of hepatic function should be made during prolonged APO-AMOXICILLIN therapy.

#### **Immune**

**Hypersensitivity:** APO-AMOXICILLIN is contraindicated in patients with a history of previous hypersensitivity reaction to any of the penicillins or cephalosporins (see  $\underline{2}$  CONTRAINDICATIONS).

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy (see <u>3 SERIOUS WARNINGS AND PRECAUTIONS BOX</u>). Although anaphylaxis is more frequent following parenteral therapy, it has occurred in patients following oral dosing of penicillins. These reactions are more apt to occur in individuals with a history of

sensitivity to multiple allergens. There have been well-documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with cephalosporins. Before initiating therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If an allergic reaction occurs, administration of APO-AMOXICILLIN (amoxicillin) should be discontinued and appropriate therapy instituted.

Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, intravenous steroids, and airway management, including intubation, should also be administered as indicated.

Hypersensitivity reactions are more likely to occur in patients with a history of hypersensitivity to beta-lactams.

# **Monitoring and Laboratory Tests**

Periodic assessment of renal, hepatic and hematopoietic functions should be made during prolonged APO-AMOXICILLIN therapy.

#### Renal

Because amoxicillin is excreted mostly by the kidney, the dosage for patients with renal impairment should be reduced in proportion to the degree of loss of renal function. Periodic assessment of renal functions should be made during prolonged APO-AMOXICILLIN therapy.

# Sensitivity/Resistance

**Development of Drug Resistant Bacteria:** Prescribing APO-AMOXICILLIN in the absence of a proven or strongly suspected bacterial infection is unlikely to provide benefit to the patient and risks the development of drug-resistant bacteria.

If superinfections with mycotic or bacterial pathogens occur (usually involving Aerobacter, Pseudomonas or Candida) treatment with APO-AMOXICILLIN should be discontinued and appropriate therapy instituted.

## Skin

**Severe Cutaneous Adverse Reactions:** Severe cutaneous adverse reactions (SCAR) such as acute generalized exanthematous pustulosis (AGEP), drug reaction with eosinophilia and systemic symptoms (DRESS), Stevens-Johnson syndrome (SJS), and toxic epidermal necrolysis (TEN) have been reported in association with beta-lactam treatment. When SCAR is suspected, APO-AMOXICILLIN should be discontinued and appropriate therapy and/or measures should be taken.

A morbilliform rash following the use of ampicillin in patients with infectious mononucleosis has been well documented and has also been reported to occur following the use of amoxicillin.

## 7.1 Special Populations

# 7.1.1 Pregnant Women

The safety of amoxicillin trihydrate in the treatment of infections during pregnancy has not been established. If the administration of APO-AMOXICILLIN to pregnant patients is considered to be necessary, its use requires that the potential benefits be weighed against the possible hazards to the fetus.

# 7.1.2 Breast-feeding

It is unknown if APO-AMOXICILLIN is excreted in human milk. Precaution should be exercised because many drugs can be excreted in human milk.

#### 7.1.3 Pediatrics

**Pediatrics (<18 years of age):** A moderate rise in serum glutamic oxaloacetic transaminase (SGOT) has been noted, particularly in infants, but the significance of this finding is not known.

## 7.1.4 Geriatrics

## Geriatrics (≥65 years of age):

Use in the elderly: There are no known specific precautions for the use of amoxicillin in the elderly.

Amoxicillin is known to be substantially excreted by the kidney, and the risk of toxic reactions to APO-AMOXICILLIN may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection, and it may be useful to monitor renal function.

#### 8 ADVERSE REACTIONS

#### 8.1 Adverse Reaction Overview

As with other penicillins, it may be expected that untoward reactions will be related to sensitivity phenomena. They are more likely to occur in individuals who have previously demonstrated hypersensitivity to penicillins and cephalosporins and in those with a history of allergy, asthma, hay fever or urticaria.

The following adverse reactions have been reported as associated with the use of amoxicillin trihydrate:

**Blood and lymphatic system disorders:** Anemia, thrombocytopenia, thrombocytopenic purpura, eosinophilia, leukopenia, neutropenia and agranulocytosis have been reported during therapy with the penicillins. These reactions are usually reversible on discontinuation of therapy and are believed to be a hypersensitivity phenomena. Reports have also been seen of anemia including hemolytic anemia.

Gastrointestinal disorders: Nausea, vomiting and diarrhea, hemorrhagic and pseudomembranous colitis. *Clostridium difficile*-associated disease (CDAD) has been reported with use of many antibacterial agents, including amoxicillin. Glossitis, black "hairy" tongue and stomatitis, mucocutaneous candidiasis, tooth discoloration (brown, yellow or gray staining); most reports occurred in pediatric patients. Discoloration was reduced or eliminated with brushing or dental cleaning in most cases.

**Hepatobiliary disorders:** Reports have also been seen of hepatic dysfunction including cholestatic jaundice, hepatic cholestasis, acute cytolytic hepatitis.

