

# Intercollegiate Endocrine Surgery Review



# Intercollegiate Endocrine Surgery Review Committee

## Terms of reference

<b>Description</b>	An intercollegiate, cross specialty Committee to oversee the future operation, quality assurance and development of Endocrine Surgery accreditation and any subsequent GMC credential.
<b>Functions/ Responsibilities</b>	<p>To review the GIRFT report recommendations with a view to agreement across specialties to implement those related to surgical treatment. Ensure effective audit of procedures, outcomes and complications with clarity of definitions for these.</p> <p>To review proposed service arrangements which provide better surgical outcomes. Consider patient safety with regards to volume of procedures undertaken by individual surgeons and within units.</p> <p>The consideration and development of a certification scheme and a GMC credential for each aspect of endocrine surgery. Consider accreditation of endocrine surgery networks.</p> <p>Develop national criteria for endocrine surgery training units / networks and develop cross specialty training arrangements. Agree pre and post CCT training modules.</p> <p>Oversee the regular review of the requirements and processes for the formal certification/ credentialing of all surgeons regarded as competent to undertake endocrine procedures, considering training and experience and the GMC standards.</p> <p>Regularly review uptake of the Certificate/credential, consider any feedback received and propose process changes to improve efficiency.</p>

<b>Membership</b>	
Chair	Mrs Alison Lannigan Consultant General Surgeon with special interests in Breast and Thyroid Surgery
Royal College of Surgeons of Edinburgh	Mr Jason Ramsingh Consultant Endocrine Surgeon
Royal College of Surgeons of England	Mr Nick Phillips Neurosurgeon and Pituitary expert
Royal College of Physicians and Surgeons of Glasgow	Mr Nigel Jamieson Consultant General and HPB surgeon
Royal College of Surgeons in Ireland	Professor H. Paul Redmond Professor and Chairman, Department of Surgery, Cork University Hospitals Group and University College Cork
Authors of the GIRFT Endocrinology Report	Mr Mark Lansdown Consultant Endocrine Surgeon Professor John Wass Consultant Endocrinologist
Joint Committee on Surgical Training (JCST)	Professor Jon Lund Chair of JCST
Association of Surgeons of Great Britain and Ireland (ASGBI)	Ms Helen Doran Consultant Endocrine and General Surgeon
Association of Upper Gastrointestinal Surgeons (AUGIS)	Mr Andy Smith Consultant Pancreatic Surgeon
British Association of Endocrine and Thyroid Surgeons (BAETS)	Mr Jeremy Davis BAETS President Mr Radu Mihai President Elect of BAETS
Society of British Neurosurgeons (SBNS)	Mr Saurabh Sinha Consultant Neurosurgeon
British Association of Urological Surgeons (BAUS)	Mr Pieter Le Roux Consultant Urologist
British Association of Otorhinolaryngology – Head and Neck Surgery (ENT UK)	Mr Ricard Simo Consultant Otorhinolaryngologist Head and Neck Surgeon



# Intercollegiate Endocrine Surgery Review



Endocrinology is a medical specialty which focuses on hormones and the glands which produce them. Diseases of the endocrine system are a broad range of conditions encompassing both common and rare conditions which are best investigated and treated by a specialised multi-disciplinary team. Surgery is an option in the management of some endocrine diseases and for some conditions is the best available treatment. It is therefore important that the surgical teams involved with these patients are informed, skilled and integrated into the multi-disciplinary team and can demonstrate their competency in operative management of these patients.

Surgery is considered to have a significant role in diseases of the thyroid, parathyroid, adrenal, pituitary and pancreatic glands, and for the purposes of this review, we will consider surgical management in these areas. Surgical management of endocrine disease includes functioning and non-functioning tumours and both benign and malignant disease.

Endocrine surgeons are a diverse group, some of whom will practice mainly endocrine surgery of the thyroid and parathyroid glands and this group includes otolaryngologists and general surgeons. Endocrine surgeons trained through the general surgery route may also be involved in adrenal gland surgery. Urologists with a special interest in renal surgery may additionally have a specialist practice in adrenal surgery; neurosurgeons may also have a special interest in pituitary surgery and those who are pancreatic resectional surgeons, combine benign conditions, pancreatic cancer and pancreatic endocrine surgery.

The GIRFT review of endocrinology has identified variations in the current practice of endocrine surgery across the UK. This Joint Surgical Colleges review with representation from the Royal Colleges and Specialty Societies has looked at variation in the key areas of training, surgical activity, audit and appraisal.

