General or Specialist Surgeons?

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ABSTRACT

General Surgery is a broad surgical specialty that focuses on diseases related to abdominal organs, skins and hernias, both in elective and emergency settings. With the prevalent trend for increasing subspecialisation in today's surgical practice, general surgery has lost some of its former glory and scope. This has led to suffering of the image of the general surgeons (GS) in the eyes of trainees, peers, the public and even GS themselves. A comprehensive review of literature is presented to address the controversy surrounding the role and future of general and specialist surgeons in the current perspectives.

Key Words: *emergency, general surgeons, specialists, surgery*

INTRODUCTION

Since the dawn of surgery, there has been relentless advancement in surgical specialisation, as it has become impossible for a single surgeon to keep himself abreast of recent advances and also to be able to provide service in all subspecialties in the current climate of tight clinical governance and increasing demands of patients accrued from easy access to the media.[1] In the past, general surgeons (GS) had to undergo broad range of surgical training including management of all form of trauma patients and were expected to provide emergency service in these fields. Over the past three decades, there has been a shift of paradigm towards specialisation, as the number of both surgical manpower and patients have increased and so is the demand of high quality of patient care. The place of traditional "old-fashioned" GS in the current surgical practice is being debated in every institution and a middle pathway is being adopted based on their needs. This has led to attrition on the image of the GS in the eyes of the trainees, peers, public and even GS themselves.[2] This paper reviews the current literature which address the controversy surrounding the role and future of GS and the rapidly expanding pool of specialist surgeons.[3]

GENERAL SURGEONS

A GS, by definition, is a surgeon who is trained and competent to recognise and manage a wide range of surgical conditions, abdominal surgery in particular, in addition to hernias and skin lesions, and be able to perform a wide spectrum of surgical procedures.[4] This objective was set in the traditional surgical training schemes globally, where a GS was expected to manage all surgical emergencies including trauma and orthopaedics and also deliver wide range of elective services, which reflected shortage of trained manpower in various subspecialties.[5] This has now been replaced by highly skilled specialists focussed in limited areas but with high professional skills, which has led to change in its definition. Currently, a GS is expected to be an expert in the management of all emergency abdominal conditions including abdominal trauma, but at the same

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time develop a subspecialty interest as shown in Table 1. However, there is still a significant room for the traditional GS in the developing world, where surgical services are inadequate in most of the hospitals. A GS capable of dealing with all surgical emergencies such as abdominal, urological, vascular, trauma, orthopaedics and obstetric emergencies is a valuable asset in those situations.[6]

The emergency surgical admissions in the UK are in excess of 50% of all general surgical admissions, and the trend is increasing. This calls for a requirement of on-call GS with broad based surgical skill and knowledge. Emergency admissions and trauma are two most challenging areas in surgery and only experienced on-call GS can provide the holistic care required in managing these complex patients.[7] In the current climate of civil wars and escalating terrorist violence, missile injuries are prevalent, which shows no respect for anatomical boundaries. Any GS can be called upon to manage a military-type trauma, possibly in a mass casualty situation and an experienced GS, trained in the techniques to perform life-saving emergency surgery, is vital in the management of major trauma.[8] Such training in most developing countries including the UK is limited, and specialisation can only increase these inadequacies.[9] On the other hand, the experience gained in managing these emergencies in developing countries is extremely valuable, although the quality of experience is compromised by limited availability of resources, both in terms of investigation and treatment facilities.[10]

In larger emergencies emerging from natural calamities and disasters, such as those caused by earthquakes and floods, hospitals often lose more than 50% of their capacity when life-saving services are being provided. This week, the World Health Organsation has urged the governments around the world to build safer hospitals, upgrade existing facilities and train health personnel in disaster preparedness, so that they are able to function effectively during and after the calamities. Trained GS can make significant impact under these circumstances by effectively utilising the available resources, which are very often stretched to their limits.[11]

Historically, general surgery in the UK comprised of a number of subspecialties, but there is an increasing trend towards moving away from the general surgical parenthood and an evolution towards an increasing number of specialist service providers (Table 1).[12] With the prevalent trend for increasing sub-specialization in today's medical practice, general surgery has lost some of its former glory and scope. Nonetheless, it continues to be a competitive, rewarding and highly demanding specialty in its own right. With the advancement of technology, the shift towards specialisation is inevitable, although there is a valuable role of GS, whose broad-based skills and knowledge needs preservation.[13]

SPECIALIST SURGEONS

A specialist surgeon, by definition, is one who works in a defined area or system and possesses an in-depth knowledge and skills on a focussed area of interest. There is a growing trend towards specialisation, both in developing and developed world. Both patients and surgeons feel comfortable among themselves in accepting specialisation as the way forward in the current climate of rapidly advancing technologies related to management of all surgical problems, particularly that of cancers.[14] Progressive specialisation is the voluntary narrowing of scope of practice from the breadth of skills acquired during training; it occurs in response to patient demand, rapid growth of medical knowledge, and personal factors[15]. Evidence in colorectal surgery suggests that specialist outcomes in the treatment of cancer are significantly better than those achieved by non-specialists regardless of case volume.[16] Bodies of evidence from different subspecialties show that specialists produce better results which are related to higher case volumes for specific procedures. This has been reported true with the outcomes following repair of aortic aneurysms, management of trauma and breast cancer.[17-20]

