



# AUGIS

*Association of Coloproctology of Great Britain and Ireland,  
Association of Upper Gastro-intestinal Surgeons &  
Association of Surgeons of Great Britain and Ireland*

## **THE FUTURE OF EMERGENCY GENERAL SURGERY**

### **A joint document**

#### **Key Recommendations**

1. The model of EGS delivery should change as the current one is inefficient and associated in some units with poor outcomes.
2. Emergency surgery has several constituent components which can usefully be defined to aid more effective service planning and delivery. These components include
  - Front door senior surgeon to triage admissions
  - Hot clinic service
  - Assessment and care of EGS in-patients (including post-take rounds)
  - Acute abscess and appendix service (scheduled day case)
  - Acute biliary service
  - Emergency laparotomy service
  - Weekend review of complex elective in-patients
  - Specialised emergency surgery services (e.g. Trauma, HPB, specialist upper GI, specialist Colorectal etc.)

Having a single duty surgeon take direct personal responsibility for every task simultaneously is unlikely to provide reliable care except in quieter units. The number of components which one surgeon can deliver effectively will vary with workload. Without these changes the service will remain cumbersome, unreliable, patient heavy and difficult to manage effectively.

3. Every EGS service should establish some form of senior surgeon-led front door assessment and parallel hot clinic service as this can reduce emergency admissions by 20-30% thereby controlling patient flow and allowing the emergency team to focus more on the sickest patients.
4. Acute biliary disease is the largest single component of EGS and patient pathways are often poor and expensive as a result of delays at various stages of care. A defined acute gallbladder service

should be available within every EGS service. This requires leadership, access to imaging and defined urgent theatre slots separate from the emergency and elective lists.

5. The location of the components of EGS should be reconsidered among neighbouring urban hospitals but the ability to assess patients with emergency abdominal complaints should remain close to patients homes as the relevant population is increasingly aged and only a minority of referrals (<10%) come to major emergency surgery.
6. There must be a commitment by all Trusts to provide an appropriate infrastructure to support the EGS service in line with national guidelines and national audit data, particularly in the following areas:
  - Defined rotas on site or by network for diagnostic and interventional radiology 24/7.
  - Critical care support for all emergency laparotomy patients
  - 24 hr access to emergency theatres and daily access to urgent theatre lists
7. Each hospital should have a designated Lead Consultant for EGS. Strong clinical leadership for the EGS service is essential but seldom delivered effectively by consultants who have a small EGS commitment and who focus more on elective subspecialist work. The appointment of Consultants with a particular interest in Emergency General Surgery is one proven way to provide this leadership and to develop this critical clinical service.
8. Sub-specialist emergency care, typically a split between upper GI (UGI) and colorectal (CR) surgery in larger hospitals, can bring clinical benefits. Where two consultants are needed for weekend work it is logical to follow this type of model. Smaller hospitals which cannot support sub-specialised EGS will need new consultants with a slightly different skill mix to larger ones, the prime difference being to have sufficient expertise in both emergency UGI and CR surgery.
9. Clearly defined access to subspecialty advice for complex cases is essential to ensure access to the benefits of subspecialisation for all patients. This will require the development of EGS networks to facilitate specialist pathways of care for patients in smaller hospitals, to provide phone advice, outreach and transfers. Transfer arrangements need to be strengthened with some urgency to avoid harm.
10. Complications after major elective gastro-intestinal surgery are common and account for 1 in 6 of all emergency laparotomies. With conventional care patterns there may be no scheduled patient review by senior staff between Friday lunchtime and Monday morning. A daily planned ward round of these patients by appropriately specialised and senior staff adequately free from other commitments should become routine and is already in place in some forward-thinking units.
11. The future EGS service will be delivered both by consultant general surgeons with a special interest in EGS and general surgeons with other special interests, most commonly UGI and CR. For all, job plans should reflect a direct commitment to EGS, free of all elective activity during this commitment both while on duty and following night duty. The term “on-call” is outdated. Much EGS duty is arduous hands-on work for consultants. It should be termed and remunerated as “work”. All general surgeons should remain involved with emergency work throughout their careers although the precise tasks, timings and intensity should evolve. Seven day working is now a reality for EGS. It will be made safer by improved access to other services at weekends.