## 1 TRAINING

The group discussed training within the current and approved new curricula for general surgery, otolaryngology, urology and neurosurgery.

The chair of JCST and specialty leads were content that surgeons in the relevant surgical specialties were sufficiently trained within the current surgical curricula and this would be maintained within the new curricula due for implementation in August 2021. In general, it was felt that each curriculum covered the relevant areas of special interest relating to endocrine surgery and competency could be obtained without a need for separate modules or accreditation and credentialing. The indicative numbers required for completion of training compared favourably with the minimal requirements of the European Board of Surgical Qualifications in thyroid, parathyroid, adrenal and pancreatic surgery. In addition, specific competency levels for technical skills are detailed within the JCST curricula and intercollegiate surgical curriculum programme across the specialties.

In achieving competence in thyroid and parathyroid surgery, the group recommend that the curricula in otolaryngology and general surgery for these procedures become more aligned. There is general agreement across the syllabus on the level of competency in knowledge, clinical and technical skills at present but there is a need for sharing of training opportunities between the specialties to be formalised or initiated. This would allow trainees access to experience in large volume units within their region but out-with their parent specialty.

### Minimal operative experience for endocrine surgeons in training

Procedure	*EBSQ Performed	Assisted	#ISCP GS Endocrine P/ PS	ISCP GS Endocrine	ISCP ENT
Thyroidectomy	50	50	50	Level 4 <sup>^</sup>	Level 4
Recurrent disease	5	-	10	Level 4	Level 4
Central LND	2	15	-	Level 4	Level 4
Lateral LND	2	10	-	Level 4	Level 4
Parathyroid	15 <sup>**</sup>	20 <sup>**</sup>	30	Level 4	Level 4
Adrenalectomy	2	10	-	Level 3 <sup>^^</sup>	-
Neuro endocrine GI tumour	2	5	35 major HPB procedures	Level 3	-

\*Minimal operative experience for eligibility to sit the European Board of Surgery Qualification

# Indicative numbers for completion of training in general surgery with a special interest in endocrine surgery entered in the log book of the intercollegiate surgical curriculum programme

<sup>^</sup> Level 4 – competent to do without assistance including dealing with complications

<sup>^^</sup> Level 3 – can do whole procedure but may need assistance

<sup>\*\*</sup>At least 10 bilateral exploration

The review group felt that training should not be centralised but that training would follow the concentration of procedures to a more focussed group of surgeons. Many recently published studies have shown a relationship between hospital / surgeon volume of cases performed with better patient outcomes in high volume units. However, operating numbers are only part of the training needs of our future endocrine surgeons and competency in surgical assessment and decision making are as important. Therefore, it is particularly important that a group of trainers are supported by a multi-disciplinary team, audit and review of outcomes.

Training programme directors would be aware of the local arrangements for the endocrine surgery in their region and allocate trainees appropriately. This would ensure trainees with special interests in endocrine surgery would be exposed to sufficient training opportunities to meet indicative numbers and competencies within each curriculum without a centralisation of services unless this was considered necessary to meet service needs.

The European Board of Surgery, Division of endocrine surgery has previously recommended that training in endocrine surgery should take place in units where 100 thyroid, 50 parathyroid, 15 adrenal and/or 10 pancreatic endocrine resections are performed yearly.

For urology trainees, there is no specific training within the urology curriculum in relation to adrenal surgery. Adrenal resections for primary adrenal disease and not as part of a renal resection, are performed by urologists but this activity is concentrated in a small number of units with considerable experience in adrenal surgery. These units demonstrate a high volume of renal surgery including open, laparoscopic and increasingly includes robotic surgery.

Trainees appointed to these posts would be expected to have completed a special interest module in renal cancer surgery which includes open and laparoscopic nephrectomy to level 3. Subsequent mentoring in post and often post CCT fellowships would ensure adrenal surgery skills attain level 4. Mentoring in adrenal surgery using the adrenal surgery PBA framework from ISCP would be undertaken post CCT in these high volume units.

Additional experience in specialist endocrine clinics and MDT would be expected as part of the Capabilities in Practice framework. A collaborative approach both in training and service provision should be encouraged between adrenal surgeons in general surgery / endocrine units and those in urology departments. This would ensure trainees have access to sufficient benign and malignant cases and be exposed to laparoscopic and retroperitoneal approaches.

In neurosurgery and pancreatic surgery, it is already recognised that trainees who have reached the level of certification across the breadth of specialty, would often require a period of fellowship or mentorship post CCT to develop a more independent practice in the resection of pituitary and pancreatic tumours.