**Immune system disorders:** Skin rashes have been reported frequently. Less commonly, a few cases of serum sickness like reactions including urticaria, erythema, erythema multiforme, angioneurotic edema, pruritus have been reported. Rarely, Stevens-Johnson syndrome, toxic epidermal necrolysis, bullous dermatitis, exfoliative dermatitis, acute generalized exanthematous pustulosis, hypersensitivity vasculitis have been reported.

**Anaphylaxis** is the most serious reaction experienced and has usually been associated with the parenteral dosage form.

<u>NOTE</u>: Urticaria, other skin rashes, and serum sickness-like reactions may be controlled with antihistamines and if necessary, systemic corticosteroids. Whenever such reactions occur, APO-AMOXICILLIN (amoxicillin) should be discontinued unless, in the opinion of the physician, the condition being treated is life threatening and amenable only to amoxicillin therapy. Serious anaphylactic reactions require the immediate use of epinephrine, oxygen and intravenous steroids.

**Investigations:** A moderate rise in serum glutamic oxaloacetic transaminase (SGOT) has been noted, particularly in infants, but the significance of this finding is not known. Transient increases in serum alkaline phosphatase and lactic dehydrogenase levels have also been observed but they returned to normal on discontinuation of amoxicillin.

Elevations of creatinine or blood urea nitrogen may occur.

**Nervous system disorders:** As with other penicillins, acute and chronic toxicity is not a clinical problem. Although penicillins do not normally cross the blood-brain barrier to any substantial extent, if massive doses are given (several grams per day) to elderly patients, patients with inflamed meninges or patients with impaired renal function, toxic reactions are likely to occur. At extremely high doses, convulsions can occur. When penicillin reaches a high concentration in the cerebrospinal fluid, neurotoxic symptoms consisting of myoclonia, convulsive seizures and depressed consciousness may occur. Unless administration of the drug is stopped or its dosage reduced, the syndrome may progress to coma and death. Dizziness, hyperkinesias and hyperactivity have also been reported.

**Psychiatric disorders:** Agitation, anxiety, insomnia, confusion, and behavioural changes have been reported.

**Renal and urinary disorders:** Crystalluria. Interstitial nephritis (oliguria, proteinuria, hematuria, hyaline casts, pyuria) and nephropathy are infrequent and usually associated with high doses of parenteral penicillins; however, this has occurred with all of the penicillins. Such reactions are hypersensitivity responses and are usually associated with fever, skin rash and eosinophilia.

**Skin and subcutaneous tissue disorders:** erythematous maculopapular rash.

## 8.5 Post-Market Adverse Reactions

**Neurological:** Amoxicillin can lead to cases of aseptic meningitis of unknown frequency.

Other immune system disorders: Kounis syndrome.

## 9 DRUG INTERACTIONS

# 9.4 Drug-Drug Interactions

The drugs listed in this table are based on either drug interaction case reports or studies, or potential interactions due to the expected magnitude and seriousness of the interaction (i.e., those identified as contraindicated).

**Table 2 - Established or Potential Drug-Drug Interactions** 

Proper/Common name	Source of Evidence	Effect	Clinical comment
Methotrexate	Т	Penicillins compete with renal tubular secretion of methotrexate, resulting in decreased clearance of methotrexate. Concomitant use may increase methotrexate serum concentrations	Increased risk of methotrexate toxicity.
Oral Contraceptives	Т	APO-AMOXICILLIN may affect the gut flora, leading to lower estrogen reabsorption.	Reduced efficacy of combined oral estrogen/progesterone contraceptives.
Probenecid	Т	Probenecid inhibits the renal tubular excretion of amoxicillin. Concurrent use of amoxicillin and probenecid may result in increased and prolonged blood levels of amoxicillin.	

Proper/Common name	Source of Evidence	Effect	Clinical comment
Tetracyclines	Т	Bacteriostatic action of tetracyclines may inhibit bactericidal activity of penicillins.	
Warfarin	Т	Abnormal prolongation of prothrombin time (increased international normalized ratio [INR]) has been reported in patients receiving amoxicillin and warfarin.	Appropriate monitoring should be undertaken when warfarin is prescribed concurrently. Adjustments in the dose of oral anticoagulants may be necessary to maintain the desired level of anticoagulation.

Legend: T = Theoretical

# 9.5 Drug-Food Interactions

Amoxicillin is stable in the presence of gastric acid. APO-AMOXICILLIN is rapidly and well absorbed after oral administration to fasting subjects. In a study, peak serum antibiotic levels were reduced by 50% in subjects receiving amoxicillin immediately following a standard meal. Reducing the dose-water volume given with amoxicillin from 250 to 25 mL in fasted subjects also caused a significant reduction in serum amoxicillin levels. This may be due to the low water solubility of amoxicillin trihydrate (1 g in 370 mL water). In addition, food ingestion immediately before dosing also reduced the urinary excretion.

## 9.6 Drug-Herb Interactions

Interactions with herbal products have not been established.

## 9.7 Drug-Laboratory Test Interactions

APO-AMOXICILLIN may:

- cause false-positive reactions when testing for the presence of glucose in urine.
- distort assay results for estriol in pregnant women.