12. Few future trainees presently express an interest in becoming a surgeon with a special interest in EGS. Those who do should be encouraged and supported with training pathways which cross the boundaries of specialist GI practice and with appropriate fellowships post Certificate of Completion of Training (CCT).
13. Consultant surgeons appointed recently are less experienced and less confident of their abilities in EGS than their predecessors. Surgical training should focus more on EGS, with longer attachments and the development of fellowships in EGS.
14. Combining necessary future delivery of high quality emergency surgery with the desire to promote expert subspecialist surgery will likely be best met by new UGI and CR consultants undertaking a modestly increased share of emergency surgery duty while they further develop more complex specialist elective skills to the point of independence.
15. There should be senior support for all new Consultants on the EGS rota with a named mentor to harness “senior experience” and “younger enthusiasm”. Paired EGS duty may be effective.
16. The development of job plans for consultants with a special interest in EGS will be individualised but should accommodate elective work which will facilitate the retention and development both of key emergency skills and an appropriate parallel elective practice where desired.

## **Introduction**

There is a clear need to change the provision of Emergency General Surgery (EGS) in order to improve the efficiency and quality of care. It is a key hospital service which has seen significant and on-going change over the last 15 years but which still needs further substantial development to meet sustainably the needs of a modern NHS and society. There has been considerable surgical specialisation in elective practice and the structure, experience and expectations of surgical teams has changed enormously. With medical training under major current review and with the NHS under pressure particularly with regard to emergency care, this document combines the views of the general surgical professional association (ASGBI) and the two largest surgical specialty associations (ACPGBI and AUGIS) with regard to EGS. It sets out a considered professional view on how EGS care should develop, who should deliver that care and how those surgeons should be trained.

## **Background**

The problems of the EGS service are widely recognised and have been well documented. Variable and at times poor outcomes are a consequence in part of an under-resourced service, diminished experience among junior staff and a loss of the team structure. These have offset the benefits of the greatly increased consultant surgeon input seen in the last few years. Changes in primary care and emergency medicine have increased the pressure on the EGS service. The fact that EGS at times lacks strategic clinical leadership and is mostly staffed by surgeons whose prime interest lies in their elective practice has resulted in an unwieldy service which has not been able to modernise as effectively as some other acute services in response to significant changes in the surrounding NHS and the increasing needs of the population.

Although the issues are now appreciated and discussed, there is uncertainty about how best to proceed. The innate enthusiasm of many surgeons for emergency operating is mixed with a desire to leave the pressure and inconveniences of EGS behind where possible and this can influence the position taken by some. Certain Trusts have developed effective systems to improve their EGS service but these have not been as widely adopted as they might. Subspecialisation has brought improvements to elective practice but attempts to bring similar advances to unscheduled care have been partial and in any event limited to a minority of large units. Differences in opinion between specialists and generalists now limit further development as does a reluctance among many individuals to engage seriously with EGS for fear of being stuck with responsibility for a service which can be unmanageable.

The present indecision about future steps is having significant consequences which we must redress. Opportunities are being lost to harness the enthusiasm which exists for necessary change in a way which will promote sustainable service development yet retain advances already made. Some Trusts are appointing Emergency Surgeons when job plans and career structures are ill-defined. The uncertainty deters trainees with most following the strong elective focus of their senior colleagues and training programme structure even though jobs are more likely available in EGS than in subspecialist disciplines.

EGS is a large service whose outcomes essentially dictate those of any general surgical unit. With cash pressures looming, patients and colleagues expect general surgeons to deliver a workable model of care, more fit for purpose than our present rather ad hoc service with its strong dependency on

temporary staff. Its aged design is no longer fit for purpose and has become unpopular even though the surgery itself remains challenging and at the heart of surgical practice.

