Repeatability of ventilatory function measurements in a population survey of 7 year old children

I agree with Drs N Chan and M Silverman (December 1989;44:1059) that the FEV1 and FEV1/VC are more useful indices of lung function than the FEV1 in children.

The FEV1/VC is a valid measure in both children and adults, whereas the FEV1 is not a valid measure in many normal children, who expel the whole of the FVC in less than one second. According to Shleifer (December 1989;44:1059) this occurs in 29% of their 120 healthy 7 year olds, and Dr D P Strachan (December 1989;44:1059) found only 1-9% of his sample to contain wheezy children. In an earlier study of normal schoolchildren this occurred in about 20%. The FEV1 in such children is only another measure of the FVC.

For the above reasons the FEV1/VC rather than FEV1 was chosen as the index of choice as an indirect measure of the maximum ventilatory capacity. Over the years my colleagues and I have found the FEV1/VC to be a useful index of lung function in respiratory medicine, and the assessment of new remedies. Since the advent of the Wright peak flow meter and later pocket size meters patients have been able to monitor their own behaviour and map out the many interesting patterns of asthma and assess the efficacy of treatments.

It is interesting but not surprising that the coefficient of variation (CV) for the pneumotachograph measurement of peak expiratory flow was lower in the wheezy children than in the healthy children. Maybe the wheezy children had more instruction and practice in the manoeuvre? The low CV for both FEV1 and PEF (Wright) is reassuring to those who have used these indices for many years.

M C S KENNEDY
Blackwood Hall,
Endon, Stoke-on-Trent ST5 9AH


Authors’ reply Dr Kennedy appears to have misinterpreted the nature of the sample described in my paper (June 1989;44:474-9). Although wheezy children were included, most of the sample were normal, “healthy” children, with no prior experience of lung function testing. FEV1/VC may be a useful index, but it was not available from the pneumotachograph used. My previous letter (December 1989;44:1059) points to the similarity of FEV1 and FEV1/VC as indices for use in epidemiological studies of this age group. Presumably this conclusion extends to FEV1/VC.

DAVID P STRACHAN
St George’s Hospital Medical School, London SW17 0RE

Botulism: a potentially common problem

Dr J M Shneerson’s editorial (November 1989;44:901-2) on the potential for botulism to rear its ugly head in the last decade of the 20th century was timely and appropriate for Thorax.

In a recent eight case US-Israeli outbreak1 the index patient, an elderly woman with a history of Candida, who had died and been buried before the diagnosis of botulism was suspected. Two other patients needed prolonged respiratory support. The culprit, salted whitefish purchased in New York City, was transported to Israel in the hand luggage of several Jews of Russian origin, for whom it was a delicacy.

With regard to Dr Shneerson’s warning that vacuum packaging of foods provides ideal conditions for Clostridium botulinum to grow and produce its toxin, we suggested in our report that repackaging of the fish in plastic bags to prevent it from smelling might also have encouraged toxin production. Botulism was also reported recently in a passenger who had consumed a tainted prepackaged airline meal.2 In pondering the causes of our international outbreak, we wondered whether the reduced jet cabin oxygen tension during a transatlantic flight1 might have been a contributory factor in allowing reproduction of this anaerobe. In any event, the causative organism is ubiquitous and botulism remains a danger in the jet age, demanding public education and vigilance by clinicians and public health officials.

PAUL E SLATER
Department of Epidemiology, Ministry of Health, Jerusalem, Israel


The current state of lung transplantation

Dr J Dark and P A Corris (September 1989;44:689-92) stated that obliterator bronchitis is the most common cause of late morbidity and mortality in the recipients. We have recently reported the suitability of a new contrast medium, Iotrolan (a water soluble non-ionic dimer), in selective bronchography via the fibreoptic bronchoscope. Iotrolan is well tolerated, can be injected directly into the suction channel of the bronchoscope, and does not obscure bronchoscopic vision or interfere with further bronchoscopic procedures, such as transbronchial biopsy. In contrast, the standard bronchographic agent, Dionsol suspension, is difficult to instill into the bronchial tree via the fibreoptic bronchoscope, it obscures bronchoscopic vision, and it is poorly tolerated, especially in patients with obliterator bronchitis. Selective bronchography via the fibreoptic bronchoscope using Iotrolan should prove useful in the detection of obliterator bronchitis by showing its characteristic bronchographic features. In addition, the technique should also be helpful in detecting dehiscence or narrowing of the airway anastomosis.

S K MORCOS
Department of Radiology, Northern General Hospital, Sheffield S7 2AU


Authors’ reply Dr Morcos suggests that the extremely effective method of performing bronchography with water soluble contrast media might be useful in detecting obliterator bronchitis or anastomotic problems in the airway. We are in no doubt that the techniques he suggests would indeed show the severe abnormalities in end stage obliterator bronchitis. Unfortunately, the disease would be irreversible at this point and what is needed is an investigation which would identify the very early stages. We are already in a position to detect small airways obstruction physiologically and correlate this with submucosal lymphocyte infiltration in transbronchial biopsy specimens. The most important step will be to detect these changes non-invasively at a stage when they can be reversed by immunosuppression. We suspect that contrast radiography would not give enough early information.

PA CORRIS
J H DARK
Regional Cardiothoracic Centre, Freeman Hospital, Newcastle upon Tyne NE7 7DN
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M C Kennedy

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