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Reply

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To the Editor (DOI: 10.1007/s00268-002-1244-z)

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I read the article by Krähenbühl et al. [1] with great interest. I must commend the authors for a well written and timely article. It addresses the main issues of laparoscopic cholecystectomy very well. However, I would like to raise a couple of issues.

1. Though laparoscopic cholecystectomy is considered the operation of choice for gallstone disease, should it be offered to every patient? The evidence in this article and in several others in the literature does not support this view. If the incidence of major biliary tract injury after laparoscopic cholecystectomy is far in excess of that seen with open techniques (10 times more), is it ethical to offer it to patients as the operation of choice? I do not think so. It would be satisfactory to start all cholecystectomies as laparoscopic procedures, but the threshold for conversion must be reasonably low and must not be prejudiced by the surgeon's ego. A major biliary tract injury can be a dreadful complication for the patient, with significant morbidity and some mortality. Although we will never go back to the prelaparoscopic era, the obituary notice for open cholecystectomy should not be written just yet.

2. How does a surgeon trained only in laparoscopic techniques convert to an open operation and tackle a difficult open cholecystectomy?

3. The authors concluded that “experienced laparoscopic surgeons tend to operate on more difficult cases with increased risk of biliary injury.” This argument is not tenable. When the open operation was in vogue, experienced surgeons (perhaps the same surgeons) did not have such a high complication rate. Therefore the problem is with the choice of procedure and the threshold for conversion. The conversion must be done *before* biliary injury occurs.

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We thank Dr. Fernando for his interest in our paper and for raising some important points. As mentioned in our article and in several further reports, laparoscopic cholecystectomy has become the first choice for treating symptomatic gallstones, even in difficult situations. We agree that an early decision for conversion should always be made before a dreadful complication occurs. However, in our series, which is far beyond the learning curve in Switzerland, more difficult cases could be managed by experienced surgeons laparoscopically without increasing the risk of major biliary complications. It became obvious that severe chronic inflammatory reactions, such as “shrunken” gallbladder with shortened cystic duct, increase the risk of bile duct injuries. There-

fore, a meticulous surgical dissection technique with complete identification of Calot's triangle is always needed before any structure is divided. If this cannot be achieved safely, a more experienced surgeon is needed or conversion to open cholecystectomy is recommended.

It is also worthwhile to note that by using intraoperative cholangiography in unclear situations more than 80% of all bile duct injuries were detected during the initial operation, leading to immediate repair by experienced surgeons. This is due to a nationwide standardized educational program for minimally invasive surgery initiated and established by members of our Swiss Laparoscopic Society (SALTS). This is major progress compared to the prelaparoscopy era, when the true incidence of major biliary injuries was probably underestimated without having had a standardized treating modality.

Thus we do not agree with Dr. Fernando that the problem of major bile duct injury was less important during the open cholecystectomy era. Experienced surgeons are still needed to handle difficult cases and for conversion cases. Teaching is always possible, even in difficult situations, but it needs to be standardized and controlled by national laparoscopy societies in accordance with local teaching programs. This is the major way by which to prevent dreadful complications during the laparoscopy era. It is not a reason to reach the simple conclusion to favor open cholecystectomy.

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