This paper is the result of 4 years of careful consideration of the issues around EGS, two national surveys, discussion with specialist and generalist colleagues and a consideration of some methods and differences of EGS delivery in Europe. It seeks to establish a framework for service development in EGS which will provide the best overall care for elective and emergency patients in a manageable and sustainable way while providing surgeons with a career which will attract the strongest candidates. It seeks to retain specialist care but not in a way in which lower risk elective care might undermine the riskier emergency work. It is fully expected that Trusts will develop their EGS services in ways which match their own needs but having an agreed overall national strategy is fundamental to achieving much needed service modernisation.

### **Time for Change?**

Our model of EGS delivery should change as the current one is outmoded, often unpopular and associated in some units with poor outcomes. We presently have a multiplicity of factors which suggest change will be beneficial if not essential and the political and financial will is also present. The opportunity to combine recent advances in elective specialist care with the development of a more future proof system should not be missed.

### **Define the tasks**

EGS has multiple component tasks which surgeons prioritise according to various pressures and preferences. Now, with fewer beds, greater pressure and much greater consultant dependency, effectively having a single surgeon take direct personal responsibility for each individual task within EGS simultaneously is unlikely to provide reliable care except in the quietest units. These tasks should be clearly defined.

The components of emergency surgery work include:

- a. Front door senior to triage admissions
- b. Hot clinic service
- c. Assessment of EGS in-patients (including post-take rounds)
- d. Acute abscess and appendix service (scheduled day case)
- e. Acute biliary service
- f. Emergency laparotomy service
- g. Weekend review of complex elective in-patients
- h. Specialised emergency surgery services for which transfer is often needed (e.g. Trauma, HPB, specialist upper GI, specialist CR etc.)

Delivering these separately where necessary will improve care and efficiency but recognising and describing these components is the first step in helping units organise their services and achieve a reliable and sustainable service design. Without these changes the service will remain cumbersome, patient heavy and difficult to manage effectively. Care will be unreliable. This will leave EGS as an unpopular duty period which colleagues seek to “survive” rather than thrive in.

Each task will not necessarily take the full time attention of a separate surgeon and nor is it envisaged that all tasks will need consultant hands. With a defined, structured and well-led service, opportunities

arise for deployment of staff of varying appropriate grades and training including fellows and specialist nurse practitioners. There are now numerous examples of individual service changes made successfully and very few have reverted back to their previous model.

### **Control the front door to control the service**

Numbers of emergency admissions are increasing and are expected to continue to do so although it is well known that not all admissions are necessary. This brings unwanted pressure on resources including beds needed for elective care. The current old fashioned system often involves junior staff on shift work admitting patients un-necessarily as often there is no better care option readily available to them. Considerable proportions of staff are in locum positions. With current patterns of work these juniors lack team structure and ownership and have little incentive to work differently. Our out of hours primary care services and Emergency Medicine services are under considerable pressure and while other European countries deliver some initial aspects of acute surgical care within those services, it must be considered very unlikely that that will happen reliably and effectively within the UK for the foreseeable future. Re-designing a service on that premise would be foolhardy, the likelihood being that it would fail with responsibility for patient care effectively falling back on unprepared in-patient hospital surgical staff and services. If we wish to avoid un-necessary admissions and thereby control our EGS services better, there is a strong argument for sufficiently senior surgeons with ongoing responsibility assessing patients before admission. This model is being adopted by some other European neighbours also. It is well established that this can reduce emergency admissions by 20 to 30% in the UK thereby controlling patient flow. This assessment should be within an Emergency Surgical Unit, preferably a trolley based area discrete from the Accident & Emergency Department. Defined same-day imaging appointments are fundamental to minimise un-necessary admissions. Models of this system have been running successfully for several years in units of different size and substantial resource savings of £0.5 to £1.5M per unit per year have been described. Consequently, every acute EGS service should establish some form of senior doctor front door assessment.

