

## CAN SPUTUM RETENTION FOLLOWING LUNG SURGERY BE PREVENTED? A PROSPECTIVE, RANDOMISED TRIAL OF PROPHYLACTIC MINITRACHEOSTOMY VS. STANDARD TREATMENT

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**OBJECTIVE:** The minitracheostomy (Minitrach, Portex®, Hythe, Kent), a 4mm percutaneous cricothyroidotomy device that allows immediate and repeated aspiration of the tracheobronchial tree by minimally trained staff, can effectively treat sputum retention following lung surgery. 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 was designed to test the hypothesis that prophylactic minitracheostomy (MT) could prevent sputum related complications.

**METHODS:** Between March 1997 and October 1999, 102 lung resection patients were considered to be high risk for cardio-respiratory complications (COAD, FEV1 <50% for lobectomy, <70% for pneumonectomy, current smokers, ischaemic heart disease, previous CVA, resection of phrenic or recurrent laryngeal nerve, sleeve bronchoplasty, failure of regional analgesia) were prospectively randomised to undergo postoperative, prophylactic MT insertion (n=50) in the recovery room with regular aspiration, or standard treatment (n=52).

**RESULTS:** Sputum retention developed in 1 patient (2%) in the MT group compared to 15 (30%) in the control group (p = 0.0013). Life-threatening events related to sputum retention occurred in 1 MT patient but 7 controls (p=0.0461). Minor complications of MT insertion occurred in five patients. Five deaths occurred in each group: none of these was sputum related in the MT group compared to three in the controls.

**CONCLUSION:** A subgroup of lung surgery patients at high risk for sputum related complications can be identified. In this group prophylactic minitracheostomy significantly reduces sputum retention with a low complication rate.



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Presentation)****Can Sputum Retention Following Lung Surgery  
be prevented? A Prospective, Randomised Trial  
of Prophylactic Minitracheostomy vs. Standard  
Treatment****Bonde PN, McManus KG, Papachristos I, McRaith A, Farnan T, Kelly  
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