

Fast-track surgery

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By the end of the 1990s, significant new scientific evidence was available on the optimization of perioperative care for elective surgical patients^{1,2}. Investigators synthesized, integrated and applied this new information in a comprehensive programme, now commonly referred to as 'fast-track surgery'. The thrust of this approach was to reduce the physiological and psychological stresses associated with operations, thereby reducing potential complications. However, despite the enthusiasm of some, many surgeons remain sceptical that rapid recovery can be achieved by such techniques, and important questions have been aired regarding practicality, utility and cost savings. This article considers these issues.

Fast-track surgery evolved as a coordinated effort, combining modern concepts of patient education with newer anaesthetic and analgesic methods and minimally invasive surgical techniques; the intention was to reduce the stress response, and minimize pain and discomfort. Recent data from randomized trials on the value of drains, tubes, urinary catheters, fluid therapy and monitoring devices have also changed practice. In combination, these evidence-based advances in modern care, emphasizing oral nutrition and physical rehabilitation, reduce the need for hospitalization and enhance convalescence^{1,2}. It is important to understand that discharge criteria with fast-track surgery are the same as those of traditional care, but the fast-track system achieves the criteria sooner.

What is the evidence in favour of fast-track surgery? Initial results, reported as uncontrolled observations from centres involved in developing the concept, have been encouraging. Postoperative organ dysfunction appears significantly attenuated, as demonstrated in studies evaluating pulmonary function, ileus, fatigue, the cardiovascular responses to exercise, preservation of body composition and generation of muscle force¹⁻³. As a consequence, postoperative hospital stay has been reduced to 2-4 days after both colonic resection²⁻⁵ and aortic aneurysm repair⁶, and to 1-2 days after hip replacement⁷ and pulmonary resection². These observations suggest that the risk of 'medical' complications, such as postoperative cardiopulmonary dysfunction, is reduced^{2,4}. Such a reduction in complications, coupled with a decreased stay in hospital, should reduce costs. Although single centres have reported that cost reduction occurs⁵, there is a risk of transference of cost from the hospital to the postdischarge environment; this has been recognized in some of the early discharge programmes⁸. It appears that a large and sophisticated economic analysis is needed if fast-track surgery is to be fully understood within the context of other healthcare expenditure.

Safety is another important issue and it is probably the major concern for many physicians. Available data to date from centres around the world have not shown increased morbidity or mortality with the

fast-track approach^{2-6,9}. Nevertheless, large randomized or multicentre studies are needed to confirm what are, so far, only small observational reports. Early readmission is a potential problem that has been reported in some hospitals⁴, but not in others^{2,3,5,6,9}. Concern has also been expressed about the potential increased risk of a severe complication, such as pulmonary embolism or anastomotic breakdown, in the home after early discharge, but there is no evidence so far that this is a greater problem than with traditional practice. Patient satisfaction and quality of life appear similar to those associated with conventional care⁹. As with all discharge planning, preoperative information and socioeconomic circumstances must be taken into consideration; the support of family and friends is essential for an early and safe transition from hospital to home.

How should fast-track surgery be implemented? Organization and participation of motivated care providers are the initial ingredients of any new medical service. A team of individuals must be created to formulate a plan and work together; this involves anaesthetists, surgeons, nurses and possibly physiotherapists. An analysis of outcome is essential to success and a database should be maintained to aid this assessment. It is also useful for team members to visit another institution with an active fast-track programme already in place. Finally, a member of the hospital's administrative staff should also be involved to facilitate and evaluate resource utilization.

What of the future? Fast-track surgery is a movement that incorporates evidence-based care and other new developments in an attempt to improve surgical outcomes. As this approach becomes disseminated and is seen to be successful, consumer pressure is likely, with demand for such a style of care much as there was for minimally invasive surgery. Additional innovative approaches will be incorporated into fast-track perioperative care programmes, including new methods of aggressive reduction of surgical stress using pharmacological modifiers, such as steroids, β -blockers and anabolic agents^{1,2,10}. There will be new developments in minimally invasive surgery, fluid management², and anaesthetic and analgesic techniques^{1,2}. The knowledge gained from work with elective patients may be applicable in the emergency setting, and to patients with profoundly disordered physiology, such as those with accidental injuries or severe infections.

The future will undoubtedly see major developments in fast-track surgery. It may even be that most major operations, even in high-risk patients, will prove possible in an ambulatory or semiambulatory

setting. For now, there is no need to slowdown, but careful progress in an orderly and prudent fashion should allow the goal of a pain and risk-free operation to be reached.

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