A hot clinic service provides a daily out-patient facility to re-assess patients who did not require admission and who are undergoing urgent investigation. Biliary pain, lower abdominal pains in the young and milder diverticulitis can all be suitable for this ambulatory care. The timing of the clinic can be set to match peak periods of EGS referral. Appropriate tariffs have been devised and guidance on emergency surgical ambulatory care has been published. Abscesses and even straightforward laparoscopy and appendicectomy can be managed on an ambulatory or semi-ambulatory model with patients returning for a defined theatre slot the next day. Again, European neighbours use this model but defined bookable urgent theatre slots, separate from the emergency list are fundamental.

Acute biliary disease is one of the largest single components of EGS and patient pathways are often poor and expensive as a result of delays at various stages of care. A recent audit showed a typical length of stay of 7 days in one large city for patients undergoing acute cholecystectomy whereas other Westernised systems manage turn around within 36 to 48 hours. A defined acute gallbladder service should be available in every acute EGS service. This requires leadership, access to imaging, reliable senior input and again, access to planned but non-elective theatre slots. This service can run well with an Emergency Surgical Unit and hot clinic approach.

Some smaller units will deliver these services as now but more will divide these tasks between several senior staff who are on duty for emergency work simultaneously. Some units may develop joint services with neighbouring hospitals.

## **Different hospitals are different**

The location of each component of EGS should be reconsidered among neighbouring hospitals in order to develop more effective deployment of staff. The location of many other services has changed recently with outcomes and technology (e.g. Percutaneous Coronary Intervention for Acute Myocardial ischaemia, vascular surgery, stroke) and it is probably naïve to think that EGS must remain within its existing geographical set-up. In any reconfiguration, the ability to assess patients with emergency abdominal complaints should remain close to patients' homes as the relevant population is increasingly aged. This should probably be available in every acute hospital unit. Only a minority of patients (<10%) come to major emergency surgery and assessment units will likely be located more widely than some of the more intensive interventions, especially interventional radiology but including in some metropolitan locations, emergency laparotomy. Numbers of emergency laparotomies are modest (3 per week on average per acute unit) and the risk of death averages 14%, albeit with a three-fold variation between hospitals.

## **Services need leaders**

Given its daily pressures and multiple interfaces, strong ongoing clinical leadership for the EGS service is essential. At present this is seldom delivered effectively by consultants with a small EGS commitment and a focus on elective subspecialist work. At this time of service change in particular, this is an important deficit and every EGS service should have a defined lead clinician. The appointment of Consultants with an interest in Emergency General Surgery is one way to provide this leadership while also strengthening a critical clinical service. An increasing number of Trusts have explored this approach successfully using differing models which have included new appointees and also the re-deployment of established consultants. It is unsurprising that our surveys show that they have been more than twice as successful in implementing changes to their service such as hot clinics than Trusts which have not appointed emergency surgeons. Emergency General Surgeons are an important part of service change and leadership of this area of practice. They are further described later in the document.

The ability of Emergency General Surgeons to provide enhanced continuity for EGS patients, structure training and increase service profile is self-evident but adequate support and resource from the Trust and from established colleagues is essential for success.

## **Specialist care can bring benefits**

Recent years have seen strong development of elective subspecialist gastro-intestinal surgical practice. This has benefitted elective patients but also come to dominate the senior years of surgical training. However it has proved difficult to expand subspecialist activity into emergency work which is unfortunate as the risk of emergency colectomy, for example, is at least 3 to 5 times that of elective colonic resection. Unsurprisingly, this has led colleagues to comment on the obvious illogicality of treating lower risk surgery as more specialist than the higher risk cases who might benefit most. For specialisation to be most effective, it has to be comprehensive and incorporate all cases including emergencies, otherwise the associated de-skilling (an unintended consequence of specialisation) will likely have negative effects. Options are considered below.

At present, some larger units provide sub-specialist on call typically a split between upper GI and colorectal surgery. This presently occurs in about 20% of units but will likely increase with the trend to specialist elective practice and merging of smaller metropolitan units. Where two consultants are needed for weekend work in a hospital it is logical to follow this type of model to try and bring the benefits of subspecialisation to emergency care. Balancing workload will be important for unit harmony and core general skills will still be needed. Where two sites are needed within a city, models such as that described in Edinburgh have proved successful, with the bulk of admissions and upper GI grouped together with unselected emergencies on one site and the colorectal work with its heavier laparotomy workload on another. As more detailed audit data appear, this type of model may well merit further examination.