## 10 CLINICAL PHARMACOLOGY

## 10.1 Mechanism of Action

Amoxicillin exerts its bactericidal action by interfering with bacterial cell wall synthesis.

## 10.2 Pharmacodynamics

No information is available.

#### 10.3 Pharmacokinetics

# **Absorption**

The following amoxicillin mean serum levels were found following the administration of 250 mg capsules of APO-AMOXICILLIN to 12 healthy adult volunteers:

Time (hr.)	0.5	1.0	1.5	2	3	4	5	7
Mean Serum Levels (mcg/mL)	0.81	2.96	3.17	3.10	2.22	1.12	0.50	0.11

Peak blood serum levels averaged 3.8 mcg/mL (range 2.35 to 6.38) and the  $T_{max}$  was 1.50 hr. The mean biological half-life (t ½) was found to be 55.8 minutes with a mean elimination rate constant  $K_{el}$  of 0.7456 hr.  $^{-1}$ .

Twelve normal male subjects participated in a bioavailability study of amoxicillin trihydrate Granules for Suspension. Each subject was given 5 mL (250 mg) of reconstituted amoxicillin trihydrate Granules for Suspension in a single dose.

The following amoxicillin mean serum levels were found:

Time (hr.)	0.5	1.0	1.5	2	3	4	5	7
Mean Serum	3.26	4.19	3.40	2.55	1.65	0.98	0.43	0.10
Levels (mcg/mL)								

Peak plasma concentrations from 2.65 to 5.75 mcg/mL were obtained with a mean  $C_{max}$  of 4.24  $\pm$  0.74 mcg/mL. The time required to reach peak concentrations ranged from 0.5 to 1.5 hours, with a  $T_{max}$  mean of 1.00 + 0.21 hr.

The AUC's calculated for 0 to 7 hours ranged from 8.475 to 12.865 mcg-hours/mL. The mean AUC was  $10.71 \ 3 \pm 1.443 \ mcg$ -hours/mL. The mean biological half-life for amoxicillin trihydrate Granules for Suspension was 26.4 minutes. The mean elimination rate constant ( $K_{el}$ ) was 1.57 hour<sup>-1</sup>.

See 9.5 Drug-Food Interactions.

## Distribution

Peak serum levels are attained between 1 and 2 hours after drug administration. Amoxicillin diffuses readily into most body tissues and fluids, with the exception of brain and spinal fluid. Amoxicillin is not highly protein bound. In blood serum, amoxicillin is approximately 17 to 18% protein bound compared to 59% for penicillin G.

#### Elimination

Amoxicillin is excreted largely unchanged in the urine while 10 to 25% of the administered dose is excreted in the form of penicilloic acid. The excretion of amoxicillin can be delayed by concurrent administration of probenecid.

# **Special Populations and Conditions**

• Renal Insufficiency: The administration of 500 mg amoxicillin to healthy fasting subjects has been reported to produce peak mean serum levels of 10.8 mcg/mL and 6.75 mcg/mL. Additional studies in healthy volunteers with normal renal function receiving 500 mg doses, indicated that peak serum levels could vary from 5.0 to 10.8 mcg/mL. Serum amoxicillin half-life values reported in the literature vary from 1 to 1.3 hours. About 60 to 80% of an oral dose of amoxicillin is excreted in the urine. In the presence of renal impairment the serum half-15 life increases (between 7 and 10 hours), necessitating a reduction in the dosage administered.

# 11 STORAGE, STABILITY AND DISPOSAL

Capsule: Store at room temperature 15°C to 30°C. Protect from heat and moisture.

Powder: Store: 15°C to 30°C (room temperature). Protect from light and moisture.

Reconstituted Suspension: 14 days under refrigeration (2°C-8°C) or 7 days at room temperature (15°C to 30°C). Protect from light. Keep bottle tightly closed.

## 12 SPECIAL HANDLING INSTRUCTIONS

None.

## PART II: SCIENTIFIC INFORMATION

## 13 PHARMACEUTICAL INFORMATION

**Drug Substance** 

Proper name: amoxicillin trihydrate

Chemical name: trihydrate of 6-[D-(-)-alpha-amino-4-hydroxy-

phenyl-acetamido]- penicillanic acid

Molecular formula and molecular mass: C<sub>16</sub>H<sub>19</sub>N<sub>3</sub>O<sub>5</sub>S•3H<sub>2</sub>O and 419.5 g/mol

Structural formula:

Physicochemical properties:

Description: Amoxicillin trihydrate is a white or slightly off-white

highly hygroscopic powder, relatively insoluble in water but readily soluble in phosphate buffer, pH

8.0.

## **14 CLINICAL TRIALS**

The clinical trial data on which the original indication was authorized is not available.

## 15 MICROBIOLOGY

In vitro studies with amoxicillin have demonstrated the susceptibility of the following grampositive bacteria: beta-hemolytic streptococci, Streptococcus pneumoniae, D. pneumoniae, non-penicillinase-producing staphylococci, and Streptococcus faecalis. It is active in vitro against many strains of Haemophilus influenzae, Neisseria gonorrhoeae and Proteus mirabilis. Because amoxicillin does not resist destruction by penicillinase, it is not effective against penicillinase-producing bacteria, particularly resistant staphylococci.

