

 Guideline topic: Pharmacological management of asthma Evidence table 4.3c: Theophyllines in exercise-induced asthma								
Author	Year	Study type	Quality rating	Population	Outcomes measured	Effect size	Confidence intervals / p values	Comments
Magnussen	1988	Randomised, double-blind, placebo-controlled, cross-over. IV aminophylline 200-351mg vs placebo.	++	11 adults with asthma, aged 16-33 years	Exercise-induced bronchoconstriction Protection index:	(for the different preparations of aminophylline) TE 200: 0.61 TE 351: 0.82 TPD: 0.65	p< 0.01 p< 0.01 p< 0.01	A bolus of IV aminophylline significantly attenuated against EIA. Caution needed to extrapolate to oral dosing.
Phillips	1981	Randomised, double-blind, placebo controlled, cross-over. 1 week treatment with oral aminophylline or placebo	++	9 adults with asthma, aged 18-35 years	Exercise-induced bronchoconstriction 4h % fall in PEF 8h % fall in PEF	Placebo vs aminophylline: 30% vs 13% 29% vs 10%	p< 0.01 p< 0.05	Oral aminophylline for 1 week significantly attenuated EIA compared to placebo.

1. Magnussen H, Reuss G, Jorres R. Methylxanthines inhibit exercise-induced bronchoconstriction at low serum theophylline concentration and in a dose-dependent fashion. *J Allergy Clin Immunol* 1988;81(3):531-7.
2. Phillips MJ, Ollier S, Trembath PW, Boobis SW, Davies RJ. The effect of sustained-release aminophylline on exercise-induced asthma. *Br J Dis Chest* 1981;75(2):181-9.