Complications after major elective gastro-intestinal surgery are common, occurring in 30 to 60% of patients and the most serious complications account for 15 to 20% of all emergency laparotomies. Sharp contrasts between weekday and weekend care can exist and are increasingly untenable: with conventional care patterns there may be no scheduled patient review by senior staff between Friday lunchtime and Monday morning. A daily planned ward round of these patients by appropriately specialised and senior staff should become routine and is already in place in some forward-thinking units. One option would be to combine this role with certain components of emergency work as described above but it is unlikely that it can be delivered reliably by the main emergency team of the day in busy units given the other calls on their time.

### **Established Consultants and Job Plans**

The term “on-call” is outdated. Much emergency general surgery duty is now arduous hands-on work for consultants, consultant input having changed out of all recognition in the last 10 to 15 years. Attendance at major emergency surgery round the clock is routine and the same applies to post-take ward rounds, once the province of unsupervised juniors. EGS duty should be termed and remunerated as work. “On call” for consultants should revert to describing a work pattern where doctors are available for advice and occasionally called in. This might describe someone second on call for a non-acute speciality.

Seven day working is now a reality for emergency general surgery. It will be facilitated and made safer by improved access to other services at weekends. The term 7 day working could be better replaced by the term “Seven day care” as future models of work should include the option of time off during the week instead of extra remuneration for weekend work.

All general surgeons on NHS consultant contracts should probably remain involved with emergency work throughout their careers although the precise tasks, timings and intensity should evolve instead of remaining constant. The component model of EGS described will facilitate that and is already used in some hospitals. In Trusts where this type of system can be agreed, the benefits of engagement and enthusiasm are likely to be realised in addition to a high quality service with a strong team base. Colleagues totally removed from the EGS service are unlikely to help ameliorate the pressures which are inevitably generated in unscheduled care. Particularly when senior colleagues are uninvolved, the priority of EGS within a hospital is likely to suffer.

The number of older consultants will increase in coming years and the present service aspirations for round the clock consultant led care do not fit well with consultants in mid 50s and beyond. Many specialties limit senior consultant involvement in on call but the situation for general surgery may be better suited to older consultants opting to deliver, for example, more daytime weekend care but fewer



nights of unselected emergency cover. Existing ASGBI policy advises that surgeons over 55 years should have the option of demitting from unselected night cover in favour of other agreed contributions to EGS and in line with other aspects of their job plans. This might include a greater proportion of evening or weekend work.

Different models of duty period are described ranging from whole weeks to single days. The commonest rota is a working week of emergency duty and a separate weekend team as for many this best balances continuity of care against overwhelming patient numbers. All modern rotas require the entire team to be free of other commitments and many provide separate night cover. It is recognised that this type of rota requires increased frequency of emergency duty and creates staffing and elective pressures but it is clear that care is improved. Critically, the human sustainability of EGS is improved also. Recruitment to general surgery is falling and work expectations among young colleagues make recognition of the intensity of EGS work essential. In the longer term it seems likely that the many hospitals will have varying combinations of EGS surgeons and UGI/CR surgeons delivering EGS. Models of care will also vary between units.

### **Who will deliver EGS in future?**

EGS is delivered by general surgeons but many of them now have specialist interests. Colorectal and Upper GI surgeons make up 45% and 22% of the existing general surgery workforce respectively. Breast and transplant surgeons have and do contribute to EGS but with modern training and specialisation, that is becoming much less usual among new appointees at least with regard to laparotomy work. With more specialised and shorter training, the experience of newly appointed surgeons is now less than their predecessors to the point where fewer new consultants feel confident about joining the consultant emergency rota without support (survey data). Whoever delivers EGS care, it is essential that excellence in delivering EGS is the goal rather than the acceptance of historical standards. It is apparent that two groups of General Surgery Consultants are emerging with respect to EGS.

