



<b>Title</b>	<b>Effectiveness and Safety of Endoscopic Thoracic Sympathectomy. A Systematic Review</b>
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<b>Reference</b>	FinOHTA Report 26. Stakes, Helsinki 2005. ISSN 1239-6273, ISBN 951-33-1790-0. <a href="http://www.stakes.fi/finohta/raportit/o26/ro26f.pdf">www.stakes.fi/finohta/raportit/o26/ro26f.pdf</a>

## Aim

To assess, by systematic review, the effectiveness and safety of endoscopic thoracic sympathectomy.

## Conclusions and results

Endoscopic thoracic sympathectomy (ETS) aims at reducing blushing in the face and excessive sweating in the face and hands due to overactive sympathetic nerves. In ETS, the upper thoracic chain of the sympathetic nerve trunk is transected or clamped.

Methodological quality was poor in most studies. Few clinically relevant patient characteristics were reported, and only one study provided clear inclusion and exclusion criteria for patients. Five studies had uniform followup times for all patients. Three studies had mean followup times exceeding 2 years, and one study had followed all patients for at least 2 years.

Blushing and excessive sweating of hands, trunk, and feet decreased after ETS in all studies. In the absence of objective outcome measures, the results cannot be combined. Complications after ETS included hemo- or pneumothorax, Horner's syndrome, and neuralgias. Certain complications caused permanent disability. In all but two studies compensatory sweating after ETS occurred in more than half of the patients, typically on the trunk below the nipples. This caused significant disability for 3% to 15% of those who experienced it. Excessive skin dryness and gustatory sweating were also reported.

The effectiveness of ETS in alleviating sweating or facial blushing cannot be evaluated on the basis of studies without control groups. However, prospective patient series can provide valid information on the side effects of interventions. The studies in this review were seemingly prospective, although variable followup times and other inconsistencies point toward the possibility of retrospective designs.

ETS is associated with significant immediate and long-term adverse effects. Many patients also suffer from

compensatory hyperhidrosis after ETS. Due to wide variation in reporting adverse effects, these effects have probably been underreported.

## Recommendations

Not addressed.

## Methods

Randomized controlled trials, and prospective observational studies (at least 100 patients) on ETS were searched without language restriction in MEDLINE (1966–July 2004) and the Cochrane Library (2<sup>nd</sup> quarter 2004). MeSH search terms were: hyperhidrosis, sweating, or blushing. We included papers reporting at least one outcome measure of symptoms among patients with facial blushing or sweating in the face, hands, or elsewhere (trunk or feet).

No trials were found among 195 articles retrieved. Two researchers independently selected papers based on titles and abstracts and assessed the quality of potentially eligible studies using full text versions. Fifteen prospective studies were included (see [bmj.com](http://bmj.com), Web Table 1). They had recruited 5767 patients (mean 384, range 100–1312), of which 46% were male (range 26%–56%). Patients were typically young adults (mean age from 21–34 years, age range 5–72 years). Eight studies had included children below 15 years of age.

## Further research/reviews required

Not addressed.