



Impact of a nationwide training program in minimally invasive distal pancreatectomy (LAELAPS)

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de Rooij and colleagues from the Dutch Pancreatic Cancer Group (DPCG) report on their experience disseminating a nationwide training program for minimally invasive distal pancreatectomy (MIDP) called LAELAPS (1). This effort included 32 surgeons at 17 medical centers in the Netherlands. The perioperative results prior to and following LAELAPS are compared, and conversion rate (38% *vs.* 8%, $P < 0.001$), blood loss (350 *vs.* 200 cc, $P = 0.03$) and length of hospital (9 *vs.* 7 days, mean, $P < 0.001$) were all improved significantly presumably as a result of the training and experience. The assessment was made according to STROBE guidelines (2). Robotic and laparoscopic procedures were included, as performed using the same techniques, and patient selection was according to the criteria of Yonsei (3).

I congratulate the DPCG for their systematic approach and clear reporting of results with what appear to be direct cause and effect improvements. Innovation in surgery is both crucial and complex. Acceptance of innovation is a process, which takes time. Innovators and early adopters are often ridiculed and condemned as heretics and showmen by non-adaptors. Moving the process forward requires dedication and careful introspection to ensure that said innovation is not inferior to the original way of doing things, and that it may add additional value. Innovation may also raise concern, as innovators and early adopters may have abilities and access beyond what the general population can achieve, such as unusual skill and/or use of limited available technology. As we move along the innovation curve and more surgeons perform the newer technique, risks rises that inadequate training will lead to

poor outcomes, increased patient risk, and loss of progress.

Laparoscopic colectomy is a commonly performed operation. In 2004, the results of the COST trial were presented and the concerns of surgeons who perform colon surgery were assuaged (COST), as the trial demonstrated non-inferiority of the laparoscopic approach to right, left, and sigmoid colectomy as compared with their open counterparts for the surgical removal of colon cancer (4). Industry supported training courses to increase technology sales and minimally invasive colectomy is a standard approach for appropriate patients with colon cancer.

Distal pancreatectomy is a less-commonly performed procedure than is partial colectomy, and the pancreas is a deep-seated retroperitoneal organ adjacent to foreboding vasculature. Merging experience in pancreatic resection with advanced laparoscopic technique for a relatively uncommonly performed procedure made systematic dissemination of MIDP slower than for colectomy. Coordinated efforts like LAELAPS are necessary to achieve this endpoint.

What we do not gain from this study is a true appreciation for the actual contribution of the training program. It could be that the “tipping point” was reached and more surgeons in the Netherlands gained comfort with MIDP, and that some of the post-LAELAPS improvement are circumstance. This is probably unlikely as the number of cases performed doubled in the 22 months after training as compared with the previous 9 years. The DPCG is unique in that it is a nationwide organization which demonstrates unusual collaborative spirit, as has been demonstrated in the Netherlands through various collaborative randomized

studies. Problem with comparing longitudinally is that the surgeons already have increased experience, which can affect the significance. The B/C fistula rate of 30% seems higher than reported in other studies, but did not change following LAELAPS (5,6). I would not have included robotic procedures in this report, as robotic experience is even more reliant on a team approach and some important differences exist between robotic and laparoscopic distal pancreatectomy (7).

Overall, this study represents an important step in patient safety and collaboration. Current practice in the United States is to learn technique as a trainee during fellowship, or as faculty from course, mentorship, and/or trial and error. Systematic training programs for surgical innovation are crucial to achieve these results. LAELAPS and the collaborative effort from the Netherlands is a great example of this.

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appropriately investigated and resolved.

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