General Surgery Curriculum
Purpose Statement

Proposal for August 2019

The purpose statement addresses the requirements of the General Medical Council's Excellence by Design: standards for postgraduate curricula[1] (theme 1) and the Shape of Training Review. It sets out patient and service needs, scope of practice and the level of performance expected of doctors in training.

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1. Purpose statement for General Surgery

1.1 The curriculum scope of practice, service, patient and population needs

The purpose of the General Surgery curriculum is to produce consultant general surgeons to manage patients presenting with the full range of emergency General Surgery conditions and elective conditions in the generality of General Surgery. Trainees will also be expected to develop a special interest within General Surgery in keeping with service requirements. They will be entrusted to undertake the role of the General Surgery registrar during training and will be qualified to apply for consultant posts in General Surgery in the United Kingdom or Republic of Ireland after successful completion of training.

Patient safety and competent practice are both essential and the curriculum has been designed so that the learning experience itself should not affect patient safety. Patient safety is the first priority of training demonstrated through safety-critical content, expected levels of performance, critical progression points, required breadth of experience and levels of trainer supervision needed for safe and professional practice. Upon satisfactory completion of training, we expect trainees to be able to work safely and competently in the defined areas of practice and to be able to manage or

mitigate relevant risks effectively. A feature of the curriculum is that it promotes and encourages excellence through the setting of high-level outcomes, supervision levels for excellence, and tailored assessment and feedback, allowing trainees to progress at their own rate.

1.2 Rationale

In the past ten years there has been increased emphasis on emergency general surgery (EGS) care, the development of an oncoplastic philosophy of care in breast surgery, the establishment of major trauma centres, increased specialization in the management of upper gastrointestinal conditions and rationalization of transplant services. Nevertheless, Employers have identified a need to train some individuals in a broader range of skills. General Surgery of Childhood (GSoC) is recognised as an area requiring training and expansion to allow children to be treated in hospitals close to home. In addition to service changes, there has been scrutiny of individual surgeon outcome data and associated increased patient expectations. These workforce and service demands together with patient expectations have been some of the drivers for change to the general surgery curriculum.

Another driver for change was the GMC's introduction of updated standards for curricula and assessment processes laid out in *Excellence by Design,* [1] requiring all medical curricula to be based on a limited number of generic shared high-level outcomes which describe the professional tasks or work within the scope of General Surgery. At the centre of each of these groups of tasks are Generic Professional Capabilities (GPCs), interdependent essential capabilities that underpin professional medical practice and are common to all who practice medicine.

The Shape of Training (SoT) review [2] gave an opportunity to reform postgraduate training to produce a workforce fit for the needs of patients, producing a doctor who is more patient focused, more general and has more flexibility in career structure. The General Surgery curriculum meets the main recommendations of SoT as shown below:

1. *Takes account of and describes how the proposal will better support the needs of patients and service providers:*

A General Surgery service requires surgeons to be equipped with skills to manage an unselected emergency take. However, for many years both service providers and patients have increasingly expected general surgeons to provide elective care focused around the special interest areas within General Surgery. The curriculum responds to these demands but recognises that individuals cannot, and need not, be trained across the whole of General Surgery. However, all trainees will have the knowledge and clinical skills to manage the full range of emergency patients to the point of operation by certification. All trainees will also have the knowledge, clinical and technical skills to provide elective general surgery by certification, as well as having developed competence in a special interest within general surgery. The development of specific oesophagogastric, hepatopancreaticobiliary and trauma special interests in this curriculum reflects the changes in service reconfiguration over the past few years. The current lack of provision of general surgery of childhood is addressed by enabling trainees to develop GSoC alongside another special interest. The introduction of a gastrointestinal module incorporating general surgery of childhood is in direct response to identified needs of the service in some parts of the UK. The development of oncoplastic breast services and establishment of multiorgan retrieval teams has meant that the

majority of service providers no longer expect consultants in breast surgery or multiorgan retrieval to contribute to the emergency general surgical take. The curriculum provides the flexibility to accommodate these changes in service provision.

Thus, a day one consultant with certification in General Surgery will have the knowledge and clinical skills to independently manage an unselected emergency general surgical take and all elective general surgery conditions with an elective special interest, giving maximal flexibility to employers whilst ensuring a safe, high quality service for patients.

