



Title	Systematic Review of Methods Used to Establish Laparoscopic Pneumoperitoneum (MELP)
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Aim

To test the following hypotheses concerning MELP: open peritoneal access is safer and/or more effective than closed access; the hybrid visual/closed access method is safer and/or more effective than the blind/closed methods; and the direct trocar technique is safer and/or more effective than the Veress needle/primary trocar technique.

Conclusions and results

Open access versus needle/trocar access

Safety: The number of deaths recorded in the needle/trocar access group was too low to be compared with the open group, in which no deaths were recorded. A trend toward a reduced risk of major complications for the open access group was recorded in the prospective studies, although the risk of bowel injury was higher for that group. In patients that were not obese there was a reduced risk of minor complications for the open group, along with a trend for fewer conversions to laparotomy. *Efficacy:* The total time to establish pneumoperitoneum and complete the operation was slightly reduced in open access.

Optical trocar versus needle/trocar access

There was not enough good quality information to compare these two techniques.

Direct trocar versus needle/trocar access

Safety: No deaths were reported as a consequence of direct trocar access. However, the relative risk of death and/or major complications for these two groups could not be established due to the rarity of these complications. The risk of minor complications, most of which were caused by extraperitoneal insufflation, was reduced by 81% using direct trocar access. *Efficacy:* There was not enough good quality information to compare the two techniques.

Recommendations

As all procedures had a very low rate of injury or complications overall, large studies of good quality would be needed to show definite differences in the safety and effectiveness of these access techniques. The ASERNIP-S Review Group recommended that the relevant professional societies should formulate evidence-based Training and Practice Guidelines for the various primary access techniques.

Methods

Relevant literature on MELP was identified by searching MEDLINE, Current Contents, The Cochrane Library, EMBASE, HEALTHSTAR, and the Web of Science citation index until May 2001. Randomized, quasi-randomized, and non-randomized controlled trial studies on human patients were included if they compared access methods and provided relevant safety and efficacy outcome information. Studies in languages other than English were translated fully (randomized controlled trials) or in abstract form (other studies).