A specialist works in harmony with a multidisciplinary team comprising of personnel from diverse specialties, which is now central not only to the management of cancer patients, but to all specialties. This encourages communication, paper audit and help prevent patients falling down of cracks between the treatment floorboards.[21] At an individual level, a specialist is bound to focus his attention to a limited group of surgical problems in a regular basis, thereby providing greater opportunity to gain experience at a short space of time and to develop expertise in his field.[22] A learning

Table 1. Surgical subspecialties

General Surgery	Breast
	Endocrine
	Hepatobiliary-pancreatic
	Upper gastrointestinal
	Colorectal
Specialist Surgery	Transplantation
	Urology
	Cardiothoracic
	Orthopaedics
	Neurosurgery
	Plastic
	Paediatric
	Vascular

curve for any procedure gets overcome by a specialist quicker than by a generalist.[23] This also stimulates the specialists to devote to research and explore various unresolved problems in his field. Expansion of a pool of specialist surgeons is paramount for the advancement of surgery and also to foster their knowledge, skill and experience to the future generation of surgeons.

CURRENT PRACTICE IN THE UNITED KINGDOM

As gauged by the number of surgeons in practice in the specialty, general surgery is one of the two largest in the United Kingdom (UK) with 31% of the consultant surgical workforce. There is diversity in the demand of manpower and practice of surgery even within the same system, such as the National Health Services within the UK, and between the teaching and the district general hospitals based at different locations within the country.[24] This is guided by the size of the population catered by a particular hospital, its location, organisation, manpower and academic affiliations. In a teaching hospital like ours, both emergency and elective general surgical patients are managed by the upper gastrointestinal, colorectal, hepatobiliary-pancreatic, breast, endocrine and transplant surgeons, whereas the specialties like vascular, urology, plastic and the rest, do not partake on the general surgical on-call rota, rather run their own on-call rota, which are equally onerous. Currently, there are some district general hospitals in the country, where vascular and urological emergencies are managed by the GS on call and subsequently referred to specialists for further management or transferred across to centres when an urgent attention is required.[25]

If allowed, every GS would vote for specialisation and opt out on-call commitments. On the other hand, with the several thousand patients who need GS, the current system can not afford to allow GS to opt out from managing this subset of patients. More importantly, it is, not possible to create emergency general surgery as a sole subspecialty, as this is highly unlikely to prove attractive.

SURGICAL TRAINING

With the uncertainties on the demand and current surgical practice, the surgeons-in-training are put through enormous amount of strain in order to strike a right balance between acquiring adequate knowledge and skill to be a reasonably experienced old-fashioned GS and a twenty-first century specialised surgeon. Equally true is the fact that the policy-makers are facing difficulties in addressing these issues and shaping the career of the future generation of surgeons.[26]

This has revolutionised the surgical training schemes all over the world and each scheme underwent major modifications within a decade since they were launched, because none of them achieved the set objectives. The need of manpower to provide essential emergency surgical services on one hand, and to provide specialist service on the other, has led to dichotomy in thinking about the right approach to surgical training and practice, which has put both developed and developing countries into dilemmas in choosing the right pathway.[27]

In the UK, there is an increasing problem in recruiting trainees in general surgery as the trainees after their basic surgical training and MRCS, opt to pursue career in other specialties including anaesthetics, radiology and pathology. The reasons for the default are lack of structured training, onerous on call, not keen on performing a limited number of procedures, and the feeling of no such thing as general surgery any more.[28]

A move towards specialism and shorter training is increasingly being favoured in the UK which has generated concern relating to possible extinction of GS.[29] For the safety of patient care, surgeons must evolve strategies to cope with these reduced training times so that they preserve the current high level of competence exhibited by UK trainees when they attain the right to independent surgical practice recognized by appointment as a consultant surgeon. Such strategies include a focus on dedicated training time, the use of simulators, and a move towards progression based on satisfactory completion of a defined curriculum and competency assessment rather than the amount of time served.[30]

CONCLUSIONS

The dichotomy between the GS and the specialists has created a gap and the concept that general surgery has resulted from what has been left after various groups broke away rather than common interest group coming together has further widened the gap between the two groups. It is important to appreciate that eventual development of subspecialists all over the world is inevitable. How to fit in the GS without subspecialty interest in the group of specialists is becoming an increasing problem in the larger teaching hospitals, although this is still working well in smaller hospitals, particularly in remote locations.

This calls for adopting a middle path that would suit the need of individual hospital based on the availability of the manpower, both general and specialist surgeons, with their specific interest in developing their own subspecialties, which should be encouraged in the modern era. To preserve the important group of GS, who are capable of looking after over 50% surgical admissions, that is, the emergencies, a longer period of training as a GS followed by a period of specialist training and a system to pass on their valuable experience to next generation of trainees would be the way forward.

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