For neurosurgical trainees aiming to pursue a special interest in pituitary surgery, employers would expect significant experience in a specialist unit or a post CCT fellowship in endoscopic skull base neurosurgery in the UK or a recognised overseas centre. Neurosurgery fellowships within the UK have a defined structure and purpose which is accredited by the Royal College of Surgeons of England. As at least 2 /3 of cases are now performed endoscopically, this training would be in addition to the special interest competencies within the ISCP neurosurgery curriculum. These special interest modules would include topics at level 4 in managing sellar and suprasellar mass lesions and advanced microsurgical techniques. Trainees would be appointed to an established unit with a special interest in pituitary surgery. Such a unit would be able to demonstrate that it meets the criteria for number of resections and has a satisfactory audit of outcomes.

General surgery trainees with an interest in hepato-biliary and pancreatic surgery are expected to achieve level 3 competencies in pancreatic resection by CCT. Close mentoring in a high volume unit or post CCT fellowship would be expected to achieve level 4 in pancreatic resection. General surgery trainees with a special interest in HPB surgery are also expected to have a level 3 competency in segmental liver resection and achievement of a subsequent level 4 competency would also be essential in this area for comprehensive treatment of pancreatic tumours.

These technical competencies should be accompanied by active participation in the decision making experience of an established neuro-endocrine pancreatic MDT.

### Recommended training numbers in endocrine surgery fellowships

Procedure	*UEMS	Pancreatic **IHPBA	UK fellowship
Thyroid	50	-	-
Central or Lateral LND	10	-	-
Parathyroid	15	-	-
Adrenal	5	-	-
GEP-NET	5	30 Whipples, 18 distal pancreatectomies	30 Whipples, 10 distal pancreatectomies

\*European Union of Medical Specialists (UEMS) Section of Surgery and the European Board of Surgery – Division of Endocrine surgery

\*\* International Hepato Pancreatico-Biliary association

The review group were keen to emphasise that the areas of endocrine surgery under discussion were areas of special interest rather than separate sub-specialties. They felt that it was the responsibility of the prospective employer to ensure the applicant was competent in the particular area of endocrine surgery.

Post CCT credentialing across endocrine surgery was thought not to be appropriate and competence could be demonstrated within the existing framework of the surgical curricula.

Appointment panels should include endocrine competences within their essential criteria in job descriptions and scrutinise logbooks and PBAs.

## 2 AUDIT

For those general surgeons with a special interest in endocrine surgery and ENT surgeons with a special interest in thyroid and parathyroid surgery, there is an established registry of cases. Participation in the audit can be accessed through membership of BAETS (British Association of Endocrine and Thyroid Surgeons). The audit includes data on thyroid, parathyroid and adrenal surgery and relies on the individual data entry of surgeons. A section is available to enter data on pancreatic endocrine tumour resection but the numbers are small and cannot be viewed in the context of overall pancreatic resection numbers.

The GIRFT report suggests that of those surgeons who should enter data to the BAETS audit, only 53% of surgeons in England and Wales did so.

Surgeon specific outcomes are published annually in 5 year cohorts for thyroid surgery from this data base and comparisons can be made across the peer group. Surgeon specific reports for parathyroid and adrenal surgery are not yet available. A National audit report of each data entry point collected is available for the entire dataset of thyroid, parathyroid and adrenal surgery with the last published in 2017 and the 2021 pending release. There are no specified QPIs related to the data entered and no clinical network or service review. HQIP mandate that thyroid operations are entered into the database but there is variable compliance with this requirement. The European Society of Endocrine surgeons has proposed a number of quality indicators which include <2% recurrent laryngeal nerve injury in a standard thyroidectomy, <2% for post-operative bleeding requiring re-operation and 92% normalisation of calcium levels following parathyroidectomy.

It is encouraging that individual audit data is available for each surgeon to use as evidence of the quality of their surgical practice.

Public access to reports of some data is available. Information on length of stay, post-operative bleeding and mortality are fairly straightforward to interpret when related to case mix. However, interpretation of other significant complications of thyroid surgery are less meaningful but used in such a way that reports can be made available to the public.

In particular, vocal cord assessment and not vocal cord palsy is reported and data entry is less complete in this field. The rate of vocal cord palsy for any surgeon can be affected by the complexity of their practice, the proportion of their cases having a post-operative vocal cord check, and at what interval after surgery this is performed, as well as the quality of surgery. A further outcome looks at late hypocalcaemia described as the use of calcium +/- Vitamin D tablets to maintain blood calcium levels at 6 months post-op. However, protocols for calcium supplementation vary between surgeons, patients may take supplements for other reasons and may still recover from post-operative hypocalcaemia beyond 6 months.