2. *Ensures that the proposed curriculum to CCT equips doctors with the generic skills to participate in the acute unselected take and to provide continuity of care thereafter:*

The curriculum is structured such that all trainees will develop the knowledge and clinical skills to manage the unselected emergency take for all patients to the point of operation. These clinical skills will allow all trainees to assess and initiate the management of acute surgical patients and continue to deliver care following acute admission by completion of training.

3. *Where appropriate describes how the proposal would better support the delivery of care in the community:*

The nature of General Surgery is such that it is largely performed in secondary care centres. Only minor surgery can be performed in the community. However, the curriculum allows skills to be developed to deliver outpatient clinics in community hospitals and GP practices and perform day case operative procedures in adequately equipped community hospitals.

4. *Describes how the proposal will support a more flexible approach to training:*

The curriculum allows easy transfer into other surgical specialties following Core Surgical Training. Generic Professional Capabilities (GPCs) will promote flexibility in postgraduate training as these common capabilities can be transferred between specialties within and outside surgery. In addition, the surgical Capabilities in Practice (CiPs) will be shared across all surgical curricula, supporting flexibility for trainees to move between these specialties without needing to repeat aspects of training. As an example, prior learning of history-taking, physical examination, health promotion, medical record keeping and technical skills in one specialty may allow accelerated learning in the clinical areas of another specialty with identical requirements for communication skills, team-working and empathy, compassion and respect for patients. Trainees who choose a different career route may be able to have a shorter than usual training pathway in their new training programme, in recognition of learning already gained.

Phase 1 of the curriculum provides all trainees with a broad training in elective general surgery, EGS and gastrointestinal surgery. This commonality allows flexibility for selecting any special

interest area up to the start of Phase 2 as the generic training in the early years underpins all areas of the curriculum. It would also be possible to change special interest having started Phase 2 although this may require some additional training time. There is also the flexibility for breast or multiorgan transplant trainees to complete the technical skills in EGS if the service demands, but again this may require some additional training time.

This flexible approach with acquisition of transferable capabilities will allow training in General Surgery to adapt to current and future patient and workforce needs as well as to changes in surgery with the advent of new treatments and technologies.

5. *Describes the role that credentialing will play in delivering the specialist and sub-specialist components of the curriculum:*

Credentialing could be considered at two levels, pre and post certification. All trainees in General Surgery will be expected to have capabilities in elective general surgery and knowledge and clinical skills in EGS. In addition, all trainees will be required to complete two further special interest modules. Credentialing could recognise these two special interest modules and this would provide information to employers regarding previous training (appendix A). In addition, there are a number of areas of practice where it is not possible to gain all the technical competencies for independent practice within the curriculum and the expected level of technical competence is level 2 or 3 by certification in these areas. These are procedures where the service expectation is that they would not be performed by everyone but would be confined to a few specialist centres. Examples include oesophagogastric cancer resection, liver and pancreatic resections and ileoanal pouch surgery. A few trainees would be able to further develop their skills through post-certification fellowships depending on service requirements. Successful completion of these competencies could be recognised through post-certification credentialing.

1.3. The high-level outcomes of General Surgery

The curriculum is outcomes-based, specifying the high-level generic, shared and specialty-specific capabilities that must be demonstrated to complete training. There is a greater focus on the generic professional capabilities common to all doctors.

1.3.1 Capabilities in Practice

The high-level outcomes of the curriculum are expressed as Capabilities in Practice (CiPs). The 5 shared CiPs describe the professional tasks or work within the scope of General Surgery. These are:

1) Manages an out-patient clinic

2) Manages unselected emergency care

3) Manages ward rounds and the ongoing care of inpatients

4) Manages an operating list

5) Manages a multi-disciplinary meeting

By the completion of training and certification, trainees must demonstrate that they are capable of unsupervised practice in all CiPs.

1.3.2 Generic Professional Capabilities

Embedded within each CiP are the full range Generic Professional Capabilities (GPCs) which describe the professional responsibilities of all doctors in keeping with Good Medical Practice.