Amoxicillin is not active against all *Pseudomonas aeruginosa*, indole-positive *Proteus* species, *Serratia marcescens*, *Klebsiella*, and *Enterobacter* species.

<u>Disc Susceptibility Tests</u>: Quantitative methods that involve the measurement of the diameters of zones of inhibition can be used to estimate micro-organism sensitivity to a particular antibiotic. A procedure which involves the use of discs impregnated with a particular antibiotic has been described for the ampicillin class of antibiotics. Interpretations correlate diameters of the zones of inhibition with MIC values for amoxicillin. With this procedure, using a 10 pg disc, a zone of 29 mm or more is classified as "susceptible" and indicates that the infecting organism is likely to respond to therapy. A zone of 20 mm or less is classified as "resistant" and indicates that the infecting organism is not likely to respond to therapy. A zone of 21 to 28 mm is classified as "intermediate susceptibility" and indicates that the organism would be susceptible if high dosages are used, or if the infection is confined to tissues and fluids (e.g., urine), in which antibiotic levels are attained.

The *in vitro* activity of amoxicillin against selected organisms has been reported by Sutherland *et al.* and Sabto *et al.* shown in the following tables:

Table 3 - In Vitro Activity of Amoxicillin Against Gram-Positive Cocci, H. Influenzae and N. Gonorrhoeae

Organism	Minimum	Minimum Inhibitory Concentration (mcg/mL)								
	No. of Strains	<u>005</u>	0.01	0.02	0.03	<u>0.05</u>	0.12	0.25	<u>0.5</u>	<u>1.0</u>
Staphylococcus aureus	29					3	20	6		
Beta-hemolytic streptococci	28		25	3						
Streptococcus pneumoniae	23		9	6	2	6				
Streptococcus faecalis	53							3	39	11
H. influenzae	98						20	41	29	8
N. gonorrhoeae	13		1	3		3	1	5		

Table 4 - In Vitro Activity of Amoxicillin Against Gram-Negative Bacilli

Organism	Minimum Inhibitory Concentration (mcg/mL)								
	No. of Strains	1.25 or less	2.5	5.0	12.5	25	50	100	>100
Proteus mirabilis	90	38	28	11					13
Shigella sonnei	26		4	11	4		1	1	5
Salmonella species	20	10	8						2

Organism	Minimum Inhibitory Concentration (mcg/mL)								
	No. of Strains	1.25 or less	2.5	5.0	12.5	25	50	100	>100
Klebsiella-Enterobacter	29		1				1	2	25
Serratia marcescenes	18			1		1	3	6	7
E. coli	206	5	13	115	46	2	1	1	23

The minimum inhibitory concentrations of amoxicillin against all micro-organisms with the exception of 5 strains of *Streptococcus pneumoniae* were measured by serial dilution in agar. The minimum inhibitory concentration against these strains of *Streptococcus pneumoniae* was estimated using the tube dilution method with Levinthal's medium.

## 16 NON-CLINICAL TOXICOLOGY

# **General Toxicology**

## **Acute Toxicity**

The following LD<sub>50</sub> values for amoxicillin expressed in mg/kg of body weight have been reported.

Species	Route of Administration			
	P.O	I.P.	S.C.	
Mouse	> 10,000	4350	> 6,000	
Rat	> 8,000	4900	> 6,000	
Dog	> 3,000			

## **Sub-acute Toxicity**

## Rats:

In one study male and female rats were orally administered 500 mg/kg amoxicillin daily for 21 days. With the exception of significantly greater (p<0.01) BUN values in the female test group compared with controls, there were no toxic effects on the organs, tissues or fluids of the body, nor any adverse effects on food consumption, weight gain, or efficiency of food utilization reported in the study.

Histopathologic evaluation of tissues revealed a minimal degree of fatty change in livers of treated females. However, this finding was not considered a toxic change but related to a possible alteration in the intestinal flora.

## Dogs:

One male and one female dog were dosed orally with 250 mg/kg amoxicillin daily for 14 days. During the period of observation, no deaths occurred, no adverse changes in body weight and no effect on food consumption was found. Laboratory values were found within normal limits. At post-mortem, no gross or microscopic abnormalities were reported and organ weights were within normal limits.

# **Chronic Toxicity**

## Rats:

In one study male and female rats were given oral doses of 200, 500 and 2000 mg/kg/day amoxicillin, 6 days a week for 26 weeks. No apparent disturbances in absolute organ weights of either treated male or female animals were noted nor was any histologic evidence of response to treatment observed.

In another study, 3 groups of Sprague-Dawley rats were given oral doses of 200, 500 and 2000 mg/kg of amoxicillin for a test period of 13 to 15 weeks. There were no gross or histologic changes observed in the treated rats that were considered related to the administration of amoxicillin. Some of the intermediate and low-dose groups were shown to exhibit body weight gains lower (males) or slightly higher (females) than those of the control animals.

