

# Prophylactic elective minitracheostomy prevents sputum retention following lung surgery in high risk patients: preliminary results of a prospective randomised trial.

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**Background:** The minitracheostomy (Minitrach Seldinger, Portex, Hythe Kent) is a device for treating sputum retention. A 4mm diameter cricothyroidostomy tube inserted percutaneously using a Seldinger technique, it allows immediate access to the bronchial tree for regular aspiration by physiotherapists and can be easily used by nursing staff with minimal training. Previous trials of its efficacy as a treatment of established sputum retention have been impeded by physicians' reluctance to randomise to the control arm once they have experienced its ease of use. This trial is designed to test its prophylactic use in a high risk subgroup. We report preliminary results.

**Patients and Methods:** Between October 1996 and September 1997 108 patients underwent surgery for lung cancer. 20 who were considered to be at high risk for respiratory or cardiac complications (COAD, FEV1<40% for lobectomy, <60% pneumonectomy, still smoking < 6/52, symptomatic angina, previous myocardial infarction, resection of phrenic or recurrent laryngeal nerve, no epidural or extrapleural regional analgesia) were randomised to elective minitracheostomy in the recovery room or standard treatment of physiotherapy and bronchodilators. In 2 further patients the risks were considered too high for randomisation.

	Control	Minitracheostomy
Number of patients	10	10
Mean age (range)	58.6 (46 - 70)	66.4 (56 - 73)
Sputum retention	4	0
Chest infection	3	2
Hypoxaemia (paO <sub>2</sub> <8.0 kPa)	3	2
Myocardial events	1	1
Death	2	1

## Conclusions:

1. Minitracheostomy is effective in prevention of sputum retention following lung surgery.
2. A high risk subgroup can be identified who will benefit from prophylactic minitracheostomy.

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