Is air travel safe for those with lung disease?

To the Editors:

I read with interest the article of Coker et al. [1] regarding the safety of commercial air travel for patients with lung disease. This is an area of concern since both the prevalence of chronic obstructive pulmonary disease and the number of people flying for leisure purposes are increasing. The available guidelines are based on very limited scientific evidence. Owing to the lack of data and potential adverse consequences of hypoxaemia induced by air travel, the recommendations proposed by scientific societies and panel guidelines are purposefully cautious.

The prospective evaluation of a large cohort such as the one described by Coker et al. [1] is of great value for increasing knowledge in this field, and potentially for the refinement of recommendations for patients planning air travel. If patients included in the study of Coker et al. [1] were indeed managed according to guidelines, it can be concluded that these guidelines are appropriate for predicting safe air travel. It could be argued, however, that current guidelines are too restrictive or cautious. The guidelines all recommend avoidance of hypoxaemia below an arterial oxygen tension (PaO₂) of 6.7 kPa (50 mmHg) [2–4] or 7.3 kPa (55 mmHg) [2, 5].

We concur that the results are based mainly on nonrandomised controlled trials that exhibited considerable heterogeneity. Furthermore, factors such as achieving effective ventilation, determining inspiratory pressures and selecting patients who benefit most are only some of the areas identified that need further study. Clearly there are knowledge gaps. Most studies reviewed limited the ability to draw conclusions, with further research needed in order to confirm positive findings related to noninvasive ventilation in severe-stable chronic obstructive pulmonary disease patients. This and other techniques require testing in carefully designed and conducted trials, for which there were few.

Our rationale for conducting this review was to assess what is known and not known. Based on the existing evidence, noninvasive ventilation may have an adjunctive role in the management of chronic respiratory failure due to chronic obstructive pulmonary disease.

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STATEMENT OF INTEREST

None declared.

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From the authors:

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severe hypoxaemia under hypoxic conditions? Limited data from the literature suggest that patients with very severe obstructive lung disease (forced expiratory volume in one second of <1 L [6] and/or hypercapnia [7, 8]) are at risk of severe in-flight hypoxaemia despite a good ground-level $\text{SpO}_2$. Accordingly, it would also be interesting to have answers to the following questions concerning Global Initiative for Chronic Obstructive Lung Disease stage IV chronic obstructive pulmonary disease patients. 1) How many patients with a ground-level arterial oxygen saturation measured by pulse oximetry of $>95\%$ underwent hypoxic challenge testing? 2) How many patients flew without oxygen and without pre-flight hypoxic challenge testing?

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STATEMENT OF INTEREST
None declared.

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Prevention of ventilator-associated pneumonia: possible role of antimicrobials administered via the respiratory tract

To the Editors:

We read with interest the comprehensive and useful review of Lorente et al. [1] regarding the evidence concerning measures for prevention of ventilator-associated pneumonia (VAP). The authors did not comment on the prophylactic use of antimicrobial agents administered via the respiratory tract as a potential preventive strategy for VAP. Relevant guidelines of the Canadian Critical Care Trials Group and the Canadian Critical Care Society [2] recommend against the prophylactic use of oral or intratracheal antibiotics for this purpose. However, a recently published meta-analysis of randomised controlled trials (RCTs) revealed that prophylactic administration of antimicrobials (aerosolised or endotracheally instilled) via the respiratory tract, as opposed to control treatment, was associated with a reduced incidence of pneumonia (odds ratio (OR) 0.49; 95% confidence interval (CI) 0.32–0.76) in intensive care unit patients [3]. In contrast, no difference was detected with regard to mortality between the groups compared (OR 0.86; 95% CI 0.55–1.32); the emergence of resistance associated with the implementation of this strategy was not examined due to insufficiency of the relevant available data [3].

After the publication of the aforementioned meta-analysis [3], one additional RCT on this topic has been published [4]. By comparing a prophylactic course of aerosolised ceftazidime with placebo in intubated trauma patients, the authors of the RCT reported that the number of patients with VAP was 26 (49%) out of 53 and 26 (50%) out of 52 in the prophylaxis and placebo groups, respectively [4]. We recalculated the pooled OR by adding this new information, in an attempt to update the previous meta-analysis [3]. Again, a significant difference was revealed regarding the incidence of pneumonia in favour of the prophylactic as opposed to the nonprophylactic group (OR 0.47; 95% CI 0.24–0.91).

The potential usefulness of antimicrobials administered via the respiratory tract for the prevention of ventilator-associated pneumonia: possible role of antimicrobials administered via the respiratory tract