For individual surgeons, the use of the BAETS data set to demonstrate satisfactory outcomes for patients should include a comparison with quality indicators for thyroid, parathyroid and adrenal surgery. Agreement on UK quality indicators should be sought from BAETS and added to their guidance for endocrine surgeons.

Improved outcomes for surgical procedures are increasingly known to be related to procedure numbers per surgeon and per institution.

For those undertaking thyroid and parathyroid surgery, a recommendation of 20 thyroid surgery cases per surgeon has been made with 20 parathyroid operations per surgeon. In time there will be an additional aspiration to consider 50 procedures per institution.

For adrenal surgery, the minimal number of procedures per surgeon would be more than 6, with those surgeons operating on pheochromocytomas and adrenal cancers to perform 20 per year. Adrenal surgery teams should comply with the guidance from the Adrenal surgery practice guidance UK 2016.

Pituitary surgery takes place in all neurosurgery units across the UK. The Society of British Neurosurgeons described surgeon organisation and volumes for high quality pituitary surgery. Each unit should have 2-3 pituitary surgeons depending on size. There should be a lead surgeon and a support surgeon. The lead surgeon would aim to perform 10-20 resections each year including all of the functioning tumours (eg, Cushing's disease and acromegaly). A support surgeon would be expected to perform 10 resections per year.

All cases would be discussed and recorded at a specialist MDT and an audit of clinical outcomes should be maintained. Currently, only outcomes from the functioning tumours (10-15% of pituitary resection cases) are collected by the specialist endocrinology CRG using a quarterly endocrine dashboard using HES data. We would propose that in collaboration with the Neurosurgical National audit programme, all pituitary tumours be added to this data set and the breadth of information collected should be expanded to include CSF leak and repair, post-operative bleeding, post-operative hypopituitarism.

The resection of pancreatic endocrine tumours should be undertaken within established hepatobiliary units where both pancreatic and liver resection are available. There should be an established MDT with the specialist endocrinology team and neuroendocrine oncology team.

AUGIS recommends 12 pancreatic resections per surgeon per year with 20 liver resections per surgeon. Pancreatic endocrine tumour resections are typically <10% of all pancreatic resections and more complex in decision making and surgery. Therefore, we would recommend these tumours are surgically treated in a unit which undertakes >50 pancreatic resections per year and performs liver resections within the AUGIS recommendations.

AUGIS has an established audit for oesophagogastric cancer resection but currently there is no national audit of pancreatic resections. There are a number of UK and international publications of single and multi-centre reviews of surgical numbers and outcomes. In addition, there are UK and European initiatives for a registry of pancreatic tumours.

There are standardised definitions for complications in pancreatic surgery and managed clinical network registry of cancer cases.

This would suggest a registry of UK pancreatic resections and outcomes would be possible, under the guidance of The Great Britain and Ireland Hepato Pancreatico Biliary Association within AUGIS and the Pancreatic Society of Great Britain and Ireland. These organisations are in discussions over funding of a pilot project to construct a minimal dataset to capture data on pancreatic resections across the UK.



### 3 APPRAISAL

The recommendations from the GIRFT report and this review relating to endocrine surgery cannot be mandated and are unlikely to be mandated by the GMC. Similarly, commissioning groups may have some of the information from surgical outcomes available in their decision making but not all and this does not apply across all of the UK.

The responsibility of maintaining good clinical practice lies with the surgeon. Each surgeon should comply with guidance from the Royal Colleges and Specialty Societies, maintain an audit of surgical practice and review the audit data in relation to available QPIs and in comparison with national figures.

Annual submissions for appraisal should include the number of procedures within each category of endocrine surgery relative to the recommendations in this review. This would provide guidance for appraisers about the appropriateness of the scope of practice of an individual surgeon.

Outcomes from personal and nationally collected audits should be submitted for review and subsequent discussion at appraisal around quality of patient care. There may be quality performance indicators for some outcomes and targets for service commitments.

Evidence of regular attendance at endocrine specific multi-disciplinary meetings needs to be included in appraisal and confirmation that collaborative decisions are being made in these cases should be monitored through Board or Managed Clinical network registries. This should include cancer cases where this information is routinely collected but also benign cases particularly to address the complexity of decision making across adrenal, pituitary and pancreatic resections.

Appraisers are often unfamiliar with such specialty specific information and cannot be regarded as the gate keeper to the quality of service. Evidence of local presentation and scrutiny of outcomes data and senior management review of a service is essential.

