

# Balancing surgical innovation with cost and efficiency

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See the related research paper by Wang and colleagues on p. 263.

Accepted for publication  
May 20, 2014

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DOI: 10.1503/cjs.006114

## SUMMARY

The standard approach to neoplasia of the pancreatic head is pancreaticoduodenectomy, otherwise known as the Whipple procedure. Traditionally, this operation is performed through an open laparotomy incision. In high-volume centres, and when performed by appropriately qualified surgeons, the Whipple procedure is safe and effective management for diseases of the pancreatic head. Still, this operation remains one of the most complex abdominal procedures. With the proliferation of minimally invasive surgery, more complex operations are being performed using laparoscopy and other minimal access techniques. A group from McGill University and the Montreal Jewish General Hospital have prospectively evaluated their experience with minimally invasive pancreaticoduodenectomy and have compared this experience to the open approach. This is the first comparative series of its kind from Canada.

The world's first minimally invasive pancreaticoduodenectomy was reported by Canadian surgeons in 1994.<sup>1</sup> Since then, several smaller reports have followed that suggest that many of the traditional advantages of minimally invasive surgery may be possible in select patients undergoing surgery for neoplasms of the pancreatic head.<sup>2</sup> In this edition of the *Canadian Journal of Surgery (CJS)*, Wang and colleagues<sup>3</sup> report Canada's first comparative series between minimally invasive pancreaticoduodenectomy using a hybrid approach and open pancreaticoduodenectomy. In their series, they demonstrate a shorter length of stay in hospital for the minimally invasive group, with similar perioperative outcomes and complication rates between the minimally invasive and open surgery groups. They also report a trend toward lengthier operations in the minimally invasive group.

This experience highlights one of the conflicts we face in our health care system. As health care budgets shrink, there are increased fiscal pressures on hospitals and, by extension, operating room resources. Likewise, a key metric for quality in Canadian surgery is waiting times. These realities may challenge the technical progress suggested by Wang and colleagues.

If advanced approaches are more broadly applied and if the observation of increased duration of surgery and the possibility of greater resource utilization persist, widespread uptake of this novel approach may have to be limited. On the other hand, if it can be demonstrated that improved perioperative outcomes are reproducible with minimally invasive pancreaticoduodenectomy and that once a suitable learning curve is overcome good outcomes can be provided to patients in a timely and efficient manner, then more widespread, systematic uptake may be possible. Likewise, new technology may permit greater efficiency in such complex minimally invasive procedures, facilitating an improvement in important perioperative parameters and thereby decreasing costs.

As mentioned in a previous *CJS* editorial, surgeons need to find solutions to the fiscal and societal restraints currently in place for our health care system.<sup>4</sup> With new technology and novel approaches to surgical diseases, we are

challenged to balance our desire to improve patient outcomes and incorporate new approaches while maintaining a fiscally sound and efficient system. If more surgeons embrace minimally invasive pancreaticoduodenectomy in Canada, it will be important to better understand whether the potentially increased costs of this approach are justified by superior outcomes, new efficiencies and improved quality of life for patients.

**Competing interests:** None declared.

## References

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