## Dogs:

It has been reported that amoxicillin was administered orally at doses of 200, 500 and 2000 mg/kg/day to male and female dogs for a period of 6 months. (Groups consisted of 6 male and 6 female dogs initially, but after 3 months dosing, each group was reduced to 3 dogs).

During the first six weeks of treatment, occasional bouts of vomiting, one to four hours after dosing, were reported in dogs receiving 2000 mg/kg/day and 4 bouts of vomiting were recorded in dogs receiving the intermediate dose of 500 mg/kg/day. Grey coloured feces were seen on very isolated occasions in dogs treated at high and intermediate dose levels only. On seven occasions it involved dogs receiving the highest dose level (2000 mg/kg/day) and on three occasions dogs receiving the intermediate dose level (500 mg/kg/day).

Body weight gains of treated males were reported to be not significantly different from those of controls, but all dosed females increased in weight at a significantly slower rate than did the controls. This factor was reported to be attributable to excessive weight gain in the control animals. Food and water consumption was not affected. No abnormalities of the eyes were observed attributable to amoxicillin.

In a second study 2 groups of Beagle dogs were given oral doses of 500 mg/kg and 200 mg/kg of amoxicillin for 13 weeks. There were no gross or histologic changes reported in the treated dogs that were considered related to the administration of amoxicillin.

# **Reproductive and Developmental Toxicology**

# Effects on Fertility and Reproductive Performance

#### Rats:

Daily doses of 200 and 500 mg/kg amoxicillin were administered orally in one reported study. Male rats that had attained a minimum age of 40 days were treated for 63 days and sexually mature females for 14 days prior to mating. Dosing continued throughout the remainder of the investigation. The duration of gestation was unaffected by treatment at either dosage. It was noted that pregnancy rate at 500 mg/kg was slightly lower than that of controls at the first and second matings. At 200 mg/kg, the pregnancy rate was essentially comparable to control values at both matings. The chronologic sequence of mating was comparable for all groups; at 500 mg/kg the total number of animals showing evidence of mating was slightly lower than that of controls at both pairings. Pre- and post-implantation losses were comparable for all groups at the first and second pregnancies.

Among the rats allowed to rear their young, litter sizes, litter weights, mean pup weights and the pup mortality rates for the group dosed at 500 mg/kg amoxicillin were comparable to control values at birth, 4 and 21 days postpartum. Mean pup weights and pup mortality rates were similarly unaffected by 200 mg/kg amoxicillin; but litter sizes and litter weights were lower than control values from birth through lactation. These differences were considered to be unrelated to treatment. No abnormal young were observed.

# Effects on Pregnancy

# Mice:

It has been reported that amoxicillin administered at doses of 200, 500 and 2000 mg/kg/day orally during days 6 to 15 of pregnancy produced no obvious signs of reaction to treatment or deaths among parent animals. Body weight changes of pregnant dams were comparable for all groups, as was the pregnancy rate.

Fetal loss was significantly higher among all test groups than among controls. However, as implantation rates also tended to be higher at the 500 and 2000 mg/kg doses, litter sizes were only marginally, and not significantly, lower than the control value. Litter sizes and implantation rate also tended to lie at or above the upper limit of the laboratory range. Due to the latter factors, the biologic importance of the increased fetal loss was uncertain. It was noted that mean pup weights were comparable for all groups. The distribution of skeletal variants was considered to be unaffected by treatment at any dosage. A significantly higher proportion of pups with cervical ribs was found in the 200 mg/kg dose group. Cervical rib and 14th rib are the prolongations of the transverse processes of the cervical or lumbar vertebrae. Supernumerary ribs have an incidence which depends on the strain of animals. Cervical ribs are not abnormalities and have no pathologic significance.

In this experiment the incidence of cervical ribs was 12% in control rats and 16% in the drugtreated groups if the three groups are calculated together. If the groups are considered individually, then in the lowest dose group (200 mg/kg) the incidence of cervical ribs was 24%, which is, statistically, significantly higher than in the controls. This finding was not considered to be drug related since at the 500 mg/kg dose level the incidence of cervical ribs was significantly lower than in controls. At the highest dose level (2000 mg/kg) the incidence of cervical ribs was 17%, similar to the controls. The incidence of visceral abnormalities was not significantly affected at any dose level.

## Rats:

Amoxicillin was administered at doses of 200 mg/kg, 500 mg/kg and 1000 mg/kg orally during gestation from day 6 through 15. Amoxicillin did not modify pregnancy, percentage of resorption and did not produce fetal abnormalities as compared with negative control rats.

# Effects on Peri- and Post-Natal Development of the Rat

Amoxicillin was administered orally at 200 and 500 mg/kg/day from day 15 of gestation through lactation to 21 days post-partum. Body weight gain, pregnancy rate, and the duration of gestation of parent animals were unaffected by treatment at any dosage. There was a significant dose-related trend to lower litter size and weight at birth. This persisted through lactation to weaning despite reduced pup mortality and increased mean pup weight in the test groups compared with controls. No abnormal young were observed.

