

**How effective are anti-IL-5 therapies for asthma?**

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<b>Clinical Question</b>	How effective are therapies targeting Interleukin-5 (IL-5) signalling (anti IL-5 or anti-IL-5R $\alpha$ ) when compared to placebo on exacerbations, health-related quality-of-life (HRQoL) measures, and lung function in adults and children with chronic asthma, and specifically in those with eosinophilic asthma refractory to existing treatments?
<b>Bottom Line</b>	<p>The results indicate that treatments targeting IL-5 or the IL-5 receptor reduce clinically significant asthma exacerbation rates by approximately half in participants with severe eosinophilic asthma already on standard care with a history of poor control ('clinically significant' exacerbations defined as episodes requiring at least three days' treatment with systemic corticosteroids; standard care defined as at least medium-dose inhaled corticosteroids; poor control defined as either two or more exacerbations in the preceding 12 months or an Asthma Control Questionnaire with a score of 1.5 or more). The effect size was comparable across the drugs and formulations, with the exception of subcutaneous reslizumab, which was relatively ineffective.</p> <p>There were improvements in validated HRQoL scores with all anti-IL-5 agents in severe eosinophilic asthma.</p> <p>There were no excess serious adverse events with any anti-IL-5 treatment; in fact, there was a reduction in such events with benralizumab, likely arising from fewer asthma-related hospital admissions.</p>
<b>Caveat</b>	The included studies did not directly compare the different anti-IL-5 treatments, however the effect sizes versus placebo were similar. Studies were predominantly conducted in participants with severe eosinophilic asthma and poor control. It is therefore not possible to draw conclusions about those with milder or better-controlled disease or non-eosinophilic asthma. The certainty of the evidence for all comparisons was judged to be high overall
<b>Context</b>	IL-5 is the main cytokine involved in the proliferation, maturation, activation and survival of eosinophils, which cause airway inflammation and are a classic feature of asthma. Studies of monoclonal antibodies targeting IL-5 or its receptor (IL-5R) suggest they reduce asthma exacerbations, improve HRQoL and lung function in appropriately selected patients.
<b>Cochrane Systematic Review</b>	Farne HA, Wilson A, Milan S, Banchoff E, Yang F, Powell CVE. Anti-IL-5 therapies for asthma. Cochrane Database of Systematic Reviews 2022, Issue 7. Art. No.: CD010834. DOI: 10.1002/14651858.CD010834.pub4. This review contains 17 trials in the review with a total of 8,413 participants.

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Systematic review link:

<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD010834.pub4/full>