Theophylline (Anhydrous) Extended-Release Tablets 400 mg and 600 mg

**Rx only**

**DESCRIPTION**

Theophylline (Anhydrous) Extended-Release Tablets is a controlled-release system allows a 24-hour near constant serum theophylline level which is appropriate for the management of chronic bronchial asthma and chronic obstructive pulmonary disease.

**CLINICAL PHARMACOLOGY**

**Mechanism of Action:** Theophylline has a direct effect on the airways in patients with obstructive lung disease. Theophylline increases the tone of the bronchial smooth muscle and decreases the responsiveness of the bronchial smooth muscle to the action of bronchoconstrictors. Patients with chronic obstructive pulmonary disease may have a blunted bronchodilator response to theophylline.

**Pharmacokinetics:** Theophylline is rapidly and completely absorbed after oral administration in solution or enteric-coated tablets. Theophylline is partially metabolized in the liver to 1-methylxanthine, 3-methylxanthine, and hydroxylation to 1,3-dimethyluric acid. 1-methylxanthine is further oxidized to 1,3-dimethylxanthine and 3-methylxanthine. Theophylline is also partially removed from the circulation by urination, which constitutes approximately 5% of the dose for patients with normal renal function. Theophylline is eliminated primarily by the liver. Theophylline's plasma elimination half-life is approximately 3-8 hours in healthy children but is significantly longer in premature infants, elderly patients and patients with impaired renal function. Therefore, close monitoring of serum theophylline levels is essential in patients with impaired renal function.

**Significant Pharmacokinetic Interactions:** Theophylline is metabolized by the cytochrome P-450 1A2 or a closely related cytochrome. In neonates, the N-demethylation pathway is absent while demethylation to 1-methylxanthine is capacity-limited. Due to the wide intersubject variability of the rate of theophylline metabolism, non-linear pharmacokinetic interactions are possible. Together, theophylline and the concomitant use of drugs that compete for hepatic P-450 1A2 or 2C9 sites may impact the theophylline clearance and therefore reduce theophylline dosage requirements. Table II lists the theophylline changes required in patients with concomitant use of other drugs that may impact theophylline clearance.

**Indications and Usage:** Theophylline (Anhydrous) Extended-Release Tablets, 400 mg and 600 mg, are indicated for the management of chronic bronchial asthma and chronic obstructive pulmonary disease in patients who have demonstrated a response to lower doses of theophylline. Theophylline therapy should be initiated under medical supervision.

**Contraindications:** Theophylline (Anhydrous) Extended-Release Tablets should be used with caution in patients with a history of uncontrolled narrow-angle glaucoma, paroxysmal ventricular tachycardia and ventricular dysrhythmias, and with impaired renal function or hepatic failure.

**Warnings:** Theophylline (Anhydrous) Extended-Release Tablets should be used with caution in patients with heart disease, hyperthyroidism, severe cardiovascular disease, and severe hepatic disease. Theophylline (Anhydrous) Extended-Release Tablets are contraindicated in patients with a history of serious cardiovascular disease or severe hepatic disease.

**Precautions:** Theophylline (Anhydrous) Extended-Release Tablets should be used with caution in patients with a history of chronic obstructive pulmonary disease, heart disease, hyperthyroidism, severe cardiovascular disease, and severe hepatic disease.

**Adverse Reactions:** Theophylline (Anhydrous) Extended-Release Tablets should be used with caution in patients with a history of chronic obstructive pulmonary disease, heart disease, hyperthyroidism, severe cardiovascular disease, and severe hepatic disease.

**Dosage and Administration:** Theophylline (Anhydrous) Extended-Release Tablets should be used with caution in patients with a history of chronic obstructive pulmonary disease, heart disease, hyperthyroidism, severe cardiovascular disease, and severe hepatic disease.

**Overdosage:** Theophylline (Anhydrous) Extended-Release Tablets should be used with caution in patients with a history of chronic obstructive pulmonary disease, heart disease, hyperthyroidism, severe cardiovascular disease, and severe hepatic disease.

**Usage in Special Populations:** Theophylline (Anhydrous) Extended-Release Tablets should be used with caution in patients with a history of chronic obstructive pulmonary disease, heart disease, hyperthyroidism, severe cardiovascular disease, and severe hepatic disease.

**NURSING MOTHERS:** Theophylline (Anhydrous) Extended-Release Tablets should be used with caution in patients with a history of chronic obstructive pulmonary disease, heart disease, hyperthyroidism, severe cardiovascular disease, and severe hepatic disease.

**PATIENT INFORMATION:** Theophylline (Anhydrous) Extended-Release Tablets should be used with caution in patients with a history of chronic obstructive pulmonary disease, heart disease, hyperthyroidism, severe cardiovascular disease, and severe hepatic disease.
Increasing the rate of theophylline clearance by extracorporeal methods

Electrocardiographic monitoring should be initiated on patients with symptoms of toxic levels of theophylline, especially when serum theophylline concentrations are >20 mcg/mL. Serum theophylline concentrations >30 mcg/mL are associated with serious toxicity from theophylline. Treatment should be rapid and aggressive. Anticonvulsant therapy should be considered. Fluid and electrolyte abnormalities should be promptly corrected, and theophylline clearance should be continued until the serum theophylline level has returned to a nontoxic level. In the absence of convulsions, excessive sedation, or other signs of toxicity, treatment should be continued until the serum theophylline level is approximately 15-20 mcg/mL of theophylline per day is likely to receive 10-20 mcg of theophylline per day. Serious toxicity from theophylline is seen principally at serum concentrations >30 mcg/mL. In general, patients who experience an unexpected increase in theophylline concentration should be treated. Theophylline concentrations <20 mcg/mL have generally been milder than seizures associated with theophylline. Theophylline concentrations <20 mcg/mL have generally been milder than seizures associated with theophylline. Theophylline concentrations <20 mcg/mL have generally been milder than seizures associated with theophylline. These concentrations are generally considered to be pharmacologically active. Theophylline concentrations <20 mcg/mL have generally been milder than seizures associated with theophylline. Theophylline concentrations <20 mcg/mL have generally been milder than seizures associated with theophylline. Theophylline concentrations <20 mcg/mL have generally been milder than seizures associated with theophylline. Theophylline concentrations <20 mcg/mL have generally been milder than seizures associated with theophylline. Theophylline concentrations <20 mcg/mL have generally been milder than seizures associated with theophylline. Theophylline concentrations <20 mcg/mL have generally been milder than seizures associated with theophylline. Theophylline concentrations <20 mcg/mL have generally been milder than seizures associated with theophylline. Theophylline concentrations <20 mcg/mL have generally been milder than seizures associated with theophylline.

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