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Invited editorial

Improving the future of surgical training and education: Consensus recommendations from the Association of Surgeons in Training[☆]

A B S T R A C T

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In the past decade surgical training in the United Kingdom (UK) has seen radical overhaul with the introduction of formal training curricula, competency based assessment, and a new Core Surgical Training programme. Despite this, and in common with many other countries, numerous threats remain to sustaining high-quality surgical training and education in the modern working environment. These include service delivery pressures and the reduction in working hours. There are numerous areas for potential improvement and dissemination of best training practice, from incentivising training within the National Health Service (NHS) through top-down government initiatives, to individualised information and feedback for trainees at the front-line. This document sets out the current structure of surgical training in the UK, and describes the contribution to the current debate by the Association of Surgeons in Training. Highlighting areas for improvement at national, regional, local and individual levels, the Association proposes 34 action points to enhance surgical training and education. Adoption of these will ensure future practice continues to improve on, and learn from, the longstanding history of training provided under the guidance of the Royal Surgical Colleges.

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1. Introduction to ASiT

The Association of Surgeons in Training (ASiT) is a professional body and registered charity working to promote excellence in surgical training for the benefit of junior doctors and patients alike. With a membership of over 2000 surgical trainees from all ten surgical specialities, the association provides support at both regional and national levels throughout the United Kingdom and Republic of Ireland. Originally founded in 1976, ASiT is independent of the National Health Service (NHS), Surgical Royal Colleges, and speciality associations. Governed by an elected Executive and Council, the association is run by trainees for trainees.

2. Structure of surgical training in the United Kingdom

The traditional surgical training pathway from medical school to Consultancy, or equivalent, has evolved into a more defined

and structured route for modern trainees, and this has been largely welcomed. The postgraduate structure is outlined in Fig. 1. The original 1-year 'House Office' posts (6 months medicine, 6 months surgery) undertaken by all new medical graduates were replaced by the 2-year generic 'Foundation Programme' in 2005. From this, candidates apply through competitive national selection system for Core Surgical Training (CST) programmes. These offer rotations through a number of hospital-based surgical or allied (e.g. intensive care) specialities, and may be generic or themed towards a particular surgical discipline depending on regional preferences and the availability of training posts. During this period trainees complete the Intercollegiate Membership of the Royal College of Surgeons (MRCS) examinations, undertake Advanced Trauma Life Support (ATLS) and Basic Surgical Skills courses, and complete workplace-based assessments and annual review meetings to ensure competency based progression of training.

Following successful completion of Core Surgical Training and MRCS exams, trainees apply through competitive national selection for Higher Surgical Training in one of the 10 surgical specialities (see Table 1).

Traditionally, many trainees have used this point to break training and undertake a period of research and/or additional training to gain additional surgical experience. This is now discouraged, with 'out of programme research' time preferred instead during the course of a training programme, or via specific academic training pathways for those pursuing a clinical academic career.

Abbreviations: ARCP, Annual Review of Competence Progression; ASiT, Association of Surgeons in Training; CCT, Certificate of Completion of Training; CST, Core Surgical Training; EWTD, European Working Time Directive; FRCS, Fellowship of the Royal College of Surgeons; GMC, General Medical Council; HST, Higher Surgical Training; ISCP, Intercollegiate Surgical Curriculum Project; JCST, Joint Committee on Surgical Training; MRCS, Membership of the Royal College of Surgeons; NHS, National Health Service; NTN, National Training Number; PMETB, Postgraduate Medical Education and Training Board; SAC, Specialist Advisory Committee; WBA, Workplace-based Assessment.