## 17 SUPPORTING PRODUCT MONOGRAPH

1. NOVAMOXIN Capsules 250 mg and 500 mg, Chewable Tablets 250 mg, Granules for Oral Suspension 250 mg/5 ml and Sugar-Reduced Granules for Oral Suspension 250 mg/5 ml submission control 268379, Product Monograph, Teva Canada Limited. (May 16, 2023).

## PATIENT MEDICATION INFORMATION

## READ THIS FOR SAFE AND EFFECTIVE USE OF YOUR MEDICINE

PrAPO-AMOXICILLIN

# **Amoxicillin Capsules**

## **Amoxicillin Powder for Oral Suspension**

Read this carefully before you start taking **APO-AMOXICILLIN** and each time you get a refill. This leaflet is a summary and will not tell you everything about this drug. Talk to your healthcare professional about your medical condition and treatment and ask if there is any new information about **APO-AMOXICILLIN**.

# **Serious Warnings and Precautions**

 Some people taking penicillin antibiotics like APO-AMOXICILLIN (amoxicillin) have had serious allergic reactions, including severe skin reactions and death. If you have had an allergic reaction to penicillins, cephalosporins and other allergens, tell your healthcare professional before you start treatment with APO-AMOXICILLIN.

#### What is APO-AMOXICILLIN used for?

APO-AMOXICILLIN is used to treat certain bacterial infections. It may also be used to prevent infections in:

- Mouth, nose, tonsils and throat.
- Heart.
- Emergency situation.

## How does APO-AMOXICILLIN work?

APO-AMOXICILLIN interferes with bacterial cell wall. This helps to:

- Stop growth of bacteria.
- Kill the bacteria.
- · Reduce the infection.

Some infections are caused by viruses, such as the common cold. APO-AMOXICILLIN **does not** kill viruses.

## What are the ingredients in APO-AMOXICILLIN?

Medicinal ingredients: amoxicillin (as amoxicillin trihydrate)

Non-medicinal ingredients:

**250 mg and 500 mg capsules**: In addition to amoxicillin, each capsule contains the non-medicinal ingredients colloidal silicon dioxide, croscarmellose sodium, stearic acid and talc.

The capsule shell contains the non-medicinal ingredients D&C red #28, D&C yellow #10, FD&C blue #1, FD&C red #40, FD&C yellow #6, gelatin and titanium dioxide.

The edible ink contains the non-medicinal ingredients D&C yellow #10 aluminum lake, FD&C blue #1 aluminum lake, FD&C blue #2 aluminum lake, FD&C red #40 aluminum lake, iron oxide black, propylene glycol and shellac.

125 mg / 5 mL and 250 mg / 5 mL suspension: the suspension contains the non-medicinal ingredients artificial strawberry flavour (125 mg/5 mL only), artificial banana flavour (250 mg/5 mL only), D&C yellow #10 aluminum lake 14 to 18% (250 mg/5 mL only), guar gum, sodium benzoate, sodium citrate and sucrose. Sugar content/5 mL: 125 mg suspension 0.12 g equivalent to 0.47 cal.; 250 mg suspension 0.23 g equivalent to 0.92 cal.

If you are on a special diet, or if you are allergic to any substance, ask your healthcare professional whether any of these ingredients may cause a problem.

# APO-AMOXICILLIN comes in the following dosage forms:

APO-AMOXICILLIN Capsules: 250 mg and 500 mg capsules.

APO-AMOXICILLIN (Regular) Suspension: 125 mg / 5 mL and 250 mg / 5 mL oral suspension.

#### Do not use APO-AMOXICILLIN if:

- You have any allergies to this drug or to its ingredients (See "What are the ingredients in APO-AMOXICILLIN?").
- You have allergy to packaging components of this drug.
- You have allergy to penicillins, cephalosporins or similar antibiotics such as amoxicillin, ampicillin, cephalexin and others.
- You have a mononucleosis (either suspected or confirmed).

To help avoid side effects and ensure proper use, talk to your healthcare professional before you take APO-AMOXICILLIN. Talk about any health conditions or problems you may have, including if you:

- have a history of hypersensitivity reactions to penicillins, cephalosporines and betalactams (ampicillin, piperacillin, etc). See "What are possible side effects from using APO-AMOXICILLIN?".
- have been taken blood thinners (such as warfarin, etc.).
- have a history of mild diarrhea or colitis influenced by the use of antibiotics.
- have kidney problems.
- are pregnant or plan to become pregnant.
- are breastfeeding or plan to breastfeed. Talk to your healthcare professional about how to feed your baby while you are taking APO-AMOXICILLIN.

## Other warnings you should know about:

- If you have severe diarrhea (very loose or watery stool), tell your healthcare professional right away. Do this even if it occurs several weeks after you stop taking APO-AMOXICILLIN. Diarrhea may mean that you have a serious condition affecting your bowel (colitis). You may need urgent medical care. Do not try to treat loose stools without first checking with your healthcare professional.
- Using too much APO-AMOXICILLIN or using it in the wrong way may cause:
  - more bacteria to grow.
  - bacteria that will not be killed (resistance).
  - it not to work for you in the future (resistance).
- **Laboratory tests:** Your healthcare professional will perform regular blood counts, liver and kidney function tests when you are taking APO-AMOXICILLIN.

