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### A UK training programme for nurse practitioner flexible sigmoidoscopy

EDITOR,—Duthie and colleagues (*Gut* 1998;43:711–14) have confirmed what we hoped, and wanted to believe, namely that properly trained nurses perform flexible sigmoidoscopy safely and effectively. This result offers the hope that we will be able to cope with increasing service demands but also addresses other important issues.

There seems to be a curious difference in our attitudes towards nurses and doctors in the performance of practical procedures. For the same patients and the same procedures we demand that nurses undergo formal training and assessment but do not insist on this for doctors. Where is the validated, agreed programme for medical and surgical trainees (or even consultants) who want to learn flexible sigmoidoscopy or indeed any other endoscopic procedure? There are excellent optional courses, outstanding teachers and willing students but no formal link to what goes on day to day in district general hospitals throughout the country. Calman has introduced the term “structured training”, but evidence of structure is difficult to find. The curricula list procedures in which competence should be gained but make little mention of how these procedures should be taught or learned. We had previously been concerned that the omission was because we didn't know; it now seems that we do, but maybe believed structure and rigour were not necessary for doctors.

Just possibly we have come to believe that training is somehow inferior in status to education. This is to misunderstand the differences between the two activities. Rigorous formal training in practical procedures does not in any way negate the need for professional judgement, intuition and opinion but we no longer need reminding that the public are demanding proved, high levels of technical skill. The authors make the point that, “flexible sigmoidoscopy is a technical skill and... suitably motivated staff should be able to learn this technique.” This is a fundamentally important point; skill is acquired by motivated learners who are prepared to practice and who have expert instruction and feedback. Some doctors or nurses will become more skilful than others because they are better motivated, practice harder and are better able to learn from experience. Many of our most skilful practitioners are self-taught, but for those starting now good coaching can probably shorten the time to a given level of

competence. Skill itself cannot be taught but has to be learned. The concept of innate dexterity and talent is not supported by evidence<sup>1</sup> and is not conducive to the development of training. We would contest one point in this paper. The authors state that, “the theoretical, moral and legal information contained in a nurse endoscopy course was *obviously* (our italics) different to that required in a medical course.” Surely the type and extent of information depend on the procedural experience and interest of the practitioner. With increasing technical and professional development the practitioner revisits the concepts at increasing levels of complexity. This is the essence of spiral curriculum.<sup>2</sup> Duthie and colleagues are to be congratulated for a truly structured nurse training programme that issues a challenge to doctors both in gastroenterology and other disciplines.

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### Gas and liquid reflux during transient lower oesophageal sphincter relaxation

EDITOR,—We read the paper by Sifrim *et al.* (*Gut* 1999;44:47–54) with interest. Transient lower oesophageal sphincter relaxations (TLOSRS) have become widely accepted as the cause of most acid reflux episodes in health and disease. It is also accepted that TLOSRS are involved in the belch mechanism. This paper refutes our assertion that the majority of acid reflux events occur in healthy individuals in association with the venting of gas, based on pressure measurements in ambulant subjects.<sup>1,2</sup>

The current paper has shown that gas can be detected passing out of the stomach during TLOSRS. The authors found that only 18% of TLOSRS were solely gas reflux and nearly 60% of TLOSRS were associated with liquid reflux alone or neither the reflux of liquid or gas. This implies that spontaneous TLOSRS occurs commonly and is not initiated by the fundal stretch “belch” mechanism. We wonder what exact teleological reason there can be for such a phenomenon.

The authors would suggest that in control subjects, acid reflux episodes are more common than simple belching. This seems contrary to most people's daily experiences and differs notably from our observations in normal subjects, where common cavity events with acid reflux are much less frequent than those without acid reflux. The pressure pattern of acid reflux alone, is quite different from the two types of common cavity event which we identified. Presumably all of this might be accounted for by the relative insensitivity of the authors' impedance system in the detection of small amounts of refluxed gas.

We remain unconvinced by the assertion that in normal subjects, acid reflux is a primary event, rather than one which accompanies the act of belching.

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### Reply

EDITOR,—We thank Drs Barham and Alderson for their comments on our paper. The issue of the relation between gas reflux, as in belching, and acid reflux has been a thorny one and the subject of some interest over the past few years. We accept that our findings challenge the popular concept that, in normal subjects, acid reflux commonly occurs in the setting of and perhaps as a consequence of belching. Because transient lower oesophageal sphincter relaxations (TLOSRS) are the basic underlying event for both reflux of gas (as in belching) and liquid (as in acid reflux), and because belching is considered a normal physiological process, it is natural to presume that, on occasions, acid sometimes escapes along with the gas.

The observations that have fuelled this conclusion, however, have been based on some assumptions about the interpretation of pressure tracings. In their paper on the mechanism of reflux in ambulant healthy subjects, Barham and colleagues assumed that the presence of an abrupt rise in intra-oesophageal pressure preceding the drop in pH indicated the reflux of gas. No direct detection of intra-oesophageal gas was undertaken. In our study we have used intraluminal impedance to detect gas, and pH to detect acid. It is clear from the impedance measurements that common cavities can occur in the absence of any detectable gas. Although we acknowledge that technical limitations such as the sampling rate may have limited the sensitivity of detection of rapidly moving small quantities of gas, intraluminal impedance is well capable of detecting substantial volumes of gas such as those that occur during belching. Therefore, we believe that our observations have a distinct methodological advantage over those of Barham and colleagues with regard to the patterns of gas reflux during TLOSRS.

It is possible, therefore, that the apparent discrepancy between our findings and those of Barham *et al.* may result from the technical limitations of their study. We found that gas accompanied liquid reflux on almost half (47%) of the acid reflux episodes, compared with 69% of acid reflux episodes that were associated with belching—that is, associated with a common cavity. Firstly, some of the common cavities observed by Barham *et al.* may have been pure liquid reflux. Secondly, they were unable to determine accurately the timing of the liquid and gas retroflow. It is possible that some of the presumed gas reflux actually started after the onset of the liquid reflux, as we observed in our study.

Drs Barham and Alderson have interpreted our findings as implying that “spontaneous TLOSRS occurs commonly and is not initiated by the fundal stretch ‘belch’ mechanism”. Our findings do nothing of the sort. The gastric fundus can be stretched or distended by liquids and solid meals just as