These attributes are common, minimum and generic standards expected of all medical practitioners achieving certification or its equivalent. The GPCs have equal weight in the training and assessment of clinical capabilities and responsibilities in the training programme. The nine domains of the GPC framework are:

1. Professional knowledge
2. Professional skills
3. Professional values and behaviours
4. Health promotion and illness prevention
5. Leadership and team-working
6. Patient safety and quality improvement
7. Safeguarding vulnerable groups
8. Education and training
9. Research and scholarship

1.3.3 Supervision levels

The assessment of CiPs draws on the holistic judgement of Clinical Supervisors by ascribing the supervision level required by the trainee to undertake each CiP to the standard of certification. The level of supervision will change in line with the trainee's progression, consistent with safe and effective care for the patient. Typically, there should be a gradual reduction in the level of supervision required and an increase in the complexity of cases managed until the level of competence for independent practice is acquired. The supervision levels are:

Level I	Able to observe only
Level II	Able to act with direct supervision: a) supervisor present throughout b) supervisor present for part
Level III	Able to act with indirect supervision
Level IV	Able to act unsupervised
Level V	Demonstrates performance to a level well beyond that expected of a day one consultant

Phase 1 of training will be completed when the appropriate level of competency (as defined in 1.4 below) has been achieved in each CiP, and a trainee will be eligible for certification when level IV has been achieved. Level V indicates excellence.

1.3.4 Descriptors

Each CiP contains key descriptors associated with the clinical activity or task and all the GPC descriptors. The descriptors are intended to help trainees and trainers recognise the level of knowledge, skills and professional behaviours which must be demonstrated for independent practice. All descriptors will be taken in to account when carrying out assessment and they will be used by Clinical Supervisors to highlight where trainees achieve excellence at a faster rate and when targeted training is necessary in the manner of an exception report. They, therefore, provide the basis for specific, constructive feedback to the trainee. The CiPs will also provide trainees with a self-assessment, providing an opportunity to show insight and actively engage in the feedback discussion.

1.4 Progression through training

1.4.1 Phases of training

Trainees will learn in a variety of settings using a range of methods, including workplace-based assessments, experiential learning, formal postgraduate teaching, simulation-based education and self-directed learning.

General Surgery training is divided into 2 Phases and will take an indicative time of 6 years (4

years in Phase 1 and 2 years in Phase 2). There will be options for those trainees who demonstrate exceptionally rapid development and acquisition of capabilities to complete training more rapidly than the indicative time. There may also be a small number of trainees who develop more slowly and will require an extension of training in line with the Reference Guide for Postgraduate Specialty Training in the UK (The Gold Guide) [3]. Trainees who choose less than full time training (LTFT) will have the indicative training time extended pro-rata in accordance with the Gold Guide. LTFT trainees will perform both elective and out of hours duties pro rata throughout the time of LTFT.

Trainees will enter Phase 1 after completion of Core training and successfully gaining a National Training Number through the National Selection process, or after having achieved ARCP 1 at the end of ST2 and achieved an appointable mark in benchmarking in the National Selection interviews for run through trainees in the Improving Surgical Training Pilot [4].

Phase 1

This will take an indicative time of 4 years to complete, during which trainees will acquire knowledge and skills in elective general and gastrointestinal surgery together with emergency general surgery. These skills are central to the practice of General Surgery and a foundation to any of the later chosen special interests. In addition, in consultation with the Training Programme Director (TPD), trainees will spend up to 1 of the indicative 4 years of Phase 1 gaining early exposure to one or more special interest areas in General Surgery through an option module, as shown in figures 1 and 2, which can be developed further in Phase 2.

In addition to special interest areas, an option module will be available in Rural and Remote Surgery. This will allow trainees to gain exposure in areas which may be pursued further with some post-CCT training. Such training will develop competencies in the interdisciplinary Rural and Remote Surgery, where General Surgery contributes only 30% of the scope of the role. Another option module will be available in General Surgery of Childhood which trainees may pursue further either as an integral part of the gastrointestinal module or alongside other modules in phase 2. This will enable them to deliver general paediatric surgery as consultants in DGHs, participating in treatment networks.

At the end of Phase 1 there is a critical progression point where trainees will demonstrate competencies in knowledge, clinical skills and professional behaviours and become eligible to sit the Intercollegiate Board Exam in General Surgery.

Phase 2

This will take an indicative time of 2 years to complete. Trainees will further develop their knowledge, clinical and technical skills in elective general surgery. In addition, to meet current service demands, trainees will complete two special interest modules (Figure 1). For the majority, this will include the development of technical skills in emergency aspects of the specialty and development of a special interest area as defined by the syllabus.

The trainee will complete permitted combinations of modules from the training pathway shown in Figure 1. In addition to the main modules shown, trainees will be able to complete training in general surgery of childhood or a component of another module, for example parathyroid surgery to complement renal transplantation. This flexibility and the combination of modules allows development of a surgeon with the skills appropriate and relevant to the needs of patients and the modern service. Options allow for differences in scope of practice between nations and for special interests to be appropriate for smaller and larger hospitals. The knowledge, clinical and technical skills required for each module are defined in the syllabus.