Tell your healthcare professional about all the medicines you take, including any drugs, vitamins, minerals, natural supplements or alternative medicines.

## The following may interact with APO-AMOXICILLIN:

- anti-cancer drug (such as Methotrexate).
- medicines used for heartburn or gout (such as probenecid, cimetidine, etc.).
- blood thinner medications (such as warfarin, etc.) that used to thin the blood and prevent clots may predispose you to the development of bleeding problems.
- birth control pills (it may reduce effect of contraceptives).
- antibacterial medicines (such as tetracyclines) may lower effectiveness of APO-AMOXICILLIN.

If you are going to have any blood or urine tests, tell your healthcare professional that you are taking APO-AMOXICILLIN. It may affect the results of test for glucose in urine and assay of estriol in pregnant women.

#### How to take APO-AMOXICILLIN:

- Take this medication by mouth as directed by your healthcare professional.
- Take APO-AMOXICILLIN between meals with a glass of water.
- Tell your healthcare professional if your condition does not improve.

Antibacterial drugs like APO-AMOXICILLIN treat only bacterial infections. They do not treat viral infections. Although you may feel better early in the treatment, APO-AMOXICILLIN should be used exactly as directed. Misuse or overuse of APO-AMOXICILLIN could lead to the growth of bacterial that will not be killed by APO-AMOXICILLIN (resistance). This means that APO-AMOXICILLIN may not work in the future.

Do not share your medicine.

Ask your pharmacist about the other products you take. Some medicines will affect the way

that your body absorbs APO-AMOXICILLIN.

#### **Usual dose:**

## Adults:

For infections: 250 mg - 500 mg every 8 hours or a single dose of 3 g.

For prevention: 3 g once before procedure, then 1.5 g every 6 hours.

#### Children:

Your healthcare professional will tell you how much APO-AMOXICILLIN to give your child based on their weight and the severity of their infection. The children's dose should not exceed the adult dose. For children over 20 kg, the adult dose should be used.

For the oral suspension, please administer using the syringe provided by your pharmacist to ensure the correct dose is given.

## Overdose:

Symptoms of overdose may include severe dizziness.

If you think you, or a person you are caring for, have taken too much APO-AMOXICILLIN, contact a healthcare professional, hospital emergency department, or regional poison control centre immediately, even if there are no symptoms.

## **Missed Dose:**

If you miss a dose, take it as soon as you remember. If it is near the time of the next dose, skip the missed dose and resume your usual dosing schedule. Do not double the dose to catch up.

# What are possible side effects from using APO-AMOXICILLIN?

These are not all the possible side effects you may have when taking APO-AMOXICILLIN. If you experience any side effects not listed here, tell your healthcare professional.

Side effects may include:

- nausea (feeling sick) or vomiting
- diarrhea (loose, or watery bowel movements)
- bloody stool
- black "hairy" tongue (glossitis)
- soreness of the mouth or tongue
- yeast infections (thrush) of the mouth, nails, skin, vagina, stomach or urinary tract
- change of tooth color in children (brown, yellow or gray staining)
- muscle jerks
- dizziness (light headedness)
- decreased ability to perceive and respond
- anxiety
- difficulty to fell asleep (insomnia)

- confusion or changes in behavior
- skin rash
- skin eruption or other effect on skin or eyes
- itching
- hives
- crystals in urine

APO-AMOXICILLIN can cause abnormal blood test results. Your healthcare professional will decide when to perform blood tests and will interpret the results.

Serious side effects and what to do about them					
	Talk to your healtl	hcare professional	Stop taking drug and		
Symptom / effect	Only if severe In all cases		get immediate medical help		
UNCOMMON					
Anaphylaxis (severe allergic reactions): swollen nose, eyes, throat, difficulty breathing, hay fever, skin blistering, lumpy rash (hives), peeling, fainting.			<b>✓</b>		
Angioneurotic edema: Painful swelling of face, eyes, lips, tongue and/or throat, hands or feet; itchy skin rash, skin reddening, hives, stomach pain, dizziness and painting			✓		
Erythema multiforme (severe skin reaction): 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).			✓		
Kidney problems with symptoms such as cloudy urine, blood in the urine which may be associated with a rash, fever, joint pain, or a reduction in passing water (urination)).			<b>✓</b>		

