RCS
ADVANCING SURGICAL STANDARDS

ASGBI
Association of Surgeons of Great Britain and Ireland

EMERGENCY GENERAL SURGERY

Key points

- Concerns about the delivery and future viability of emergency general surgery are such that the College and the ASGBI believe NHS England should consider establishing a Strategic Clinical Network to oversee the delivery of safe, efficient care and ensure a whole systems approach.
- As a means of levering change, we believe that best practice tariffs could usefully be developed to reward the delivery of high quality emergency general surgical services.
- The College and ASGBI believe that emergency general surgery should be delivered via operational networks of providers to enable collaborative working, common standards of care, and good patient transfer arrangements, according to clinical need. The network will enable the patient to be treated at the most appropriate hospital depending on the complexity of the case and the resources available to treat.
- We will lead quality improvement activities in relation to the commissioning and provision of emergency general surgery; this may include offering a service aimed at verifying the standards of service, education and training provision.
- Decisions about service change need to be evidence based and aim to improve outcomes for patients. We fully support greater national clinical audit activity and research in order to develop the evidence base for improved patient care.

What is emergency general surgery?

Although often thought of as purely operating on patients (adult and paediatric) admitted through the emergency department during the out-of-hours period, emergency general surgery (EGS) actually covers seven simultaneous areas of care:

» undertaking emergency operations at any time, day or night;
» providing assessment and management of patients presenting with an acute surgical problem;
» providing ongoing care to patients who have had an operation and to other patients in the hospital (including 'non-surgical' patients who suddenly become unwell);
» undertaking further 'rescue' operations for complications in patients who have recently undergone surgery whether following initial planned (elective) operations or after emergency surgery;
» providing assessment and advice for patients referred from other areas of the hospital, other hospitals in the network and from their GP;
» providing early and effective acute pain management and supervising out-of-hours palliative care; and
» communicating with patients and their relatives.

Complex major emergency operations in adults include those to treat abdominal infections and bowel obstructions. These operations (termed emergency laparotomies) will often require the use of critical care or intensive care facilities and there are at least 33,000 each year in the UK. They typically carry a 15–20 % mortality rate (ten times that of planned cardiac surgery) and are presently performed in all acute hospitals. The most frequent other operations performed are drainage of abscesses, appendicectomies and cholecystectomies.

In children, the common emergency procedures undertaken both in specialist children's and acute hospitals are appendicectomy, treatment of obstructed hernias, acute scrotal pathology and abscesses.

EGS is carried out by general surgeons, increasingly by those with a special interest in upper and lower gastrointestinal care. Up to 50 % of general surgical beds are taken up providing EGS.

EGS, as referred to in this document, is separate from the treatment of critically injured (trauma) patients. These patients are cared for as part of a trauma network in major trauma centres and trauma units.

What are the challenges?

There are concerns about:

» the quality of care provided to patients requiring EGS and the resulting outcomes from care;
» the availability of resources such as emergency theatres, diagnostic investigations and critical care;
» the workforce available to care for patients; and
» the priority given to emergency surgical patients and the timeliness of surgical intervention.

In adult care, patients requiring emergency surgical assessment or operation are among the sickest in the NHS. Often frail, elderly and with significant medical problems, the risk of death or serious complication can be high. For children, timely and accurate diagnosis and treatment is essential for common surgical conditions – those under five years of age with abdominal pain are at particular risk.

It is estimated that 80–90 % of deaths arising from general surgery occur in patients undergoing EGS. A recent audit of emergency laparotomy operations involving 35 hospitals suggested that mortality rates between hospitals varied significantly and the risk of death or complication for this group of procedures was unacceptably high.

Systems within hospitals are not sufficiently well designed to deal with the safe and efficient delivery of EGS. There are issues relating to the availability of the appropriate workforce (surgeons, anaesthetists, radiologists, specialist nursing care) to deliver the service, as well as concerns about lack of access to diagnostic investigations and operating theatres required to provide EGS to patients. This leads to delays in surgical treatment and poor outcomes as a result. Hitherto, these issues have been afforded relatively little managerial priority.

EGS is high risk and high cost, accounting for 14,000 adult admissions to intensive care in England and Wales and creating intensive care costs of over £88m per year.

Many general surgeons have specialised their practice in order to concentrate on treating conditions relating to one area or body system (for example, breast care, upper or lower gastrointestinal care, organ transplant, hepatobiliary, etc). While this has resulted in improved outcomes for patients requiring planned specialist intervention, it has also created difficulties in having an appropriately trained and available surgical workforce for the treatment and management of EGS patients. Increasing sub-specialisation has created a workforce gap for the provision of EGS and this may require changes to the way in which services are provided. This is particularly true in the treatment of children.

The cost and requirements of the European Working Time Regulations have also had a detrimental effect on the delivery of emergency surgical services – not only have the number (or number of tiers) of surgeons available to deal with emergencies been reduced as a direct result of the reduction in working hours, but also the ability to provide continuity of care to patients has been eroded. Trainees may now be less experienced in dealing with emergencies.

Unlike waiting times for elective surgical care, emergency surgery has not been the subject of intense scrutiny and has not been set targets to improve the standard of care. There is much scope for greater attention to be placed on this area of surgical care in order to bring about increased investment and improvement in outcome and patient experience.

What needs to happen?

The following measures should be taken in order to improve the care provided to EGS patients.

- Surgical treatment of acutely ill patients must take priority over planned, elective surgery when necessary.
- Services must be consultant-led and senior doctors must be involved throughout the patient's care. The seniority of the surgeon involved in the operation must match the clinical need of the patient (ie high risk patients need to have surgery carried out by or under the direct supervision of a consultant surgeon and consultant anaesthetist).
- A greater focus on pre- and postoperative care arrangements is required to ensure the early involvement of anaesthetists and critical-care specialists.
- There must be a greater focus on the outcomes of care, with improved resources for audit and review of practice. Outcomes should be in the public domain.
- Hospitals must have dedicated clinical and managerial leadership for EGS.
- Planning and provision of resources such as access to emergency theatres and availability of diagnostic investigations must be carefully managed.

