

The ALS council are grateful to their new audit lead, Richard Welbourn, for preparing an evidence based statement about the use of sharp metal trocars. There are surprisingly few good studies addressing this issue, but Richard has drawn together all papers up to 2010 in his summary below, which we hope will be of both interest and use to ALS members.



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Sharp metal trocars and laparoscopic primary trocar entry techniques

The gynaecology community has produced the best summary of the evidence so far (RCOG Guidelines 2008 ¹ and the Cochrane Review 2010 ²) and found no differences between various techniques of primary laparoscopic entry, in particular there is no evidence that sharp metal trocars with or without Veress pneumoperitoneum are any more harmful than other trocars for laparoscopic entry. In addition, the literature is sometimes difficult to interpret due to a lack of distinction between disposable bladed trocars and reusable sharp metal trocars. Obvious limitations include under-reporting in surveys but there is level 1 evidence and recommendation grade A to support this, suggesting that other laparoscopic surgeons' beliefs are based more on value judgements, dogma and intuition ie it is difficult to argue against the stance of the gynaecologists. (The same guidelines also suggest inflating the abdomen to 20-25mmHg (**evidence level IIb, Gd B**) for trocar entry and say 'direct trocar insertion is an acceptable alternative trocar insertion method' (**Level 1a, Gd A**).

There appears to be no evidence favouring open vs closed techniques for laparoscopic trocar entry. In particular the evidence between sharp metal trocars and blunt trocars for open or closed entry is poor as there are no data, partly because the literature usually does not distinguish between different types of trocars, and between primary and secondary port insertion. The best grade/level of evidence is summarized in the SAGES ³ guidelines: 'Currently, there are no demonstrable differences in the safety of open vs closed techniques ... ; decisions ... should be based on individual training, skill, case assessment (**Level 1, Gd A**)'.

The Cochrane review 2010 found: Meta-analysis of 17 RCTs on open vs closed techniques found no difference in complication rates (no individual mention of sharp metal trocars) (3,040 patients, vascular injury 0.9/1,000, bowel injury 1.8/1,000, **Level 1, Gd A**). Summary 'This review found no evidence that any single technique or specialised instrument used to enter the abdomen helped to prevent life-threatening complications. More research is required.' It was noted that there were no RCTs since 2008 in the literature.

1. RCOG Green Top Guideline No 49. Preventing entry related gynaecological laparoscopic injuries. Royal College of Obstetricians and Gynaecologists. May 2008.
2. Ahmad G, Duffy JMN, Phillips K, Watson A. Laparoscopic Entry Techniques. *Cochrane Database of Systematic Reviews* 2008, Issue 2. Art. No.: CD006583. DOI: 10.1002/14651858.CD006583.pub2.
3. SAGES guidelines for the application of laparoscopic biliary tract surgery. Society of American Gastrointestinal and Endoscopic Surgeons. Jan 2010.