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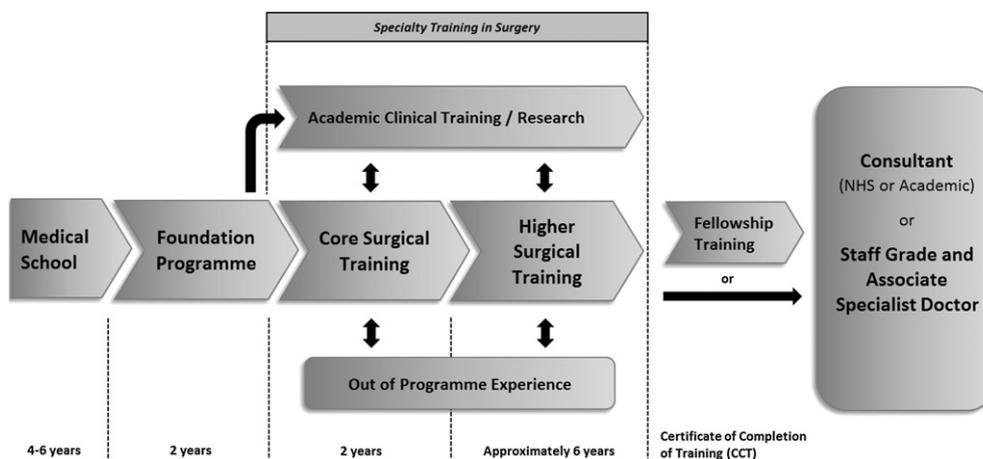


Fig. 1. Surgical training pathway in the United Kingdom.

On commencing a recognised higher speciality training programme in surgery, the trainee is issued with a unique identifier, the ‘National Training Number’ (NTN). Higher speciality training programmes in surgery typically last 6-years in duration, during which time the ‘exit’ exam for the speciality is undertaken in the senior stages (Fellowship of the Royal College of Surgeons, FRCS). In combination with the Annual Review of Competence Progression (ARCP), including operative surgical experience, this ultimately leads to the Certificate of Completion of Training (CCT). The time taken for higher surgical training is, however, variable, as many trainees may take ‘out of programme experience’ to visit other training centres, or complete research if not previously done so.

Possession of a CCT allows entry onto the Specialist Register held by the General Medical Council, and the individual may apply directly for Consultant posts or Staff Grade/Associate Specialist Doctor positions for service. Some opt for a further period of sub-specialist ‘Fellowship’ training (particularly in interface areas between specialities) prior to or while awaiting appointment to a substantive position.

3. Background to recommendations

In the past decade surgical training in the United Kingdom (UK) has seen radical overhaul with the introduction of formal training curricula and competency based assessment including the broad use of work-place based assessment (WBA) tools. The four Surgical Royal Colleges (Edinburgh, Glasgow, England and Ireland) have devolved some administrative training matters to the inter-collegiate Joint Committee on Surgical Training (JCST), an advisory body for all matters in relation to surgical training. At the same time, the merger of the Postgraduate Medical Education and

Training Board (PMETB) with the General Medical Council (GMC) saw the latter assume responsibility for regulating all stages of medical education in the UK. Despite this widespread realigning of the structures governing oversight and quality assessment, concerns regarding front-line training remain widespread amongst trainees themselves.

The current threats to surgical training are numerous. In particular, trainees have been concerned about the reduction in working-hours resulting from the European Working Time Directive (EWTD) since its original inception. In May 2006 ASiT published a report on the impact of the EWTD in surgery highlighting concerns and actions required to limit potentially detrimental effects on surgical training.¹ Subsequent surveys of experiential training and trainee opinion have reinforced these concerns.^{2,3}

Whilst many surgeons agree it may theoretically be possible to provide higher surgical training within an average working week of 48-h, this is not deliverable within the current structure of the NHS, nor does it appear to be achievable in the foreseeable future. Such changes would require a fundamental change in the training culture of the health service and take considerable time and financial investment to implement.⁴

In October 2008 ASiT responded to Sir John Tooke’s report ‘Aspiring to Excellence’ resulting from the inquiry into the heavily criticised Modernising Medical Careers programme for post-graduate medical education.⁵ Specific responses were provided for areas involving surgical training with recommendations to enhance the future structure and provision.⁶

Elsewhere, concerns have been noted in the independent Inter-collegiate Surgical Curriculum Project (ISCP) Evaluation Report by Professor Michael Eraut.⁷ In April 2009 ASiT published a response,⁸ supporting Professor Eraut’s findings which correctly identified the broad failings currently found in UK surgical training. In particular, the lack of time for training coupled with the lack of engagement by trainers with the ISCP has been a particular problem. Set against a backdrop of NHS pressures driving service provision over education, the training of surgeons, particularly at a junior level, has suffered greatly.

In 2010 ASiT investigated the cost of surgical training to trainees themselves in light of the recent changes to the funding and delivery of training. This highlighted the gradual push of fees away from the beneficiaries (the NHS as employers, and taxpayers through the benefit to society) onto trainees. Study budgets were reported as being top-sliced to support local curriculum delivery, and were frequently insufficient to support trainees undertaking mandatory courses and exams required for progression. The

Table 1
Recognised surgical specialities in the United Kingdom.

