Guideline topic: Pharmacological management of asthma
Evidence table 4.3e: Anti-histamines for exercise-induced asthma

Author	Year	Study type	Quality rating	Population	Outomes measured	Effect size	Confidence intervals / p values	Comments
Finnerty[1]	1990	Randomised, double-blind, placebo-controlled, cross-over. Single-dosing with terfenadine 180mg, flurbiprofen 150mg and both.	++	8 adults with asthma. Not on regular treatment.	Exercise-induced bronchoconstriction % fall in FEV1:	Placebo: 39% Terfenadine: 25% Flurbiprofen: 27% Combination: 30%	p< 0.05 p< 0.05 NS	Both terfenadine and flurbiprofen provided some attenuation of EIA compared to placebo. Interestingly, the combination did not.
Gong[2]	1990	Randomised, double-blind, placebo-controlled, cross-over. Single dosing with cetrizine 5mg, 10mg, 20mg, salbutomol 4mg.	++	10 adults with asthma	Exercise-induced bronchoconstriction % fall in FEV1:	Placebo: 37% Cetirizine 5mg: 42% Cetrizine 10mg: 44% Cetrizine 20mg: 43% Salbutamol 4mg: 32%	NS NS NS NS	Both oral cetirizine and salbutamol had no effect on EIA.

Magnussen[3]	1988	Randomisec, double-blind, placebo-controlled, cross-over. Single-dosing with azelastine 4.4mg.	++	10 adults with asthma. Not on regular treatment.	Exercise-induced bronchoconstriction D FEV1 %: D Raw %: D Sraw%:	Pre vs Post-exercise with azelastine: 27% vs 15% 170% vs 98% 229% vs 138%	p< 0.01 p< 0.01 p< 0.01	Azelastine provided partial protection against EIA.
Patel[4]	1984	Randomised, double-blind, placebo-controlled, cross-over. Single-dosing with terfenadine 60mg, 120mg and 180 mg.	++	10 adults with asthma. Not on oral or inhaled steroids.	Exercise-induced bronchoconstriction % fall in FEV1	Placebo: 33% Terfenadine 60mg: 28% Terfenadine 120mg: 23% Terfenadine 180mg: 21%	NS p< 0.02 p< 0.01	Small number of subjects. Although there was a statistical difference detected, there was only a minor attenuation of EIA.

1. Finnerty JP, Holgate ST. Evidence for the roles of histamine and prostaglandins as mediators in exercise-induced asthma: the inhibitory effect of terfenadine and flurbiprofen alone and in combination. Eur Respir J 1990;3(5):540-7.
2. Gong H, Jr., Tashkin DP, Dauphinee B, Djahed B, Wu TC. Effects of oral cetirizine, a selective H1 antagonist, on allergen- and exercise-induced bronchoconstriction in subjects with asthma. J Allergy Clin Immunol 1990;85(3):632-41.
3. Magnussen H, Reuss G, Jorres R, Aurich R. The effect of azelastine on exercise-induced asthma. Chest 1988;93(5):937-40.
4. Patel KR. Terfenadine in exercise induced asthma. BMJ 1984;288(6429):1496-7.