At the end of Phase 2 trainees will be eligible for certification and for recommendation to enter the specialist register.

Selection of Option and Special Interest Modules

The selection of option and special interest modules will be determined in discussion between the trainee and TPD and will be based on trainee aptitude, service and manpower requirements. It is anticipated that this might be informed by an exploration of workforce requirements with statutory education authorities across the four nations via the Lead Dean for General Surgery.

Interdependencies across related specialties and disciplines

Within general surgery there is a growing service need for integrated care to best meet the needs of the patient. The curriculum specifically develops surgeons to be able to lead and work in multi-disciplinary teams (MDTs) and with colleagues from a wide range of professional groups in a variety of hospital settings. The composition of these teams will vary according to the needs of the patient but will include other surgical and medical specialties as well as diagnostic services.

As a training programme, General Surgery has limited interdependencies with other specialties with the exception of vascular surgery. However, the management of some clinical conditions requires interactions across more than one surgical specialty. In order to improve patient care by enhancing understanding and skills across traditional specialty boundaries, Training Interface Fellowships have been established within surgery. These are regulated advanced special interest training posts which combine the curriculum elements of at least two parent specialties. They are optional components of the latter years of a specialty's training programme contributing, but not of themselves leading, to certification. Throughout its development, the curriculum has undergone extensive consultation, including with colleagues in those specialties with the most interaction with general surgery, with Deans and Heads of Schools, and also with patients.

At the end of training: ***All trainees*** will have completed modules in elective general surgery, emergency general surgery (EGS), upper and lower gastrointestinal surgery and at least one additional option module in Phase 1.

By completion of training, ***all surgeons*** with certification in General Surgery will have:

- Acquired the knowledge, clinical and technical skills in ***elective general surgery*** as defined by the syllabus

- Acquired the knowledge and clinical skills to independently manage an ***unselected emergency general surgical take***

- Completed ***two special interest modules*** at Phase 2 and will have acquired the knowledge, clinical and technical skills as defined by the syllabus relevant to these special interests