<ul style="list-style-type: none"> • Cardiothoracic Surgery • General Surgery • Neurosurgery • Oral and Maxillofacial surgery • Otolaryngology • Paediatric Surgery • Plastic Surgery • Trauma and Orthopaedic Surgery • Urology • Vascular Surgery

overwhelming majority of surgeons in training were not satisfied with the fee to support the JCST and do not feel it represented good value for money. More generally, the effects of University tuitions fees on post-graduate finances are only now being seen by doctors given the time-lag to qualification. Recent penalising increases could in future exclude trainees who are not independently wealthy from expensive surgical training.

Most recently ASiT responded to the phase 1 review of the JCST and are currently participating in the phase 2 review, the results of which are awaited and will address areas of function, structure and financial factors in relation to its role. ASiT has maintained that greater clarity is required regarding the JCST's mandate, remit, and responsibilities in surgical training, particularly with regard to areas to which the Surgical Royal Colleges and GMC also have over-sight.

4. Recommendations for surgical training and education

In light of these issues, views regarding the ideal surgical training and education have been sought from surgical sub-speciality trainee organisations. The resulting consensus statement represents opinion following extensive discussion and ratification by ASiT Council, and based on the previous aforementioned work by ASiT. This therefore represents a definitive action list, detailing factors that would facilitate, support and encourage high quality surgical training and education.

4.1. Recommendations for ministers/health departments

1. Introduction of a national training tariff for NHS hospitals in order to adequately compensate and incentivise high-quality surgical training delivery within NHS Trusts. This should be sufficient to off-set any reduction in productivity resulting from time taken to train.
2. Development of metrics for high quality surgical training and routine assessment of training delivery at local, regional and national levels against these metrics.
3. Mandatory board-level responsibility and accountability for delivery of postgraduate medical education and training within NHS Trusts.
4. Relaxation of the EWTD for surgeons in training, giving the flexibility where required to work more than an average of 48-h per week up to a limit averaging 65-h per week.
5. Training course costs and trainee fees (e.g. ISCP) should be tax refundable as professional expenses in order to minimise the rising cost of surgical training.
6. Re-introduce Specialist Advisory Committee (SAC) assessment of surgical units as part of a robust, regular quality assessment of surgical training programmes with the ability to enforce improvement or removal of accredited training posts as required.
7. Implement a contractual training component into junior surgical doctors' contracts e.g. minimum number of operating sessions. This should include study leave, administrative and research time, etc with posts rigorously assessed by Deaneries and the relevant SAC to ensure appropriate training content.

4.2. Recommendations for commissioners/Royal Surgical Colleges

8. Inclusion of meaningful postgraduate medical education and training data in the star rating (or future equivalent) of NHS Trusts.
9. Introduction of 'no fault' ARCP outcomes, where the training placement has not been able to deliver the educational outcomes desired for the trainee concerned.

10. Study leave budget to be agreed at one national rate to end the unacceptably wide geographical variation in value seen across the UK.
11. Trainees should have open access to national survey data (e.g. the successor to the Surgical Placement and Curriculum Evaluation, SPACE) detailing anonymous trainee feedback on training posts in order to evaluate placements in advance.
12. Formalise trainee access to, and training at, Independent Treatment Centres (ITC) within their service contracts, together with providing funding for this.
13. The exit FRCS examination should not be used for the purpose of NHS workforce planning by limiting access to specialist components of the exam.
14. Trainees wish to see a robust MRCS clinical exam, with clinical stations appropriate to the postgraduate level of this exam. There should be no repetition of basic clinical skills already assessed in the Foundation Programme or medical school curricula.
15. Efforts should be taken to minimise the burden of workplace-based assessments on trainees, together with establishing and publicising the evidence base for these in surgery so as to generate greater trainer and trainee engagement.

