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1.0 Executive Summary

To improve the quality and availability of ERCP in the UK, a working party was set up incorporating a number of stakeholders (Appendix 3) to make recommendations to achieve this goal. The attached framework document is the output of that process. It is recognised that not all changes can be achieved immediately, but that these are the standards to be aimed for. Though regulatory frameworks differ among the 4 nations of the UK (and delegates from Scotland, Wales and Ireland were represented on the working party) it is intended that this framework will be applicable to the whole of the UK.

In brief its recommendations are:

- 1) ERCP should only be carried out in facilities dedicated to high standards of performance and safety, as measured by key performance indicators.
- 2) That there should be a minimum of 75 cases per annum for ERCP endoscopists, and 150 cases minimum per facility, although we should be aiming for a minimum of 100 cases and 200 cases respectively.
- 3) That ERCP services should work collaboratively in a regional or hub-and-spoke model, with simple and rapid referral pathways established.
- 4) That facilities for urgent or emergency ERCP should be widely available.
- 5) That minimum standards for independent practitioners should be based on intention to treat and include a $\geq 85\%$ cannulation rate of virgin papillae, CBD stone clearance for $\geq 75\%$ of those undergoing 1st ever ERCP, and for patients with an extra-hepatic stricture, successful stenting with cytology or histology where appropriate at 1st ERCP in $\geq 80\%$.
- 6) That performance criteria should be monitored by a detailed audit and feedback process via a strengthened JAG/GRS process, and be incorporated into consultant appraisal.
- 7) That the organisation and standards for training for ERCP should follow from the above performance criteria.
- 8) That newly appointed consultants are mentored to ensure a safe and effective transition from trainee to independent practitioner.
- 9) That high quality performance in ERCP service and training should support high quality research.

- 10) There should be a national registry of ERCP cases to monitor practice and outcomes which will aid a cycle of continuous improvement and provide research data to plan better care in the future.

2.0 Introduction

Over recent years attempts have been made to improve ERCP services (1-3) and training programmes. Assessments have included examination of type and complexity of procedures, (4-6) complication rates (7-10), and minimum procedure numbers (11-13). To date a consensus has not been reached that provides a framework for the future. The following document is a standards framework that aims to provide a blueprint for the commissioning of services and training, to offer support to ERCP clinicians for revalidation, and to provide a resource to further improve ERCP-related performance.

2.1 ERCP- Existing situation

ERCP is a widely performed gastrointestinal endoscopic procedure, with a powerful therapeutic potential. However, it does carry a risk of significant complications. It also has a long learning curve in both physical skills and judgment/interpretation, and is increasingly a platform for more sophisticated diagnostic and therapeutic techniques, such as cholangioscopy. Questions were raised about the standard of ERCP by NCEPOD in their report of 2004 (14) and addressed in the stakeholders document of 2007 (2). However, despite some improvements having taken place, and some inadequate services having ceased to carry out ERCP, the recommendations of the latter document have not been widely adopted. Similarly, no consensus has emerged as to how best to train individuals to perform ERCP, and subsequently assess competence.

There is evidence from the large scale BSG audit carried out in 2004/5, that despite an acceptably low rate of pancreatitis, the success rate was below the highest international standards (13, 15). This low technical success rate was widely advertised internationally (3). That the proportion of complex procedures was relatively low may have influenced complication rates.

In increasingly large and busy endoscopy units, given the increased complexity of ERCP procedures and accessories, it is appropriate for some nurses or other endoscopy assistants to have a degree of specialization in ERCP.

In the UK, despite ERCP being available at most DGH's, in practice its availability can be suboptimal. Comparison with other countries can highlight best practice but provides only limited guidance on minimum standards. The US, for example has some very large units with very high success rates and complexity (16), but also many very small community units, with variable standards (3, 7, 10). How can we improve both access and quality without moving services too far from patients' homes?

In common with other interventional procedures, complaints and litigation in relation to ERCP have increased. NCEPOD, the Medical Defence Union and the office of the Health Services Ombudsman were able to provide no data in 2013 to define whether ERCP complaints or litigation had increased relative to other areas or whether the increase is down to a more litigious climate. It is nonetheless reasonable to assume that a high quality service can help reduce the increasing amount spent on litigation by the NHS (17).

In summary, suboptimal performance of ERCP, highlighted by BSG audit data, mirrors to some extent the previous scenario for colonoscopy in the UK. Improvements in colonoscopy outcome resulted from an acceptance of the need for change, and a commitment to develop and adhere to key performance indicators, both for established practitioners and those in training. The same needs to be true for ERCP.

2.2 Steps on the Way

We recognise that the following recommendations are challenging, and that they cannot all be implemented immediately. However networks and their constituent units should develop strategies to ensure that they meet the minimum standards listed within a defined period of time, with achievable performance indicators acting as important goals for subsequent service development.

