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## Lung alert

### Preoperative integrated PET-CT scanning reduces the number of futile thoracotomies for lung cancer

In this Danish trial, patients being assessed for surgery of early stage non-small cell lung cancer (NSCLC) were randomised to either conventional staging and PET-CT scanning or conventional staging alone. The number of futile thoracotomies in each arm is a measure of staging accuracy and was used as the primary outcome. A thoracotomy was deemed futile if any one of the following criteria was met: pathologically confirmed N2, N3, T4 or M1 disease, an exploratory thoracotomy, a benign lung lesion or a thoracotomy in a patient who developed recurrent disease or died within 1 year of randomisation.

Ninety-eight patients were allocated to the PET-CT arm and 91 to the conventional staging group between 2002 and 2007. Sixty patients undergoing PET-CT had a thoracotomy compared with 73 patients in the conventional staging group ( $p = 0.004$ ). Despite the trial closing early due to slow accrual, PET-CT scanning resulted in a significantly lower number of futile thoracotomies: 21 (35%) in the PET-CT arm compared with 38 (52%) in the conventional staging arm ( $p = 0.05$ ). For every five PET-CT scans, one futile thoracotomy was prevented. The intervention did not improve survival, although at closure the trial may not have been sufficiently powered to do so.

The trial confirms the importance of routine use of PET-CT scanning in the preoperative staging of NSCLC. However, even with the use of PET-CT, 35% of thoracotomies remained futile, emphasising the need for further progress in this area.

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#### Neal Navani

**Correspondence to:** Dr N Navani, MRC Clinical Research Training Fellow, Centre for Respiratory Research, University College London, London, UK; n.navani@ucl.ac.uk

*Thorax* 2009;**64**:1089. doi:10.1136/thx.2009.127407