4.3. Recommendations for Schools of Surgery, Deaneries/SHAs

16. Surgical training units to have dedicated, accredited, identified trainers, with appropriate funding and time allowed to fulfil this role in their job plan.
17. Study leave budget to be protected at the agreed national rate without local compulsory top-slicing to fund regional training initiatives, which should be funded appropriately through other sources.
18. Study leave budgets should be published annually for greater transparency and accountability, including the differing utilisation of funds by trainees by speciality and region in order to better understand the usage trends.
19. Consideration of specific emergency placements and/or separation of emergency and elective work depending on local volume and intensity of workload to ensure development of an emergency skills-base, as appropriate to speciality and hospital.
20. Mandatory teacher training for Consultants supervising NTN-holding registrars.
21. Hospitals should be able to offer minimum numbers of training opportunities, together with appropriate proportions of procedures done by the differing levels of trainees as appropriate to their experience. Opportunities should be regularly audited, with this data made available to trainees. NHS Trusts not able to provide these should have their training post withdrawn.
22. Trainees should control their own personal study leave budget, administered by the Deanery and moving with the trainee rather than hospital-based.
23. Increased regularity of training days and Deanery based regional training programmes with mandatory release from Trusts for this. Although flexibility and innovation in regional programme delivery and content should be allowed, and encouraged, minimum requirements and expectations should be set nationally and reviewed as part of post assessment by the SAC.

24. Regional-level access to advanced surgical simulation facilities, offering availability out-of-hours, coupled to simulation curricula for self-study in addition to supervised practice sessions.
25. Improved regional career counselling services should be offered to assist surgical trainees in successfully planning their careers, and assisting and supporting those in difficulty or considering changing speciality.

4.4. Recommendations for training units

26. Mandatory training and activity time for ISCP-allocated educational supervisors, recognised and rewarded appropriately through their job plan, and removed in instances where the trainer is unable to meet those training commitments.
27. Formalised named weekly elective training lists for core and higher surgical trainees, with ARCP panels setting objectives for supervisors to deliver.
28. Formalised 'teaching clinics' with reduced patient numbers and longer consultation time slots in order to allow appropriate supervision/active teaching of core and higher surgical trainees in the out-patient clinic setting.
29. Introduction and funding of local hospital-based skills labs with appropriate training and simulation equipment to allow the full implementation of a training curricula mapped to surgical training in a simulated environment.
30. Continuity of training and trainer is an aspiration and steps should be taken where-ever possible to maintain a firm-based structure within the confines of local working conditions and rotas.

4.5. Recommendations for trainees

31. Trainees have an obligation to ensure that they take a proactive role in utilising all training opportunities available, including surgical simulation facilities.
32. Trainees must be flexible to adapt to their own training needs, and the training opportunities offered by each individual unit.
33. Trainees should be well prepared, robustly assessed and open to feedback on performance in order that training needs can be adequately identified and introduced.
34. Trainees have a professional obligation to their peers and trainers to provide constructive feedback on their experience of the local, regional and national training structure such that improvements can be made for future trainees.

5. Conclusions

This position statement sets out the consensus views of the Association of Surgeons in Training regarding the key recommendations to improve both the content and delivery of surgical training and education.

ASiT has fully engaged with other reviews investigating surgical training and has actively participated in initiatives led by other

groups, identifying the issues hindering training for the craft specialities. Solutions have been proposed that need to be put in place in order to ensure delivery of high quality surgical training.

Our Association would welcome similar position statements and debate from the Surgical Royal Colleges, JCST, Schools of Surgery, speciality associations, and other stakeholders involved in the delivery and regulation of Postgraduate Surgical Training. In particular, delivery of a high quality surgical training in the modern working environment requires the engagement of hospital employers, and the views of NHS Employers would be welcomed.

In publishing this we hope to stimulate debate with the other stakeholders involved in the commissioning, and delivery of surgical training, and of our patients, who remain the ultimate beneficiaries of high-quality surgical training.

Ethical approval

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Author contribution

All authors contributed to the conception of this paper, critical revision and final approval of the version submitted.

Conflict of interest

The authors are current surgical trainees and current or former elected Presidents of the Executive of the Association of Surgeons in Training. The authors have no other relevant financial or personal conflicts of interest to declare in relation to this paper.

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J.E.F. Fitzgerald^{*a}, C.E.B. Giddings^a, G. Khera^a, C.D. Marron^a
*Association of Surgeons in Training, 35-43 Lincoln's Inn Fields,
 London WC2A 3PE, United Kingdom*

* Corresponding author. Tel.: +44 7801 480594.
 E-mail address: edwardfitzgerald@doctors.org.uk (J.E.F. Fitzgerald)

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^a On behalf of the Association of Surgeons in Training Council.