Lung volume reduction surgery for diffuse emphysema

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Record Status
This is a bibliographic record of a published health technology assessment. No evaluation of the quality of this assessment has been made for the HTA database.

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Authors' objectives
This study aims to assess the effects of lung volume reduction surgery (LVRS) compared with continuing medical treatment in people with emphysema.

Authors' conclusions
We found three published RCTs of LVRS, one of which was of poorer quality than the others. The higher quality trials found no significant difference in mortality between LVRS and continuing medical treatment, although the studies probably lacked power to exclude an important difference. The trials found that, compared with medical management, LVRS improved some physiological parameters, including FEV1 and FVC and treadmill exercise tolerance. However, the clinical importance of these improvements is not clear. One trial found that, at six months, LVRS significantly improved quality of life (measured with a validated generic instrument) compared with medical management. However, this improvement was not sustained at 12 months. The generaliseability and impact of these benefits is likely to be limited. People considered for LVRS are a highly select subgroup of those with severe emphysema. In the two studies that reported the number of candidates screened, only 19% were selected for surgery. The short duration of the RCTs precludes reliable conclusions about longer term effects. Results suggested that the LVRS may have brief beneficial effects, but does not alter underlying disease progression. Longer term, larger RCTs are needed to establish the safety and effectiveness of LVRS and to improve selection criteria for treatment. Two such studies are underway. The US National Emphysema Treatment Trial (NETT), a multicentre RCT with 4.5 years follow up, will measure survival, costs and quality of life. 18 The trial began recruitment in 1998. In the UK, the Lung Volume Reduction Surgery Trial began recruitment in 2000 and will measure the costs and effectiveness of LVRS in the UK context.19

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