Serious side effects and what to do about them					
	Talk to your healtl	Stop taking drug and			
Symptom / effect	Only if severe	In all cases	get immediate medical help		
Liver problems with symptoms such as persistent nausea/vomiting, stomach/abdominal pain, unusual tiredness, yellowing eyes/skin, dark urine.			✓		
RARE					
Acute Generalised Exanthematous Pustulosis (AGEP): a red, scaly rash with bumps under the skin and blisters			<b>✓</b>		
Bullous exfoliative Dermatitis: widespread red skin rash with small pus-containing blisters			<b>✓</b>		
Drug reaction with eosinophilia					
and systemic symptoms (DRESS) (serious skin reaction that may affect more than one or more organs): fever, severe rash, swollen lymph glands, flulike feeling, yellow skin or eyes, shortness of breath, dry cough, chest pain or discomfort, feel thirsty, urinate less often, less urine			<b>√</b>		
Hypersensitivity vasculitis (Inflammation of the blood vessels): rash, red spots, hives, and blisters on the lower part of the body			✓		
Severe Cutaneous Adverse Reactions (SCAR) (severe skin reactions that may also affect other organs):  • Skin peeling, scaling, or blistering (with or without pus) which may also affect your eyes, mouth, nose or			✓		

Serious sid	e effects and what	to do about them	
	Talk to your health	Stop taking drug and	
Symptom / effect	Only if severe	In all cases	get immediate medical help
genitals, itching, severe rash, bumps under the skin, skin pain, skin color changes (redness, yellowing, purplish)  • Swelling and redness of eyes or face  • Flu-like feeling, fever, chills, body aches, swollen glands, cough  • Shortness of breath, chest pain or discomfort			
Stevens-Johnson syndrome (severe skin rash): redness, blistering and/or peeling of the skin and/or inside of the lips, eyes, mouth, nasal passages or genitals, accompanied by fever, chills, headache, cough, body aches or swollen glands			✓
Toxic Epidermal Necrolysis (severe skin reaction): redness, blistering and/or peeling of large areas of the skin			✓
NOT KNOWN			
Anemia (lack of red blood cells): fatigue, headache, pale skin, irregular heart beats, chest pain, cold hands, dizziness, leg cramps			✓
Aseptic meningitis (inflammation of the protective lining of the brain that is not caused by bacteria): confusion, fever, nausea, fatigue, sudden headache or stiffness of your neck, sensitivity to light, vomiting			✓

Serious sid	e effects and what	to do about them	
Symptom / effect	Talk to your health Only if severe	ncare professional In all cases	Stop taking drug and get immediate medical help
Clostridium difficile colitis (bowel inflammation): severe diarrhea (bloody or watery) with or without fever, abdominal pain, or tenderness			<b>✓</b>
<b>Convulsions</b> (seizures or fits): uncontrollable shaking with or without loss of consciousness.			<b>√</b>
<b>Eosinophilia</b> (increased numbers of certain white blood cells): abdominal pain, rash, weight loss, wheezing		✓	
Hemolytic anemia (breakdown of red blood cells): pale skin, weakness, tiredness, shortness of breath, yellowing of your skin and/or the whites of your eyes, fever			<b>✓</b>
Kounis syndrome (heart problems caused by an allergic reaction): Symptoms of anaphylaxis (see above), chest pain, chest pressure or discomfort, heart palpitations, nausea or vomiting, sweating, shortness of breath, fatigue, clammy skin, feeling anxious or faint, disorientation, upset stomach.			✓
Leukopenia, Neutropenia and Agranulocytosis (low levels of white blood cells): fever, chills, sore throat, faster heartbeat and breathing, other signs of infection			✓
Thrombocytopenia (low blood platelets): bruising or bleeding for longer than usual if you hurt yourself, fatigue and weakness			✓

If you have a troublesome symptom or side effect that is not listed here or becomes bad enough to interfere with your daily activities, talk to your healthcare professional.

# **Reporting Side Effects**

You can report any suspected side effects associated with the use of health products to Health Canada by:

- Visiting the Web page on Adverse Reaction Reporting (<a href="https://www.canada.ca/en/health-canada/services/drugs-health-products/medeffect-canada/adverse-reaction-reporting.html">https://www.canada.ca/en/health-canada/services/drugs-health-products/medeffect-canada/adverse-reaction-reporting.html</a>) for information on how to report online, by mail or by fax; or
- Calling toll-free at 1-866-234-2345.

NOTE: Contact your healthcare professional if you need information about how to manage your side effects. The Canada Vigilance Program does not provide medical advice.

## Storage:

Capsules: Store at room temperature 15°C to 30°C. Protect from heat and moisture.

Powder: Store: 15°C to 30°C (room temperature). Protect from light and moisture.

Reconstituted Suspension: 14 days under refrigeration (2°C-8°C) or 7 days at room temperature (15°C to 30°C). Protect from light. Keep bottle tightly closed.

Do not use after the expiry date. Generally, all expired medications should be returned to your pharmacist.

Keep out of reach and sight of children.

## If you want more information about APO-AMOXICILLIN:

- Talk to your healthcare professional
- Find the full product monograph that is prepared for healthcare professionals and includes this Patient Medication Information by visiting the Health Canada website:
   <a href="mailto:(https://www.canada.ca/en/health-canada/services/drugs-health-products/drug-products/drug-product-database.html">https://www.canada.ca/en/health-canada/services/drugs-health-products/drug-pro

This leaflet was prepared by Apotex Inc., Toronto, Ontario, M9L 1T9.

Last Revised: AUG 28, 2023