with regard to disclosure of serious or frequent risks which was tailored in the majority if the patient underwent transbronchial biopsy (figure 1). Particular risks were represented in terms of an exact percentage in 15 and in 6 by means of words (eg, occasional, common). Fifteen respondents tailored their consent in the presence of significant co-morbidity. Risk of death was communicated always by 3 respondents, often by 1, sometimes by 15 and never by 14.

The current British Thoracic Society guidance on consent for bronchoscopy from 2001[2] reflected the legal and ethical standard at that time where doctors were "entitled to withhold information" if it was thought to be detrimental to patient health and were under "no duty … to point out remote risks". The ethicolegal landscape has been changed dramatically by rulings such as Chester v Afshar,[3] and this is reflected in the recent General Medical Council publication on consent[4] which states that a doctor "must tell patients if an investigation or treatment might result in a serious adverse outcome, even if the likelihood is very small".

We feel that all patients with capacity undergoing bronchoscopy should be offered detailed risk disclosure with documentation of the decision in those patients wishing to "opt out", and that this risk information should become standardised and individually tailored where possible.

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Authors' reply

We are grateful to Dr Echevarria and colleagues for their interest in and comments on our study. We accept their criticism that the provision of information sheets only on the day of bronchoscopy and the inclusion for all patients of data on complications relevant only to those likely to undergo transbronchial biopsy may have affected our results. However, apart from the constraints imposed by the artificial environment of a randomised trial, we suspect that these practices are not far removed from what happens in real life. While the verbal discussion of the procedure should always put risks in a personal context, it will be difficult—given the workload involved in developing and agreeing even a single information sheet for a procedure—for any individual centre to develop multiple personally tailored information sheets.

We agree that rulings such as Chester v Afshar have changed the legal requirements for doctors so that even very small risks of serious outcomes such as death need to be discussed.[1] The authors' survey of consent practices for bronchoscopy among respiratory physicians in the north-east of England confirms for bronchoscopy the same startling variations found in the amount of risk disclosure by doctors for other procedures. Standardisation of risk information, even allowing for individual tailoring, would eliminate much of this variation. However, there is an inherent tension in the fact that informed consent does "double duty" as protection both for doctors and for patients. It is worth noting O'Neill's criticism that, while greater emphasis on patient autonomy in medicine is supposed to make doctors more responsible to patients' needs and wishes, it might have the opposite effect of encouraging a culture of back covering.[2] Thus, a legalistic approach to consent may lead to the doctor passing too much information and responsibility onto the patient, "muttering 'caveat emptor' under his breath", as Cowley put it.[3]

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Upper and lower airway microbiology in cystic fibrosis

I thank Mainz *et al* for their recent paper on concordance of upper airway with lower airway microbiology in cystic fibrosis (CF) using nasal lavage.[1] However, their claim that their evidence supports a role for the upper airway in the "acquisition and persistence of opportunistic bacteria" in the lower airway does not stand up to scrutiny. Their work is of great interest and addresses an important and often neglected area of CF research: just how do bacteria gain access to the lower airways? They elegantly demonstrate the close association between the bacteria of the upper and lower airways. It is, however, a cross-sectional study and provides no information as to the direction of transfer of bacteria between the upper and lower airways. In subjects with a lower respiratory tract infection, as is quintessentially the case in CF, it is both general knowledge and scientifically well established that bacteria are expectorated in both sputum and fomites. Such knowledge is the basis of the cough swab or cough plate often used for lower airway microbiological surveillance in the paediatric CF population.[2] It would therefore be natural to assume in any patient with a "colonised" lower airway that fomites from the lower airway will lodge within the nasopharynx. This would result in concordant upper and lower airway bacterial strains, as has been found in this study. However, the evidence provided here does not demonstrate that the upper airway is a source of bacterial seeding to the lower airway, merely that genetically identical strains are found in both compartments and the walls between these compartments are flimsy at best. In order to ascertain the direction of bacterial travel between these two compartments, it would be necessary to undertake a longitudinal study. If such a study were to demonstrate early bacterial travel from the upper to the lower airways, it would open up new avenues of potential therapies for this devastating disease.

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Authors' reply

We thank Dr Daniels for his comments on our paper and agree that "a cross-sectional study … provides no information as to the

direction of transfer of bacteria between the upper and lower airways". We therefore concluded in the abstract of our publication that "further longitudinal analyses and comparison with invasive methods are required". Such a longitudinal study is on the way with the first results being published at the recent European Cystic Fibrosis Conference.[1]

However, we consider Dr Daniels' assumption that "in any patient with a 'colonised' lower airway, fomites from the lower airway will lodge within the nasopharynx" to be too simplistic. As shown in table 2 of our publication, numerous microbes preferentially resided in either the upper or the lower airways. In other words, the microbiota in these two compartments are distinct. The retrograde contamination of the nasal turbinates by expectorated bronchial secretions is not an ongoing regular process, as Dr Daniels makes us believe in his letter, but heavily depends on the capacity of the microbe to colonise and persist in the habitat. *Pseudomonas aeruginosa*, for example, is recovered with only low efficacy from nasal swabs because the organism resides in the distal parts of the nasal turbinate that is not reached by the swab. Correspondingly, expectorated sputum will typically not contaminate the niche in the upper airways where *P aeruginosa* is preferentially thriving.

In summary, Dr Daniels' commonsense argument does not give consideration to the complex microbial ecology of the upper airways.

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Lung alert

Routine PET for early lung cancer

The optimal treatment for early stage non-small cell lung cancer (stage I–IIIA) is surgical resection. This requires accurate staging to prevent inappropriate surgery. Despite conventional staging (CS) with CT chest and abdomen, bone isotope scan and brain imaging, the 5-year survival is only 50%, with the majority of the deaths being due to lung cancer recurrence.

This randomised, adequately powered, study compares CS (n=162) with the use of positron emission tomography (PET)-CT and brain imaging (PET) (n=167) to determine the proportion of patients in whom disease was correctly upstaged (as confirmed by biopsy or other tests) prior to surgery (mediastinoscopy followed by resection).

PET was superior to CS; it led to confirmed upstaging of disease in 13.8% of cases compared with 6.8% in the CS group. However, eight patients in the PET group were incorrectly upstaged and could have been denied surgery compared with only one in the CS group. The majority were due to false-positive mediastinal nodes. PET led to less understaging in 14.9% compared with 29.6% in CS, as confirmed by findings at mediastinoscopy, node sampling at resection or recurrence within 1 year. There was no difference in death rate over 3 years, with almost a third dying mainly from lung cancer recurrence.

This study adds to other open studies and two randomised studies that suggest that a PET-CT strategy can identify advanced disease and reduce futile thoracotomy. It highlights that resection should only be excluded after sampling of suspect PET hot mediastinal nodes, as a failure to do this would have denied 5% the chance of surgical cure. This study did not assess cost-effectiveness, but PET-CT did reduce the need for other tests, 51 compared with 81 tests, to confirm the preoperative staging. This study supports the UK strategy of providing adequate PET-CT resources to ensure optimal staging prior to surgical resection.

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