2.3 Indications and Contra-indications for ERCP

It behoves practitioners of ERCP to maintain their understanding of the changing indications for this and related procedures. The greater availability of MRCP and EUS have resulted in ERCP becoming almost exclusively a therapeutic procedure. Unavailability of MRCP or EUS in a particular hospital is not an indication for ERCP, but instead an indication for prompt onward referral (and prompt actions upon receipt of that referral). Appropriate indications for ERCP are discussed further in appendix 2.

3.0 Standards for the ERCP Practitioner

The minimum numbers of procedures required to acquire, improve and maintain skills per operator remain controversial. International data have generally (8, 9, 12, 18, 19, 20) but not always (10, 11, 21) shown a relationship between numbers and quality of ERCP performance.

This is important, given that a recent US survey showed that 40% of ERCP-ists were doing fewer than 50 cases pa, and that 77% had not achieved the benchmark 180 cases in training (22). In the UK the number of low volume practitioners appears smaller with only 15% of endoscopists participating in the BSG audit performing <50 procedures pa (15).

JAG currently cites 75 cases a year per ERCP-ist as the minimum number necessary to retain skills, (23). We believe that a higher minimum number of 100 ERCPs pa is achievable and will result in better ERCP services. This supposition is based on the following observations:

- Poorer outcomes have been observed when ERCP practitioners perform less than 1 sphincterotomy per week (9, 18) Allowing for case mix a typical ERCPist would intend to perform this procedure in approximately 50% of ERCPs undertaken (15)
- A number of studies have suggested unit volumes of ≥ 200 procedures per annum are associated with better outcomes (8, 19, 20). Two ERCPists can deliver 200 procedures pa with cross cover, whilst 3 or more ERCPists would result in low volumes for one or more participants.
- A threshold of 75 procedures pa implies responsibility for a single ERCP list on alternate weeks with back fill of a colleague's annual leave. A weekly commitment to ERCP is likely to deliver greater ERCP availability and more time spent in personal and service development.

An adequate case load also facilitates meaningful audit. Targets for performance need to be ambitious but achievable and practitioners need to be able to benchmark against one another regardless of case-mix. It is therefore recommended that technical success is measured in the following areas:

- 1st ever ERCP
- Common procedures that are performed in all units, such as sphincterotomy and stone extraction, and stenting for malignant biliary strictures.

These should be analysed using the following broad criteria:

- Intention to treat (all cases of attempted endoscopy analysed according to suspected diagnosis). This methodology inevitably produces KPI figures which are apparently modest, but, when all cases are included, are more challenging than they at first appear.
- Consensus definitions for adverse events (24)
- Outcomes which practitioners would consider acceptable for themselves and family.

Where levels of procedure are referred to these are the definitions from ref 6 (see appendix 1), Previous papers using simpler grading scales do not take account of the potential complexities of current ERCP practice.

It is recognized that complex ERCP procedures need a team of professionals to maximize quality and safety, as well as a wide range of equipment and accessories. These are more likely to be achieved in centres with greater annual volumes. It is not expected that all ERCP practitioners will want or need to achieve competency in the full range of level 3 and 4 procedures.

3.1 Key Performance Indicators (KPIs) for ERCP Practitioners

Input (Objective)	Output (Minimum)	Output (Achievable)	Evidence
A sufficient case load to be (demonstrably) competent	75 procedures per year per ERCPist	100 procedures per year per ERCPist	Audit/Rate Card
Able to undertake common procedures to high standard	Competence in level 1 and 2 procedures plus extraction of stones >10mm in diameter	Endoscopists who deliver regional services also competent in level 3 and 4 procedures.	
Able to achieve success rates that meet "family and friends test"	Successful cannulation (of clinically relevant duct) in 85% of 1 st ever ERCPs* CBD Stone clearance at 1 st ERCP in >=75%* 80% patients with extra-hepatic stricture have stent sited and cytology or histology taken at 1 st ERCP where appropriate*	Successful cannulation in >=90% of 1 st ever ERCPs CBD Stone clearance at 1 st ERCP in >=80% >85% patients with extra-hepatic stricture have stent sited histo/cytopathology taken at 1 st ERCP	
Able to perform procedure with acceptable level of risk to patient	Complication rate (24) for level 1 and 2 procedures <6% *		

Delivers ERCP as part of individualised package of care that draws on multidisciplinary team	Full Participation in core clinical services, including regular Multidisciplinary meeting (MDM)	Shares data and service developments across regional network	MDM register, appraisal, network meetings
Has lead in educating others on role of ERCP	Trains year 1-3 trainees in indications, consent process and identification of complications	<p>Able to deliver safe and effective hands on tuition</p> <p>Can undertake formative and summative assessments of ERCP trainees</p> <p>Able to mentor newly appointed consultants</p>	<p>Appraisal.</p> <p>Trainee feedback</p> <p>Evidence of participation in post graduate and/or basic skills courses (including “train the trainer course”)</p>

*upon completion of mentorship (see training). Figures based on intention to treat, after exclusion of patients with Billroth 2/Roux en Y anatomy. For patient with suspected CBD stone successful clearance defined as empty CBD with no stent in situ at end of procedure. Siting of stent requires proximal end of prosthesis to traverse stricture and (for plastic stents) distal end to traverse papilla.