## EXECUTIVE SUMMARY

The GIRFT review of endocrinology has identified unwarranted variations in key areas in the current practice of endocrine surgery across the UK. The report suggested a number of opportunities to review surgical practice with a view to improving patient care, outcomes and service efficiency.

The Joint Surgical Colleges review with representation from the Royal Colleges and Specialty Societies has looked at variation in the key areas of training, surgical activity, audit and appraisal.

### 1. Training

Endocrine surgery is a diverse group of procedures carried out by surgeons from different clinical backgrounds including general surgery, otolaryngology, neurosurgery and urology. Therefore, the group considered the necessary training required, within each surgical specialty, to reach competency in the particular area of endocrine surgery associated with that specialty. A certification scheme for each of these areas with an additional GMC accreditation was considered.

The chair of the Joint Committee on Surgical Training and the representatives of all of the specialty associations agreed that surgeons in the relevant sub-specialties were sufficiently trained within the current and new surgical curricula and no additional certification was required.

The indicative numbers of procedures and competency levels for technical skills were considered appropriate for completion of training. The Capability in Practice framework should ensure adequate training opportunities in MDT and specialist endocrine clinics.

The group did not recommend a minimum number of procedures for a training unit or centralisation of services unless as a service requirement. However, with a proposed reduction in units performing lower numbers of procedures, there is likely to be a focus on a smaller number of units performing a higher volume of procedures and training would follow this lead as directed by TPDs.



In urology, neurosurgery and hepato-biliary surgery, trainees will complete training across the breadth of their specialty but may require additional training in some areas of surgical management of endocrine disease. Post CCT fellowships and mentored training in consultant posts in specialised units has been recognised as an acceptable path. A framework for this training based on ISCP competences has been recommended for these trainees.

## **2. Audit**

For thyroid, parathyroid and adrenal surgery there is an established registry of cases and audit of outcomes. An abbreviated selection of outcomes for thyroid surgery is published for peer comparison.

The current audit of pituitary surgery extends only to functioning tumours (10-15% of surgery). Proposals are being explored to extend the scope of this audit using data submitted through the Endocrine Dashboard to include post-operative outcomes. In addition, a broader audit of all pituitary surgery is proposed within the National Neurosurgical Audit.

Currently, there is no national audit of pancreatic resections and proposals have been made to develop this. The project would incorporate the relatively few pancreatic endocrine tumour resections in a more meaningful context with all pancreatic resections.

The review would recommend a minimum data set is established for each endocrine group. Ideally, this would be within the structure of a recognised national audit with the specialty societies agreeing quality indicators to compare outcomes in each group.

There is evidence of improved patient outcomes where patients have surgery in higher volume units. Although audit will be used as the primary tool in directing surgical services, the review recommends minimum numbers of procedures per surgeon and also within surgical units per year for thyroid, parathyroid, adrenal and pituitary surgery. In pancreatic surgery, pancreatic endocrine tumours should be undertaken in a unit with sufficient overall pancreatic resection expertise with a recommended number of resections and proportion of endocrine tumours.

## **3. Appraisal**

The responsibility of maintaining good clinical practice lies with the surgeon. Each surgeon should comply with guidance from the Royal Colleges and Specialty Societies, maintain an audit of surgical practice and review the audit data in relation to available QPIs and in comparison with national figures. Outcomes from personal and nationally collected audits should be submitted for review and presentation to local specialty review groups, senior hospital management and commissioning groups.

### **Additional recommendations**

The recommendations of this report with regards to audit are clear. Those surgeons involved in managing endocrine disease where surgical treatment of the thyroid, parathyroid and adrenal gland are involved, should submit data annually, preferably to the BAETS national registry of endocrine cases. BAETS (and in collaboration with BAUS for adrenal tumours) should develop a set of QPIs to guide surgeons, appraisers and service providers on outcomes for endocrine surgery.

An audit of pituitary surgery to include all pituitary cases should be developed by using HES data and the neurosurgical national audit. A set of appropriate QPIs should be submitted alongside the minimum data set.

A national pancreatic resection audit should be developed by AUGIS and the Pancreatic society of GBI with an agreed minimum data set and QPIs.

The Joint Surgical Colleges have requested a progress report from the specialty associations 12 – 18 months after the publication of this report and presentation at the Surgical Forum (Joint meeting of Royal Colleges and Federation of Surgical Specialty Associations). In addition to a report on the development and implementation of each respective audit, the presentation should include relevant guidance for appraisal and a report of the QPIs which have been developed around the audit for each procedure.



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