

Subspecialisation in surgery and the continuing challenge of providing emergency surgery services

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The future viability of general surgery may depend on combining subspecialty elective surgery with full-scope acute practice in both public and private settings

Subspecialisation in surgery is an irresistible and irreversible force. It improves standards of patient care¹ but tends to be accompanied by an erosion of competence in the broad scope of the major specialty. For example, many major hospitals in Australia have had difficulty retaining subspecialty breast surgeons on the on-call roster because these surgeons feel that their competence to manage the full range of general surgical emergencies has been diminished by their day-to-day practice involving primarily the breast and axilla and rarely the abdomen. Nevertheless, the community needs surgeons willing and able to provide acute surgical care in the major specialties, including general surgery. Is it possible to have a model of care that satisfies both of these apparently divergent scopes of practice?

A century ago, there was a single broad field of surgery. During the 20th century, specialties within surgery developed, many of these arising from general surgery, which continues to be the largest specialty. The Royal Australasian College of Surgeons (RACS) currently recognises nine specialty disciplines, by training and examination: general surgery; orthopaedic surgery; otolaryngology, head and neck surgery; plastic and reconstructive surgery; cardiothoracic surgery; neurosurgery; paediatric surgery; urology; and vascular surgery.² Recognition as a surgical specialty has required definition of a discrete area of knowledge and skills, and a group of practitioners dedicated to the practice, teaching and advancement of the specialty. Subspecialisation within each specialty continues this development, driven by surgeons' motivation to increase their knowledge and improve patient care. However, it may also have professional and personal benefits for the surgeon, including a more regulated lifestyle and enhanced prestige and remuneration. Examples of subspecialisation within the specialty of general surgery are breast, endocrine, upper gastrointestinal, hepato-pancreatico-biliary, and colorectal surgery.

Of particular concern is that general surgery — comprising the largest specialty group of surgeons and those most likely to be required to treat emergencies — is now attracting proportionally fewer applicants for training. In 2007, general surgery offered 51% of available training posts but attracted only 30% of applications.² Until recently, a third of trainees transferred to another specialty during their training. Although it is hoped that the new Surgical Education and Training (SET) program³ will bring improvements for all surgical specialties, attraction to and retention in general surgery training is likely to be a continuing challenge. Despite the best efforts of the RACS and public hospitals, the number of training positions in general surgery of sufficient quality to meet accreditation standards has increased only gradually from 266 in 2004 to 304 in 2008.² These factors at the supply end, combined with the fact that 40% of active general surgeons are aged over 60,² are creating serious workforce pressures. Very few surgeons remain on the on-call roster after age 60. The situation seen in Australia is

similar in other developed countries and is particularly concerning in the United States, where Fischer has warned of the impending disappearance of the general surgeon.⁴

General surgical specialists have been trained to a competent level in the full range of the specialty, including trauma and the acute abdomen. However, as subspecialisation develops, surgeons may become de-skilled in the requirements of emergency surgery. Thirty years ago, general surgeons practised the full range of the specialty, taking pride in the breadth and depth of their knowledge and skills. This has changed significantly. In a 2003 survey,⁵ the practice patterns of members of General Surgeons Australia were:

- general surgery with subspecialty, 45%
- general surgery with more than 90% subspecialty, 23%
- “general” general surgery, 18%
- subspecialty only, 14%

Nevertheless, 83% felt an obligation to stay on emergency rosters out of duty to the community, trainees and professional colleagues. But for how long will this goodwill continue?

Emergency work is demanding, and reliance on a diminishing pool of “general” general surgeons will not be sustainable. Indeed, the future viability of the specialty of general surgery may depend on the development of a model of practice that combines subspecialty elective surgery and full-scope acute practice in both public and private settings.

What is required to encourage surgeons to continue to work on emergency rosters? First, we need a review of these rosters. The tradition of ongoing responsibility for the care of patients taken in during an on-call period being maintained by visiting surgeons — who make up most of the workforce and who are in private practice outside the public hospital for most of their working week — should be reconsidered. The Australian Medical Association has promulgated safe-hours principles,⁶ and these depend, in part, on the acceptance of safe-handover principles.⁷ The RACS supports both these professional workplace ideals.⁸ Rosters have been successfully trialled where a consultant-led surgical team is on call exclusively for emergencies, with no scheduled elective duties, for a defined time period such as 24 hours, or longer. At the end of this time, the team completely hands over care of patients with unresolved problems to the next team.⁹

Second, we need a review of the efficient use of operating theatres for emergency and elective surgery. Lack of access to beds and operating theatres for elective surgery is a continuing source of frustration for patients, surgeons and trainees, and may be solved by separating the services.¹⁰ This can be achieved by establishing a separate hospital for elective surgery, at least for surgery of minor or moderate complexity, or by effective quarantining of services within a major hospital complex.

Third, surgeons need to maintain competence in emergency surgery relevant to their major surgical specialty. It is possible to

identify the requirements of emergency surgery as a defined scope of practice within each of the nine major specialties. This set of knowledge and skills could be formalised in a curriculum for continuing professional development and delivered in an adult learning format, including online modules and hands-on technical skills laboratories. Surgeons would then have the confidence to continue to serve on on-call emergency rosters, thereby acting as mentors and role models for trainee surgeons, while also continuing to practise a subspecialty interest in elective surgical practice.

Finally, hospitals should value their surgeons and provide appropriate incentives and conditions of service, including adequate remuneration and tangible support for continuing professional development. This will require cultural and organisational reform, but hospitals could then reasonably expect surgeons to provide emergency services as a condition of their employment.

My emphasis here has been on general surgery, where the problems are so obvious. However, service issues also apply to other surgical specialties with developed and developing subspecialisation (notably orthopaedics and otolaryngology) and are also relevant to other medical specialties. Problems particularly occur in the public sector; while provision of acute care in the private sector is also problematic, motivations and incentives in private sector settings appear to be more effective in maintaining services. In rural and remote areas, the provision of elective and emergency services is also threatened by workforce pressures beyond the issue of subspecialisation.

The RACS has recently responded to concerns about the increasing difficulties in providing adequate emergency and trauma care by publishing a position statement outlining guidelines for the sustainability of emergency surgery services.¹⁰ To continue to provide emergency surgical care to the Australian community, it is apparent that models of coexistence must be found, and that solutions will include effective rostering and practice models, the certainty of availability of facilities for care, and the appropriate valuation of surgeons, as well as ongoing support for the maintenance of professional competence.

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