

What is already known on this subject

- ▶ Trainee assessment techniques are constantly evolving.
- ▶ There is an increasing emphasis on proving on-going competence.
- ▶ Cusum analysis is an emerging assessment tool in medicine.

What this study adds

- ▶ Emphasises variability in learning.
- ▶ Provides a potential model for evaluating competence in both trainees and consultants.
- ▶ Provides model for monitoring ongoing practice.

There are currently no published guidelines in the UK for what constitutes adequate training in bronchoscopy, or how best to assess competence. The data presented here clearly demonstrate different speeds at which people learn new tasks, even when we consider operators highly experienced in similar procedural techniques. With the ever-expanding number and complexity of bronchoscopic procedures (and of medical procedures in general), there is a need to formulate adequate assess-

ment tools for trainee development, and we propose cusum analysis as one such tool. However, accurate and appropriate standards of practice must be determined prior to assessment to ensure correct identification of those who are underperforming.

Competing interests None.

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Lung alert

MMP12 and reduced risk of COPD

Not all smokers develop chronic obstructive pulmonary disease (COPD), and not everyone with COPD has the same rate of decline of lung function. In this study the authors hypothesised that matrix metalloproteinase 12 (MMP12) variants have a role in lung function and are risk factors for COPD. MMP12 is produced by macrophages, one of the main inflammatory cells associated with smoking.

Seven different cohorts that included two cohorts of children with asthma, one birth cohort and two cohorts of adults with and without COPD were tested for an association between single nucleotide polymorphisms (SNPs) in the MMP12 gene and force expiratory volume in 1 s (FEV₁).

The minor allele of a functional variant of MMP12 was shown to have a positive association with FEV₁ in children with asthma and in adult smokers with COPD or at risk of COPD. The expression of this allele had a beneficial effect on lung function and was associated with a reduced risk of COPD in adult smokers.

These findings lend weight to the 'Dutch hypothesis' of asthma and COPD. The fact that the cohorts were diverse and many of them were on various medications may explain why the association was significant in combined analyses of the cohorts but not so in the individual cohorts. Nevertheless this study adds more weight to the importance of a genetic element in the development of COPD.

▶ **Hunninghake GM**, Cho MH, Tesfaigzi Y, et al. *MMP12*, lung function, and COPD in high-risk populations. *N Engl J Med* 2009;**361**:2599–608.

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