

## USE OF AMINOPHYLLINE – ADULTS ONLY

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### INDICATIONS

Acute severe asthma not responding to nebulisers, steroids, IV Magnesium and IV Salbutamol.

### DOSAGE

- If obese calculate ideal body weight – tool is available on <http://intranet/NonePunchSites/Pharmacy/ClinicalSupport/>  
 Ideal Body Weight (men) = 50kg + 2.3kg \* ( Height(in) - 60 )  
 Ideal Body Weight (women) = 45.5kg + 2.3kg \*( Height(in) - 60 )

#### Loading Dose

**DO NOT LOAD IF THE PATIENT HAS RECEIVED ORAL THEOPHYLLINE OR AMINOPHYLLINE WITHIN THE LAST 24 HOURS**

Loading dose is 5mg/kg. Add appropriate dose of aminophylline based on lean body weight to 100ml of Sodium Chloride 0.9% and infuse over 20 minutes – rate 300 ml/hr

#### Maintenance Dose

- Make up at 1mg/ml : 500mg in 500ml saline (or glucose 5%).

adult smoker 0.8mg/kg/hr	Ideal Body Weight							
	40kg	45kg	50kg	55kg	60kg	70kg	80kg	90kg
Rate mg/hr = ml/hr	32	36	40	44	48	56	64	72

16- 18 yrs & adult non-smoker or ex-smoker >3months 0.5mg/kg/hr	Ideal Body Weight								
	35kg	40kg	45kg	50kg	55kg	60kg	70kg	80kg	90kg
Rate mg/hr = ml/hr	17	20	22	25	27	30	35	40	45

Elderly (over 70 yrs) 0.3mg/kg/hr	Ideal Body Weight							
	40kg	45kg	50kg	55kg	60kg	70kg	80kg	90kg
Rate mg/hr = ml/hr	12	13	15	16	18	21	24	27

Patients with reduced theophylline clearance (viral infection, liver or heart failure, patients on fluvoxamine, erythromycin, clarithromycin, ciprofloxacin, norfloxacin, cimetidine, isoniazid, fluconazole, ketoconazole, diltiazem, verapamil, oral contraceptives) –**reduce the above dose rates by 50% and monitor levels**

Patients with increased theophylline clearance (patients on rifampicin, ritonavir, carbamazepine, phenytoin, phenobarbitone) – **increase above dose rates by 50% and monitor levels.**

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### **DRUG MONITORING**

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Check theophylline levels 4 to 6 hours following starting infusion. Target range is 10-20 mg/L.

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### **PATIENT MONITORING**

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The patient must be attached to a cardiac monitor and have continuous heart rate, minimum of 3 lead monitoring, oxygen saturations. Blood pressure should be measured every 15 minutes for the first hour, every 30 minutes for the second hour and then hourly. If the blood pressure drops or there is an arrhythmia, the infusion should be stopped and an urgent medical review requested.

Check potassium at 1 to 2 hours following starting infusion and correct as required. Plasma potassium is lowered by theophylline, prednisolone and salbutamol. Check potassium hourly until stable then 4 hourly.

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### **SIDE EFFECTS**

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Nausea, vomiting, gastric irritation, diarrhoea; palpitation, tachycardia, arrhythmias, hypotension; anxiety, dizziness, tremor, headache, CNS stimulation, insomnia, and convulsions.