1. **Emergency General Surgeons:** consultant surgeons whose main focus is on EGS. They are more likely to become the leaders in the management and delivery of EGS within units where they are appointed. These Consultant General Surgeons have completed CCT and have thus been trained in the management of emergency UGI and CR cases but spend the majority of their job plan delivering the EGS service. It is expected that they are capable of delivering and managing the majority of the EGS workload including for example management of the obstructed colon and biliary sepsis. The number of these posts appointed has grown to about 20-25% of all new posts. These posts are to be found both in some smaller and in some larger hospitals. Most also have an elective interest which is a modest part of their workload, most commonly in day case/short stay unit surgical procedures. Many are new appointees but some are senior and experienced surgeons who have given up their previous specialty interest and play a prominent role in the expert delivery of EGS as well as in the mentoring of newly appointed consultants. The development of EGS consultant job plans will be individualised but in future should accommodate elective work which will facilitate the retention and development both of key emergency skills and an appropriate parallel elective practice where desired.
2. **Colorectal (CR) or Upper GI surgeons (UGI):** Consultant general surgeons who have a major and declared elective special interest in colorectal (CR) or upper GI surgery (UGI). All will have received training in EGS and trauma surgery sufficient to be able to manage the majority of conditions. There will be ongoing mentoring and training within their elective specialty during their earlier consultant years and the same is necessary for more complex emergency work also. In all sizes

of hospital, the CR surgeons will usually be members of the colorectal MDT and undertake elective bowel cancer surgery. UGI cancer work is more commonly found in larger hospitals and in smaller hospitals the UGI surgeons will often have a benign elective practice. The degree of elective subspecialisation will often be greater among surgeons working in larger hospitals and the corresponding lack of breadth of experience can create occasional challenges for delivery of EGS. All will continue to take some part in the delivery of the EGS although the balance between emergency and elective work may change over a career. This is in line with current thinking of evolving consultant careers.

Similar considerations apply to the general surgeons with other subspecialist interests, of which there are several types. With subspecialisation, fewer and fewer new vascular, breast and transplant surgeons take part in EGS although endocrine surgeons, day-case and hernia surgeons often still contribute and many will likely do so in future.

At the present time only a minority of General Surgeons would regard themselves as career Consultants in EGS and the delivery of EGS in the majority of units is, and will continue to be, delivered by UGI and CR Surgeons who will effectively function as an Emergency Surgeon for their duty period. One advantage of the component model of EGS described above is that different surgeons can contribute to the emergency service in different ways. For example, the skills needed for front door initial assessment and hot clinics are possessed more widely than those for a complex laparotomy.

## **Models of care for provision of EGS**

It is recognised that any new modelling for the future provision of EGS must encompass large tertiary referral hospitals (typically teaching hospitals and larger DGHs) and smaller hospitals (small DGHs). The needs of small and large hospitals have important differences and these must be acknowledged for care to be available to patients equitably.

In smaller units, all or most components of Emergency General Surgery will be delivered by a single surgeon, particularly out of hours and at weekends. Management of the majority of cases will therefore be carried out by the Surgeon on call with transfer of the small number of patients who require more specialist surgery to the appropriate service at the appropriate time. This will vary from unit to unit depending on the skill sets available within each hospital but may for example require transfer to another specialist team in the same hospital the following day, to another hospital the same night or weekend or occasionally for a specialist from another hospital to attend that unit.

At present there are significant weaknesses in how transfers occur which sometimes cause delay or real detriment to patients. Binding local networks and plans need to be drawn up to support appropriate best practice. In particular, transfer protocols are presently hampered by bed priorities at receiving hospitals. Elective patients often take priority and the process is seldom controlled by doctors. This must be reversed to put the needs of the ill patient to the fore. The onus must be on the specialist team to admit the patient within an agreed timeframe, if necessary via their Emergency Department. Referring units must assist by accepting return patients to avoid specialist beds becoming gridlocked.