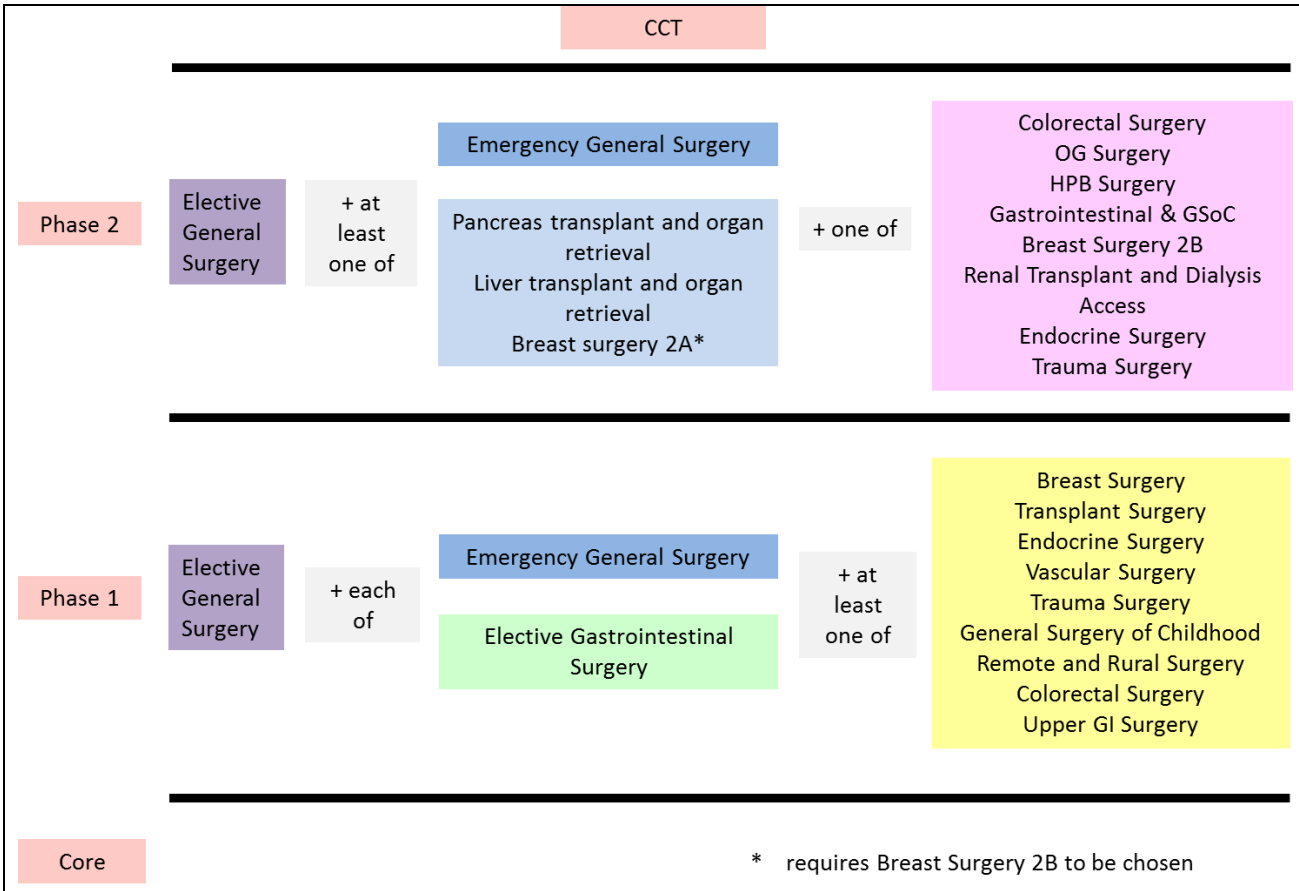

Figure 1: Overview of training pathway in General Surgery

1.4.2 Critical Progression points

There are certain milestones or progression points in these training pathways which allow trainees to benchmark their progress. The key progression points are:

- An ARCP 6 at the completion of Core Surgical Training or an ARCP 1 at the end of early years training in run-through programmes. Both indicate that the requirements of the Core Surgical Training curriculum have been met. These include passing the MRCS examination which demonstrates that the knowledge requirements have been met.

- An ARCP 1 at the ***end of Phase 1***. Trainees will demonstrate supervision levels defined by the syllabus in all CiPs with reference to each of the modules in elective General Surgery, emergency General Surgery, upper and lower GI surgery and at least one option module from those shown in figure 1. Although the curriculum is outcomes based rather than time based, it is expected that most trainees will be able to achieve end of Phase 1 supervision levels in each of the required modules after an indicative 4 years of following the General Surgical curriculum.

  Trainees achieving an ARCP 1 at the end of Phase 1 will be able to apply for the Intercollegiate Board Exam in General Surgery. This exam, assessing the knowledge, clinical and professional skills of a trainee to the level of a day one consultant in General Surgery, can be

taken up to 4 times during Phase 2 of the curriculum. Success in the exam is one of the requirements for completion of the curriculum and part of the requirement for the award of ARCP 6 at the end of Phase 2.

- An ARCP 6 at the ***end of Phase 2***. It indicates that the requirements of the General Surgical training curriculum have been met. These include passing the Intercollegiate Specialty Board examination in General Surgery and successful acquisition of all clinical, technical and professional skills defined in the syllabus after following the training pathway shown in figure 1 to achieve one of the outputs shown in figure 2.

The critical progression is also set out according to achievement of the high-level outcomes, CiPs. This provides indicative levels of supervision for the end of phase 1. At the end of phase 2 trainees are required to reach level IV in the shared Capabilities in Practice.

Excellence can also be recognised by:

a) achievement of Level V in any of the Capabilities in Practice

b) exceeding the supervision level expected for the end of Phase 1

c) achievement of a supervision level at an earlier stage than would normally be expected

d) recognition of particularly good performance in any of the descriptors within a Capability in Practice

Capability in practice (shared)	**Supervision level (end of phase 1)**	**Supervision level (end of phase 2)**
1. Manages an out-patient clinic	Level III	Level IV
2. Manages the unselected emergency take	Level III	Level IV
3. Manages ward rounds and the ongoing care of inpatients	Level III	Level IV
4. Manages an operating list	Level II	Level IV
5. Manages a multi-disciplinary meeting	Level III	Level IV

Output from the curriculum

The modular structure of the curriculum will permit flexibility to respond to changing service demands. Underpinning this is a commonality of training in Phase 1 and elective general surgery for all trainees in Phase 2. On completion of training all trainees will have elective general surgical competencies and EGS knowledge and clinical skills. In addition, the curriculum will offer development of the following skill sets within General Surgery, summarised in Figure 2.

