

**Critical Care Guidelines
FOR CRITICAL CARE USE ONLY**

AMINOPHYLLINE

PRESENTATION:	Ampoules containing 250mg in 10ml, 25mg/ml of aminophylline.
INDICATION:	Reversible airways obstruction, severe acute asthma.
DOSE AND ADMINISTRATION:	<p>It is preferable to base doses on <u>Ideal Body Weight</u>.</p> <p>Loading dose: A loading dose may not be necessary - see below. If the patient is not usually on oral theophylline or aminophylline then administer a loading dose of 5mg/kg by slow intravenous injection or infusion over at least 20 minutes (maximum rate is 25mg/min) i.e. 350mg for a 70kg patient. <u>The maximum loading dose is 500mg.</u> If given peripherally dilute in 100ml glucose 5%, if given centrally it can be given undiluted.</p> <p>If the patient is usually on oral aminophylline or theophylline and the current serum theophylline level is in the therapeutic range or not available, do not administer a loading dose. When the plasma theophylline level is available, consider whether a partial or full loading dose is required. A dose of 1.2mg/kg of iv aminophylline will increase serum theophylline concentration by about 2microgram/ml.</p> <p>Maintenance infusion dose: 500micrograms/kg/hour i.e. 35mg/hr (35ml/hr) for a 70kg patient. Adjust infusion rate according to serum theophylline levels.</p> <p>Elderly patients - 300micgrograms/kg/hour i.e.21mg/hr (21mls/hr) for a 70kg patient. Adjust infusion rate according to serum theophylline levels.</p> <p>ICU STANDARD INFUSION (for maintenance infusion): 500mg aminophylline in 500ml glucose 5% centrally or peripherally.</p>
CONCENTRATION:	Maintenance infusion: 1mg/ml
STABILITY:	Physically and chemically stable for 24 hours. Also stable in sodium chloride 0.9%.
ADDITIONAL INFORMATION:	<p>Checking levels: Therapeutic range: 10-20mg/litre. Check a theophylline level 6 hours after the start of the maintenance infusion and then daily thereafter. The time to steady state can vary widely in patients, and can be up to 48 hours. If the first serum level is low, administer a top up dose (a dose of 1.2mg/kg iv aminophylline will increase the serum theophylline concentration by approximately 2microgram/ml), but do not increase the infusion rate. Take a level the next day. If this level remains low, then increase the infusion rate.</p> <p>NB Smokers may initially require higher doses as this can induce metabolism of theophylline.</p>

References:

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