In larger Units with more than 10-12 UGI/CR surgeons, staff numbers allow the development of a split sub-specialty system with the delivery of Emergency General Surgery care provided by

appropriate specialists (UGI/CR or HPB/CR for example). This can be from the point of admission and this system also allows for the provision of specialist emergency cover when needed for in-patients who require immediate intervention and specialty specific post-operative complications. This also allows compliance with National Guidance regarding tertiary service 24/7 cover in UGI specialist units and will provide patients with rapid access to appropriate specialist expertise. It is likely that this system will develop in all larger units and will drive further improvements in standards. At present only about 1 Trust in 5 operates this system. Numbers will increase but even with amalgamations and hybrid systems, the proportion would be unlikely to exceed 50% of Trusts. In these units there may be clearly defined sub-specialist rotas for CR and UGI (and in places this may be further subdivided into OG and HPB depending upon the location of the regional units), allowing intra-hospital or inter-hospital (through the defined EGS network) as well as inward referral of the rare complex cases from smaller units. These rare cases, typically <5% of EGS cases include oesophageal perforation, massive colonic bleeding, liver trauma, complex rectal and anal pathology and bile duct injury for example. Networks may also allow for outreach surgical visits to the referring hospital, rather than transferring some patients.

## **Trainees and the future delivery of EGS**

The 2013 General Surgery Curriculum includes a specific section on Emergency General Surgery in which competences are described for all pursuing the award of a General Surgery Certificate of Completion of Training (CCT) at [https://www.iscp.ac.uk/surgical/curr\\_intro.aspx](https://www.iscp.ac.uk/surgical/curr_intro.aspx). All trainees are required to train to consultant standard in Emergency General Surgery and aspects of Elective General Surgery. A special interest must also be developed in one of the principal components to consultant standard while also gaining knowledge and skills in the elective aspects of the others to a lower level. The aim is to produce General Surgeons who can enter independent consultant practice, manage an unselected emergency general surgical take and work as a consultant with a special interest in one of the principal elective sub-specialties. However, it is recognized that many trainees are not fully ready for independent practice at CCT. Many undertake fellowships and many are mentored in their early consultant years in their elective practice. Advanced technical skills in uncommon or complex operations are not achieved by CCT and are usually learned in early consultant years.

There are two issues with training future surgeons for EGS. The first, mentioned above, is that trainees shorter hours and increasing subspecialisation undoubtedly leaves them less able than hitherto to deliver a single-handed EGS service over a weekend (ASGBI Consultant Survey 2014). Trainees recognise this and a majority of trainees state they would value a 6 month EGS attachment during training (ASGBI national trainee survey data, 2014). This would provide a focus on EGS and could be delivered at different stages of specialist training with accordingly different benefits.

The second and related issue is that very few future trainees presently express an interest in a career in EGS, strongly preferring a subspecialist path. Fewer than 5% expressed interest in EGS as a prime career choice and only 15% said they would accept a post in EGS if offered at interview. Most trainees stated that a career in emergency surgery would be unpopular due to the perception of a poor work life balance and heavy non-operative workload. Unfortunately, this does not match current societal health needs with Trusts recently advertising almost as many general and EGS consultant posts as colorectal posts (20-25% of all Consultant surgeon posts). That said, one-third of trainees express interest in EGS “beyond their usual rota share” and, for many trainees a consultant post in EGS would become acceptable by combination with an established elective discipline. Here may lie an opportunity to link health service needs with trainee aspirations.

Many trainees now have less experience of major emergency surgery than in previous years as a result of many factors including EWTD, subspecialisation, expectations of work-life balance and stronger consultant input. The 2013 surgical curriculum will help but is unlikely to resolve the issues. Most new UGI and CR consultants also need to develop or refine complex elective skills during their first few years in post. Combining future delivery of high quality emergency surgery with the desire to retain subspecialist elective surgery will likely be best met by new consultants undertaking a modestly increased share of emergency surgery duty while they develop more complex specialist skills to the point of true independence within consultant posts. New consultants should have job plans which ensure they continue to develop independent competence across the range of emergency general surgery in the early years of their consultant jobs. It would seem reasonable to recommend that they should be undertake daytime weekday EGS duty at a minimum of frequency of 1 in 6 or so. This is the frequency advocated by the survey responses of ASGBI Consultant fellows (over 300 responses) and when surveyed, almost 50% of trainees felt this would be a job they would accept if offered. These job descriptions would evolve locally but a period of 3 to 5 years of increased emergency work would seem a reasonable starting point.

