

[Endoscopy](#). 2009 Jun;41(6):493-7. Epub 2009 Jun 16.

A reliable and safe gastrotomy closure technique assessed in a porcine survival model pilot study: success of the Queen's closure.

[Hookey LC](#), [Bielawska B](#), [Samis A](#), [Jalink D](#), [Ellis R](#), [Khokhotva V](#), [Hurlbut D](#), [Mercer D](#).

Gastrointestinal Diseases Research Unit, Queen's University, Hotel Dieu Hospital, Kingston, Ontario, Canada. hookeyl@hdh.kari.net

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BACKGROUND AND STUDY AIMS: The evolution of NOTES to clinical implementation has been hampered by lack of a reliable, safe, and easy-to-implement technique for closure of the opening created in accessing the peritoneum. The Queen's closure uses a combination of endoscopic clips and loop devices to seal such defects in the stomach wall. This study aimed to assess the Queen's closure in a porcine survival model. **METHODS:** Five 30-kg pigs underwent endoscopic transgastric surgery with exploration of the peritoneum. The endoscope was then withdrawn back into the stomach and the closure performed. The animals were recovered, monitored closely, and underwent endoscopy 1 week after surgery. They were then euthanized at 2 (n = 2) and 3 (n = 3) weeks after surgery with subsequent necropsy. **RESULTS:** The mean procedure time (from intubation of the esophagus to withdrawal of the endoscope) was 79 minutes (range 45-105 minutes) with a mean time of exploration of the peritoneum of 14 minutes (range 8-25 minutes). All animals recovered well with no apparent pain, distress, or signs of infection. Endoscopic examination 1 week after surgery revealed all the closures to be intact and only identifiable by a small ulcer. At necropsy, the gastrotomy site was identifiable only by minor serosal adhesions. Histological study demonstrated full-thickness closure with minimal inflammation. **CONCLUSIONS:** The Queen's closure is a reliable and safe technique that provides full-thickness gastrotomy closure without any observed complications. The technique has proven to be transferable knowledge that holds promise for clinical implementation.

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