The College and the relevant surgical specialty associations, including the Association of Surgeons of Great Britain and Ireland (ASGBI) provided standards for the provision of unscheduled surgical care (see bibliography).

How can EGS be delivered?

The safe and efficient provision of EGS requires a complex mix of specialist staff and resources, with:

- adequate dedicated emergency theatre access;
- adequate on-call surgical team (numbers/expertise);
- anaesthetists and critical-care doctors along with intensive therapy/high dependency resources;
- interventional and diagnostic radiologists;
- dedicated emergency beds; and
- where children are admitted, inpatient paediatrics and specialist children's facilities.

The ideal specialist service would be based in large hospitals beside a comprehensive range of other specialist disciplines but an entirely safe and proficient more local service can be based in medium-sized hospitals provided clear standards apply, adequate transfer protocols exist for necessary cases and the receiving hospitals have adequate capacity. The more important supporting services include emergency medicine, medical gastroenterology with endoscopy, acute medicine, radiology and care of the elderly services and, where children are treated, inpatient paediatric facilities.

These critical interdependencies need to be observed when providing an EGS service. Within these, a variety of models of care exist. It is important to note that there is no one, agreed, universal 'solution' to the provision of EGS. Each geographical area will have a different set of circumstances to contend with and will need to make decisions accordingly.

Operational aspects

In some areas, emergency general surgical patients are currently receiving suboptimal care. The status quo cannot continue and the service needs to improve. This may require service change in some areas and, where there is a defined evidence base to support service change and improve patient outcomes, the surgical profession is supportive of this approach. Clearly, where there are a number of hospitals in close proximity to one another, there is greater scope for reshaping emergency general surgical services. It is envisaged that where possible, major emergencies are centralised but patient assessment and lower risk surgery is delivered closer to patients' homes. Hospitals in remote and rural settings have less opportunity to reconfigure services; the hospital and its patients have a specific set of needs that need to be supported.

Increasingly EGS will need to be provided on a networked basis, that is, via an interconnected system of service providers. This will enable collaborative working, the development of common standards of care, flexible movement for clinical staff and good patient transfer arrangements, according to clinical need. The network will enable the patient to be treated at the most appropriate hospital depending on the complexity of the case.

To be effective, networks will require senior clinical and managerial leadership and may need to be supported by contractual arrangements.

The separation of emergency and elective-care workloads in general surgery (preferably on the same site owing to imaging and equipment needs) can improve the quality of care provided to patients and also contribute to high quality training for surgeons. Through the use of dedicated beds, theatres and staff, separating emergency and elective general surgical care can reduce delays and cancellations.

In addition, the use of a centralised area for acutely ill surgical patients can provide speedy access to senior doctors who will assess and diagnose patients, referring

for treatment where necessary. Such a resource can help to avoid unnecessary delays and admissions.

However, the colocation of higher risk elective procedures in the same hospital has much to commend it. By their nature these procedures have a high rate of complications that require emergency management and it is established that the management of these complications of planned surgery varies considerably between hospitals and can define successful units. Management of complications is a principal determinant of survival after elective surgery and in reconfiguring EGS services within networks there needs to be active consideration of whether detection and treatment of complications of elective surgery will be weakened or strengthened as a consequence.

Strategic considerations

The currently evolving mechanism within the NHS for managing the delivery of care to specific groups of patients involves the development of strategic clinical networks. These networks exist to improve health services for specific patient groups or conditions through an integrated, whole-systems approach. They are aimed at helping commissioners of NHS care to reduce variation in services and outcomes and encourage innovation.

Strategic clinical networks are supported by NHS England and currently exist for mental health, cancer, maternity and children's healthcare and cardiovascular disease. The College and the ASGBI believe the provision of emergency surgery would benefit from the focused attention on improvement that a strategic clinical network could bring and would strongly urge NHS England to consider this.

What are the next steps?

The College and ASGBI will lobby to ensure that adult and paediatric patients requiring emergency general surgery are not unfairly disadvantaged behind patients requiring elective surgical care of lower clinical risk as may currently happen.

We will lobby for emergency surgery to become the focus of one of NHS England's strategic clinical networks. This will facilitate a focus on improved patient outcomes and an ability to define and use the necessary levers for change (eg contractual support for networks, tariff and Commissioning for Quality and Innovation arrangements).

The College and ASGBI recommend that emergency general surgery is delivered via a network, with NHS trusts working together to provide emergency general surgery to patients in the safest and most efficient manner possible.

We will lead quality improvement activities in relation to the commissioning and provision of emergency general surgery; this may include offering a standards verification service that considers standards for service provision and education and training.

Decisions about service change need to be evidence based and aim to improve outcomes for patients and their families. The College and ASGBI fully support greater national clinical audit activity and research in order to develop the evidence base for improved patient care.

Further information

1. *Emergency Surgery: Standards for unscheduled surgical care. Guidance for providers, commissioners and service planners*. The Royal College of Surgeons of England; 2011. www.rcseng.ac.uk/publications/docs/emergency-surgery-standards-for-unscheduled-care.
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6. *Knowing the Risk; a review of the peri-operative care of surgical patients*. NCEPOD; 2011. http://www.ncepod.org.uk/2011poc.htm.
7. *Standards for Children's Surgery: Children's Surgical Forum*. The Royal College of Surgeons of England; 2013. www.rcseng.ac.uk/publications/docs/standards-in-childrens-surgery.
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