Emergency General Surgery and Colorectal

Emergency General Surgery and Oesophagogastric

Emergency General Surgery and Hepatopancreaticobiliary

Emergency General Surgery and Gastrointestinal with General Surgery of Childhood

Emergency General Surgery and Renal Transplant with Dialysis Access

Emergency General Surgery and Breast

Emergency General Surgery and Endocrine Surgery (all organs)

Emergency General Surgery and Trauma

Breast Surgery with Oncoplastic reconstruction

Multiorgan transplantation and Retrieval

Hepatopancreaticobiliary and liver / pancreas transplant

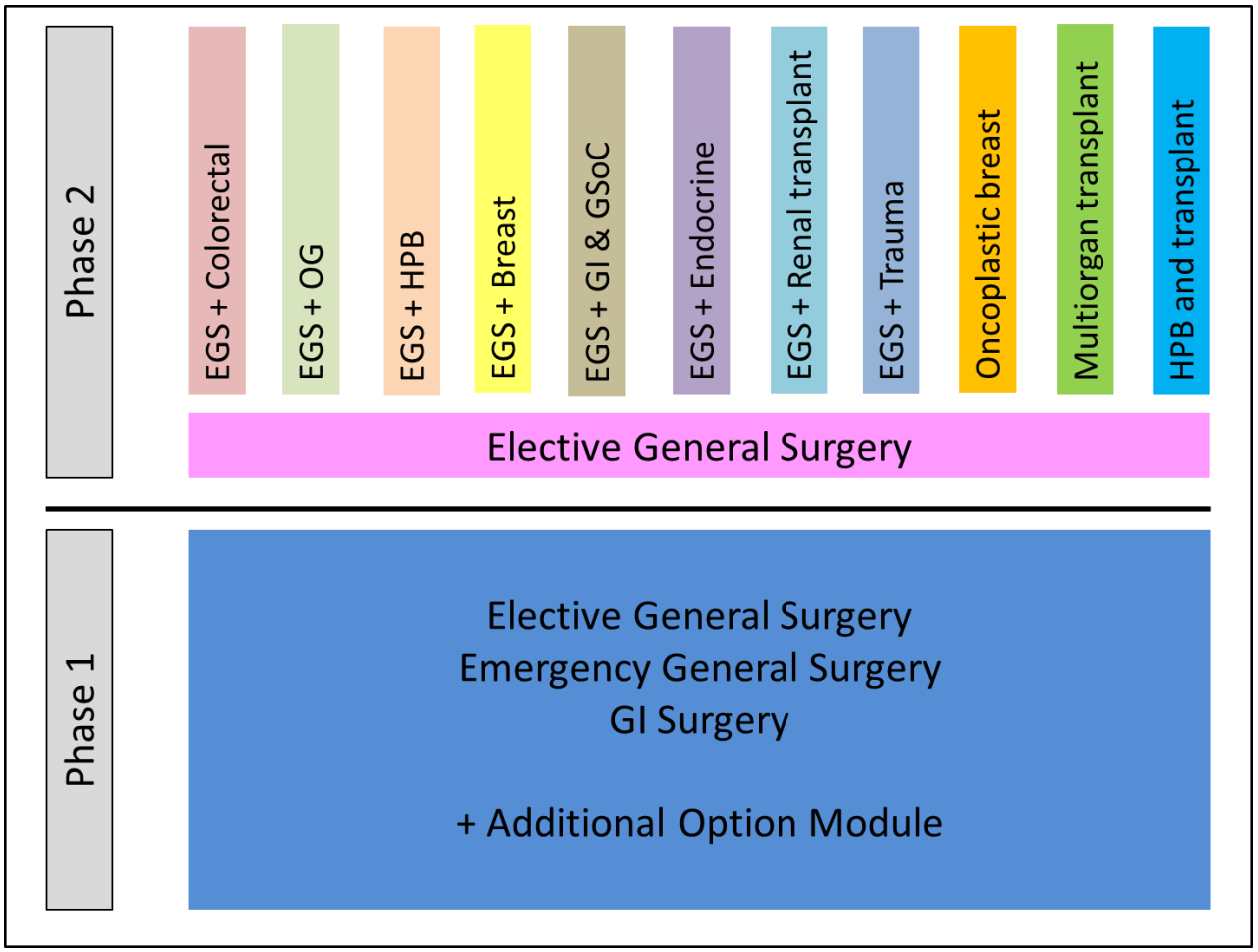

Figure 2: Outputs of the General Surgery Curriculum, demonstrating commonality in Phase 1 and that elective and emergency General Surgery are at the core of the curriculum.

References

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