Those trainees who do wish to follow a career in EGS should be encouraged strongly to do so. They are frustrated by current training arrangements as achieving the necessary skill profile is difficult and current training systems do not map well to EGS. In fact there is no option presently for them choose or request EGS at their annual training review. The growth in EGS posts has emerged since the principles of the 2013 curriculum were laid. It is anticipated that trainees wishing to pursue a career in EGS will develop their special interest during training in either upper GI surgery or in colorectal surgery. Knowledge and skills gained in these components will enhance their abilities in dealing with general surgical emergency cases and also provide them with the opportunity to develop their careers in another direction at a later point should they wish.

However matters could be improved for aspirant consultants committed to EGS by developing training paths which cross the boundaries of specialist GI practice within the training years and with appropriate post CCT fellowships. Whether emergency general surgery should become a special interest in its own right, to the exclusion of the other principal special interests has advantages and disadvantages which need further discussion. The development of fellowships in EGS should be encouraged to help trainees acquire these skills and to ensure that training in EGS broadly matches that in UGI and CR, thereby also avoiding any notion that it is any less of an area of practice. Many EGS fellows will wish to spend more time in the GI disciplines in which they have less experience and a proportion will wish to include a period at a trauma centre within their fellowship.

If future emergency services are going to be delivered along an increasingly sub-specialised model then smaller hospitals which cannot support this will need new consultants with different skills to the larger hospitals. An appropriate variant of the "Remote and Rural" model presently used to train consultants for the smallest hospitals may be useful, the prime need to being to have sufficient expertise in both upper and lower GI surgery to practice independently from an early point after CCT. This group could also benefit from the EGS fellowships described above.

In order to address these issues, the key requirement will be to develop early dialogue between all stakeholders including NHS employers, Post Graduate Deans, Trainee Organizations and to involve lay input. AUGIS, ACPGBI, ASGBI and the SAC will then need to draw together opinion from these sources into a coherent curriculum which meets the GMC standards.

## Conclusions

Emergency General Surgery needs modernisation to deliver effective, safe and sustainable service models. The service has been under-resourced and been able to keep pace with changes in manpower, specialisation and experience. Numerous enthusiasts struggle to deliver change for the better and much is along the lines described in this document. There is a good consensus, as indicated in the key recommendations, on how the service should develop and concerted efforts could achieve much.

We describe the core principles of a modern EGS service based around Consultant Surgeons capable of dealing with the majority of EGS cases. The detailed structure would vary with size of hospital and available expertise but in larger hospitals will probably result in a sub-specialty emergency service as already present in some centres. Clearly defined EGS Networks must be established to support the smaller hospitals, which do not have all the appropriate sub-specialty expertise on site.

There is a need to maintain if not increase the number of individuals involved in the provision of EGS and all general surgeons should be involved in the EGS service to varying degrees. The component model allows changes in both the amount of EGS provision and the roles of the specialist EGS surgeon over their career.

These proposals must be matched by a commitment from Hospital Trusts to invest and put in place the appropriate infrastructure to support a modern EGS service – particularly with respect to radiology, theatre capacity and critical care support.

It is hoped that these models of care have the following advantages:

- A better patient pathway with treatment by appropriately trained Consultant Surgeons
- Reduced admissions and increased urgent ambulatory care
- Perception of EGS as a priority in training and delivery for patients
- Development of careers that attract strong candidates, future leaders and match societal needs
- A better working life for the surgeon delivering EGS
- An increased enthusiasm for the provision of EGS which will in turn result in innovation and leadership in this area

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