The era of ERAS: a new standard of perioperative care

Tim W Eglinton

Many readers of the Journal will remember their general surgical rounds as students or resident medical officers, fondly or otherwise, pacing after a suited consultant surgeon. There was always a fear of making cardinal errors such as removing drains, nasogastric tubes or urinary catheters too early. Or worse, feeding a patient before their bowel had functioned!

Surgical ward rounds are a very different scenario in the second decade of the new millennium. For better or worse, surgeons remain the last bastions of the suit amongst clinicians, but the orders they are barking have changed. In the past decade many aspects of conventional perioperative care have been overhauled and replaced with modern recovery concepts, collectively known as ‘fast track’ or ‘enhanced recovery’ protocols.

Enhanced recovery after surgery (ERAS) encompasses a range of evidence-based perioperative interventions that aim to minimise the physiological stress response, reduce complications and accelerate recovery. Enhanced recovery begins in the preoperative period with extensive patient education on the perioperative journey. The preoperative period has also seen changes in long established surgical practices such as preoperative fasting and mechanical bowel preparation. Neither are utilised in ERAS programmes for colonic surgery; instead, patients are given carbohydrate loading drinks to stimulate anabolic metabolism.

Intraoperatively, most pathways advocate minimal incisions, avoidance of drains and tubes, restricted use of intravenous fluid, and the use of epidural or intrathecal analgesia. Postoperatively, early mobilisation, enteral nutrition, early removal of urinary catheters, and multimodal analgesia with minimal opiate use are the mainstays of ERAS programmes.

Andrew Hill and his team at Middlemore Hospital have led the introduction of ERAS in New Zealand. In this issue of the Journal Professor Hill presents his results in a case series that confirms excellent outcomes can be achieved using this system in the New Zealand setting. Patients were discharged at a median third postoperative day with low morbidity and an acceptable readmission rate. Based on Cr-possum and ASA scores, the cohort assessed did not appear highly selected and represented a standard range of patients likely to present to major New Zealand hospitals for colectomy.

The paper provides a useful summary of the Middlemore protocol and its multimodal interventions and could provide a starting point for institutions looking to introduce ERAS. This report assesses the overall outcomes of ERAS and not the relative contributions of the individual components of the pathway to improving outcomes. However, this does reinforce that ERAS is a multimodal approach and a detailed
review of the evidence base underlying the individual components has recently been published by the newly formed ERAS society.\(^2\)

It is noteworthy that such short hospital stay was achieved in the Middlemore series without the use of any total laparoscopic surgery. In recent years, a number of large randomised trials have demonstrated reductions in hospital stay and other short term benefits with laparoscopic over open colectomy.\(^3\) These trials have, for the most part, employed conventional perioperative care regimes, raising the question whether the benefits of laparoscopic surgery are still evident in ERAS programmes.

Our own data from Christchurch showed reduced hospital stay was achieved in patients selected for laparoscopic surgery compared with open surgery when both were managed within an ERAS pathway (median discharge day 3 for laparoscopic versus day 7 for open surgery).\(^4\) However, more randomised data is necessary to determine whether the benefits of laparoscopic surgery are further enhanced or in fact nullified by ERAS.

The prospect of further enhancement in perioperative care and the potential additive benefits of minimally invasive surgery have made the once inconceivable scenario of 23 hour day stay colectomy a realistic possibility. Reports have emerged of this practice\(^5\) but its feasibility and safety remain open to debate. What is not open for debate is the goal of ERAS; to improve patient outcomes in terms of morbidity and overall wellbeing. Any benefits that accrue such as reduced hospital stay and costs must be considered worthwhile secondary outcomes.

As the era of ERAS evolves, whether patients will be discharged on the day of colectomy remains to be seen. Whatever the future brings, however, it is highly likely the surgeon discharging them will still be wearing a suit.

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**References:**


