Quality assurance in endobronchial ultrasound

In their study of endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA), Kemp and colleagues report variation in the learning curves for five operators, studied by using the cumulative sum (cusum) technique, with which we have some experience. The authors speculate on whether variations in lymph node size, prevalence of underlying diagnoses or rate of accrual of cases may explain these differences. We believe there may be other important influences. Successful EBUS-TBNA is a multidisciplinary process: help is invaluable from colleagues in radiology for identification of suitable target nodes, in bronchoscopy nursing for adequate specimen preparation and in cellular pathology for confident diagnosis based on cytopathological specimens alone. In our experience, each of these aspects is subject to variation between centres. In addition, it is likely that access to prior positron emission tomography (PET) scanning, or different immunocytochemical stains, may have varied. In our view the results should be regarded as being those of the centres in question, and not those of the operators alone.

Kemp and others appear to have misinterpreted the cusum plots shown in their figure 1. The authors use the graphical representation of the cusum favoured by Kestin. In this representation, if the plot crosses two boundaries in succession from above to below, without crossing a boundary from above in between, unsatisfactory performance is confirmed for the procedure interval between the two upward crossings.

Competence is confirmed by analogous downward crossing of two boundaries. Thus operator 4 demonstrates unacceptable performance between procedures 50 and 70 (these procedure numbers are approximate because the graphs reproduced are too small to permit their exact estimation), and to say that he has ‘attained competence almost immediately’ is not the whole story. Simi-
Authors' response

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