and of those who did reply 37% had performed less than 100 laparoscopic cholecystectomies, including 17% who had performed none at all. It is therefore misleading to reach any firm conclusions such as "16% of surgeons can expect to have at least one bile duct injury in their career" if it is based on their data. If the data available are stratified into those who never, selectively or always perform IOC, then the likelihood of experiencing bile duct injury is 11/95, 39/167 and 8/38, respectively (ie 11%, 23% and 21%). This therefore supports the use of no IOC. Conclusions about such a topical and controversial subject cannot be reached from this limited study and a prospective randomised controlled trial by experienced laparoscopic surgeons is required.

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Is the incidence of acute appendicitis really falling?

We read with interest the article by Williams *et al.* (*Annals*, March 1998, vol 80, p122). While we share the same belief that fewer appendicectomies are now being performed, we are not convinced that this reflects a genuine reduction in the incidence of acute appendicitis.

The authors have noted that there has been a fall in the numbers of individuals being discharged with a code appropriate for appendicectomy. However, this does not correspond to a reduction in the incidence of acute appendicitis for the following reasons:

1 The incidence rates were based on a discharge diagnosis of appendicectomy and not on histologically confirmed appendicitis. It is well recognised that there is a high negative appendicectomy rate, in particular in children and young women in whom the rate may be in excess of 15% *(1)*.
2 Following the publication of the CEPOD report on the care of children undergoing surgery in 1990 *(2)*, there has been a heightened level of awareness with regard to operating on children out of hours. For this reason many cases of 'SHO appendicectomy at 2 am' will now have disappeared and this may partially explain the reduction in the appendicectomy rate. In the absence of frank peritonitis, children admitted after midnight are likely to be observed and reviewed the following morning by a consultant surgeon. The majority of those with non-specific abdominal pain will have settled in this time.
3 Diagnostic laparoscopy is now employed in many centres for patients in whom the diagnosis is equivocal, ie young females.
4 The coding system is applied, in general, by non-clinical staff and the significant errors that may occur in this situation are exemplified by the experiences of Rice *et al. (3)* who report the errors made by the auditors auditing the management of femoral neck fractures at a district general hospital.

In conclusion, while we agree that there has been a fall in the appendicectomy rates during the past decades, this may not be because of a change in the incidence of appendicitis.

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2 Campling EA, Devlin HB, Lunn JN. The Report of the National Confidential Enquiry into Perioperative Deaths 1989. Disc to Print, London: 1990.
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Authors' reply

The decrease in the number of appendicectomies performed are a genuine reflection of the reduced incidence. If this is not so, one must assume that there are children with acute appendicitis who are not having appendicectomy. Clearly, this is not the case. Our replies to the points raised by Morris-Stiff *et al.* are as follows:

1 That our data did not contain histologically proven appendicitis has been acknowledged in the manuscript. The negative appendicectomy rate is unlikely to have fallen so dramatically over the two decades of the study to explain the 34% reduction in the number of appendicectomies being performed.
2 This is an interesting contention and one that we will acknowledge may be occurring. However, this again will be clearly evident as a reduction in the negative appendicectomy rate. The authors have given no conclusive evidence that this is in fact the case.
3 Diagnostic laparoscopy is clearly useful in the group of patients at highest risk of having a normal appendix removed; for example, young females. There is as yet no incontrovertible evidence to suggest that this practice has led to a sustained reduction in the negative appendicectomy rate in this group.
4 Data collection systems are not foolproof but, fortunately, they have improved since the report cited by the authors (from 1982). We suggest that the data contained in our paper is far more robust than previous publications that have suggested that the incidence of acute appendicitis is falling. Being an operative intervention and procedure-based diagnosis, it is much less likely to be erroneously mis-coded. The magnitude of accuracy is therefore much greater than for a diagnostic code that is presumptive, for example, non-specific abdominal pain. In addition, there are quality control measures and 'in house' checks that are performed with the data that are collected at Leicestershire Health. This suggests that our data capture is in excess of 90% in terms of accuracy. As a more in-depth study, we retrospectively analysed all the case notes for children