

NEWS

Sublingual immunotherapy reduces symptoms of asthma and hay fever, systematic review finds

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Researchers have found strong evidence that sublingual immunotherapy improves the symptoms of asthma and moderate evidence that it decreases those of rhinitis and rhinoconjunctivitis.

The researchers, from Johns Hopkins University in Baltimore, carried out a systematic review of the literature to assess the effectiveness and safety of aqueous sublingual immunotherapy for rhinitis and asthma.¹ They found 63 randomised controlled trials that compared sublingual immunotherapy with placebo, pharmacotherapy, or other sublingual immunotherapy regimens. These studies involved 5131 people aged between 4 and 74 years.

The researchers used an evidence grading scheme recommended by the GRADE Working Group's guide for conducting comparative effectiveness reviews. A trial's magnitude of effect was classified according to the percentage difference between the sublingual immunotherapy group and the comparator group in the primary outcome (<15% defined as weak, 15-40% as moderate, and >40% as strong).

Overall, the studies indicated that sublingual immunotherapy can lessen the symptoms of hay fever and asthma.

The findings were strongest for asthma, where researchers found high quality evidence that immunotherapy helped. Thirteen studies all found that people's symptoms improved with sublingual immunotherapy. In eight of the studies people's symptoms improved by more than 40% on average—the amount the researchers looked for as a sign that the treatment had a

strong effect on people's symptoms. Immunotherapy specific to dust mites was the most frequently used in the studies of people with asthma.

In people with rhinitis the researchers found moderate evidence that sneezing and other symptoms improved with sublingual immunotherapy. All 36 studies reviewed found some improvement, with nine finding that people's symptoms improved more than 40% on average.

For itchy, watery eyes caused by hay fever, the researchers also found moderate evidence in favour of immunotherapy, with 12 of 13 studies finding an improvement in symptoms and three finding an average improvement of more than 40%.

Immunotherapies specific to grasses and dust mites were the most frequently used in the studies of people with hay fever.

The findings were similar in adults and children.

The researchers concluded that their findings indicated "moderate confidence" that the evidence reflected true efficacy. However, they said that future research could change the estimate. High quality studies were needed to answer questions of optimal dosing strategies, they added.

1 Lin SY, Erekosima N, Kim JM, Ramanathan M, Suarez-Cuervo C, Cehlladurai Y, et al. Sublingual immunotherapy for the treatment of allergic rhinoconjunctivitis and asthma: a systematic review. *JAMA* 2013;309:1278-8.

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