

## **THEOPHYLLINE, EPHEDRINE, AND PHENOBARBITAL a, b (Systemic)**

### Introduction

VA CLASSIFICATION (Primary)<sup>3</sup>RE190

Note: For a listing of dosage forms and brand names by country availability, see Dosage Forms section(s).

a Not commercially available in the U.S.

b Not commercially available in Canada.

### Category

Bronchodilator.

### Indications

Unaccepted

Theophylline, ephedrine, and phenobarbital combination is used for symptomatic relief of bronchial asthma, asthmatic bronchitis, and other bronchospastic disorders; prophylactically to abort or minimize asthmatic attacks; and in the management of occasional, seasonal, or perennial asthma. However, the efficacy of this combination medication in these conditions has not been established. The new drug applications (NDAs) for products containing theophylline, ephedrine, and a barbiturate have been withdrawn by FDA and the products have been taken off the market.

### Pharmacology/Pharmacokinetics

Theophylline<sup>3</sup>See Bronchodilators, Theophylline (Systemic).

Ephedrine<sup>3</sup>See Bronchodilators, Adrenergic (Systemic).

Phenobarbital<sup>3</sup>See Barbiturates (Systemic).

### Precautions to Consider

Theophylline<sup>3</sup>See Bronchodilators, Theophylline (Systemic).

Ephedrine<sup>3</sup>See Bronchodilators, Adrenergic (Systemic).

Phenobarbital<sup>3</sup>See Barbiturates (Systemic).

### Side/Adverse Effects

Theophylline<sup>3</sup>See Bronchodilators, Theophylline (Systemic).

Ephedrine<sup>3</sup>See Bronchodilators, Adrenergic (Systemic).

Phenobarbital<sup>3</sup>See Barbiturates (Systemic).

### Overdose

## Treatment of overdose

Theophylline%See Bronchodilators, Theophylline (Systemic) .

Ephedrine%See Bronchodilators, Adrenergic (Systemic) .

Phenobarbital% See Barbiturates (Systemic) .

## Patient Consultation

As an aid to patient consultation, refer to Advice for the Patient, Theophylline, Ephedrine, and Phenobarbital (Systemic).

In providing consultation, consider emphasizing the following selected information (>> = major clinical significance):

Before using this medication

>> Conditions affecting use, especially:

Sensitivity to aminophylline, oxtriphylline, theophylline, ephedrine or other sympathomimetics, or barbiturates

Pregnancy%Phenobarbital readily crosses placenta; increase in incidence of fetal abnormalities; use during third trimester of pregnancy may cause physical dependence with resulting withdrawal symptoms in neonate; long-acting barbiturates associated with neonatal coagulation defect that may cause bleeding during early neonatal period; use during labor may cause respiratory depression in neonate

Breast-feeding%Theophylline is distributed into breast milk; may result in irritability in infants  
Ephedrine is distributed into breast milk; use by nursing mothers is not recommended because of higher-than-usual risks for infants

Phenobarbital is distributed into breast milk; use by nursing mothers may cause CNS depression in infant

Use in children%Decreased theophylline clearance in children younger than 1 year of age, especially neonates and infants younger than 3 months of age with renal function impairment, results in lower dosage requirements; initially, use in children younger than 1 year of age may require more frequent serum concentration determinations

Caution should be used in infants because of higher-than-usual risks with use of ephedrine in these patients

Children may react to phenobarbital with paradoxical excitement

Use in the elderly%Possible decreased theophylline clearance in patients 60 years of age or older may result in lower dosage requirements

Elderly patients may react to usual doses of phenobarbital with excitement, confusion, or mental depression; risk of barbiturate-induced hypothermia may be increased in elderly patients

Other medications, especially anticoagulants (blood thinners); beta-adrenergic blocking agents; carbamazepine; cimetidine; ciprofloxacin; clarithromycin; CNS depressants; cocaine; corticosteroids; corticotropin (ACTH); divalproex sodium; enoxacin; erythromycin; fluvoxamine; interferon alpha; furazolidone; guanadrel; guanethidine; MAO inhibitors; methyldopa; mexiletine; moricizine; oral contraceptives (birth control pills); pentoxifylline; phenytoin; procarbazine; rauwolfia alkaloids; rifampin; tacrine; thiabendazole; ticlopidine; tricyclic antidepressants; troleandomycin; urinary alkalinizers, such as calcium- and/or magnesium-containing antacids, carbonic anhydrase inhibitors, citrates, or sodium bicarbonate; or valproic acid

Other medical problems, especially angle-closure glaucoma, congestive heart failure, convulsions (seizures), coronary insufficiency, diabetes, hepatic disease including premonitory signs of hepatic coma, history of drug abuse, hypertension, hypothyroidism, pain, or pheochromocytoma

Proper use of this medication

>> Taking on empty stomach with a glass of water for faster absorption or, if necessary, taking with meals or immediately after meals to lessen gastrointestinal irritation

>> Importance of not taking more medication than the amount recommended on the label; barbiturates have habit-forming potential

>> Compliance with therapy; not missing any doses

>> Proper dosing

Missed dose: Taking as soon as possible; not taking if almost time for next dose; not doubling doses

>> Proper storage

Precautions while using this medication

Regular visits to physician to check progress during initial period of therapy, including blood levels

>> Caution in eating or drinking large amounts of caffeine-containing foods or beverages during therapy with this medication

>> Notifying physician of factors that may alter theophylline concentrations, such as:

¼fever ( $\geq 102^\circ\text{F}$   $\geq 24$  hours or a lower temperature elevation for a longer period)

¼other medicines started or stopped

¼smoking started or stopped

¼an extended change in diet

>> Notifying the physician before having myocardial perfusion studies; results may be affected by this medicine

>> Avoiding use of alcohol or other CNS depressants

>> Caution if dizziness, lightheadedness, or drowsiness occurs

Side/adverse effects

Signs of potential side effects, especially gastroesophageal reflux

General Dosing Information

Theophylline¼See Bronchodilators, Theophylline (Systemic).

Ephedrine¼See Bronchodilators, Adrenergic (Systemic).

Phenobarbital¼See Barbiturates (Systemic).

Oral Dosage Forms

THEOPHYLLINE, EPHEDRINE HYDROCHLORIDE, AND PHENOBARBITAL TABLETS USP

Strength(s) usually available

U.S.¾Not commercially available.

Canada¾Not commercially available.

Packaging and storage:

Store below 40 °C (104 °F), preferably between 15 and 30 °C (59 and 86 °F), unless otherwise specified by manufacturer. Store in a tight container.

Auxiliary labeling:

- May cause drowsiness.
- Avoid alcoholic beverages.