



and Other Interventional Techniques

## Controlled trial of the introduction of a robotic camera assistant (EndoAssist) for laparoscopic cholecystectomy

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### Abstract

**Background:** The role of the human camera holder during laparoscopic surgery keeps valuable personnel from other duties. EndoAssist is a robotic camera-holding device controlled by the operator's head movements. This study assesses its introduction into clinical practice.

**Method:** Ninety-three patients undergoing laparoscopic cholecystectomy were randomized to have either the robotic (40) or a human (46) assistant. Seven patients converted to open operation were excluded. Six surgeons were evaluated. Operating time and subjective assessments were recorded. Learning curves were constructed.

**Results:** The mean operating time was less using the robotic assistant (66 min) than with human assistance (74 min) ( $p < 0.05$ , two-tailed  $t$ -test). The learning curves for operating time showed that within three operations surgeons were trained in using the robot. The device was safe in use.

**Conclusion:** The EndoAssist operating device is a significant asset in laparoscopic surgery and a suitable substitute for a human assistant. Surgeons became competent in the use of the robot within three operations. The robot offers stability and good control of the television image in laparoscopic surgery.



Fig. 1. EndoAssist in use.