

Aminophylline Drip (theophylline)

Indication: Asthma / Bronchospasm

400mg of Theophylline = 500mg of Aminophylline

Dosing is based on Aminophylline; therefore 400mg of Theophylline in 500ml is treated as a 1mg/ml drip

Aminophylline mixed in 0.9% NaCl is stable for 24 hours

Theophylline is available as a premix and its expiration will be labeled on the bag.

Dosing: (Doses are based on Aminophylline, NOT Theophylline)

Drips are 1mg/ml, so mg/kg/hr = ml/kg/hr.

Loading dose (Only load if patient is not taking Theophylline): 6mg/kg over 20-30 minutes

Maintenance Dose:

Age	Dose
1 - 9 years	0.8 mg/kg/hr
9-12 years	0.7 mg/kg/hr
12 - 16 year smoker	0.7 mg/kg/hr
12 - 16 year NON-smoker	0.5 mg/kg/hr (Max 50mg/hour)
Adult smoker	0.7mg/kg/hr
16 - 60 year NON-smoker	0.4mg/kg/hr (Max 50mg/hour)
Elderly	0.3mg/kg/hr
Cor Pulmonale Pt.	0.2 mg/kg/hr (Max 17mg/hour)
CHF or Liver Failure	0.25mg/kg/hr
Renal insufficiency Reduce above doses by 50%	

Adverse Reactions: Seizures, Dizziness/Restlessness, Palpitations, Sinus Tachycardia, Hypotension, Hypokalaemia, Metabolic acidosis, and Nausea/Vomiting.

Drug Interactions: Sodium phosphate and Ketamine may lower seizure threshold of theophylline. Cimetidine, Isoniazid, Mexiletine, Luvox, Macrolide antibiotics (e.g. Biaxin & erythromycin) may increase theophylline level due to enzyme inhibition. Barbiturates, carbamazepine, ethotoin, phenytoin or fosphenytoin, primidone, and rifampin may decrease theophylline level due to enzyme induction.

Nursing Considerations:

1. Doses should be calculated based on ideal body weight
2. Do not exceed 25 mg/min (Aminophylline) (1500ml/hr)
3. Monitor HR, BP, RR
4. IV administration can cause burning
5. Propranolol may cause Bronchospasms
6. Monitor serum levels (Therapeutic = 10 – 15 mcg/ml)