Appropriate histo/cytology samples where diagnosis not already clear as in widespread metastatic disease, for example.

4.0 Standards for ERCP Service Provision.

There will be no expectation that all acute Trusts should offer ERCP. It is recognized that meeting the proposed standards will result in ERCP being consolidated to fewer centres with services focused around the requirements of a particular region. The pattern will vary in different parts of the country/regions. Each network/region/service, perhaps serving a population of 0.5-1.5 million, might have one or more specialist hubs supported by a number of spokes where commonly required procedures could take place. Such a population would, at an estimated need of up to 1 person per 1000 needing ERCP pa, require 500-1500 ERCP procedures pa. Networks could be even larger than this. The distribution of services should be organized with clear referral pathways; no centre should be isolated. There is an expectation that committed ERCPists may have a role in delivering service on more than one site, with a beneficial effect on individual caseload and expertise, and improved integration of services across a network. The specialist hubs/referral centres should have the highest quality ERCP practitioners capable of undertaking Grade 1-4 procedures (6) and with complications at rates that put them among the best in the world. Hubs/referral centres need to be integrated with HPB units, including interventional radiology and MRI, endoscopic ultrasound, cholangioscopy, HPB surgery, specialist pathology and oncology, palliative care, pain units. Spokes will have some of these, but will have access to all of them.

Small units may perform say, 150 cases pa with an acceptable success and complication rate (25, 26), while a large, tertiary unit can perform emergency ERCP service for acute cholangitis (27) which is beyond the capabilities of the DGH unit. To maintain a good cover of ERCP provision throughout the year and out of hours requires at least 2 ERCP-ists in a centre. To maintain their skills a unit volume of over 200 cases p.a is recommended as an achievable standard. This is also consistent with the (limited) data on case volume and outcomes described in the previous section. The use of day-case ERCPs is encouraged, particularly for morning lists, assuming sufficient post-procedure monitoring is employed. More than 90% of significant post-ERCP complications will become apparent within the first 6 hours following the procedure.

Other key performance indicators for a unit include competency of its clinicians, multidisciplinary working and availability of ERCP and other interventions as described below.

The ability to provide the service seven days per week is likely to require a regional network approach in most parts of the UK, though 7 day working is likely to become the norm for gastroenterology services nationwide.

Paediatric ERCP, in common with other complex endoscopic procedures carried out on children, should be provided by those best able to deliver a safe and competent service. This is likely either to be paediatric surgeons or gastroenterologists who do regular adult ERCP lists, or adult ERCP-ists who are linked to large paediatric HPB units, and have regular paediatric lists. The numbers of paediatric patients requiring ERCP are too small for sufficient skills to be achieved and maintained by any ERCP-ist working in this age range alone. It is important that too many barriers to this are not placed in the way of the most rational pathway being established and maintained in each area.

For most children, adult endoscopes are satisfactory, but the lack of availability of suitable production duodenoscopes and accessories makes neonatal or infant ERCP relatively unavailable and primitive. More details about paediatric ERCP are beyond the scope of this document.

4.1 Key Performance Indicators for ERCP Services

Input (objective)	Output (Minimum)	Output (Achievable)	Evidence
A service delivered by competent ERCP Practitioners	Endoscopists meet the minimum KPIs referenced in table 1	Endoscopists meet or exceed the achievable KPIs referenced in table 1	Sources of evidence referenced in table 1
A service that has sufficient capacity to deliver high quality ERCP at a time determined by patient need	150 procedures per year per service delivered by 2 endoscopists able to backfill one another Non urgent ERCP available on site 52 weeks of year Emergency ERCP can be arranged Mon to Friday	>=200 procedures per year per service Non urgent ERCP list available every weekday Emergency ERCP can be arranged at weekends	Audit/GRS
A service with facilities for alternative and out of hours biliary drainage (on site or as part of a clinical network)	Percutaneous transhepatic drainage (PTD) available 7 days a week, and within 24h of failed ERCP with duct opacification	The most appropriate form of biliary drainage (ERCP or PTD) can be arranged 7 days a week	Review of cases/audit
A service with safe and appropriate sedation practice	Adheres to safe sedation practice (28) and can access anaesthetic support for patients who need it (onsite or as part of network)	Service can provide regular lists with dedicated sedationist/ anaesthetist.	Peer visit/GRS/Audit
A service that minimizes risk through checklisting	Implements local ERCP checklist	Nationally developed ERCP checklist implemented	Audit/GRS
A service where decisions relating to ERCP are supported by a multi disciplinary team	At least weekly MDM covering benign and malignant disease. (may be part of other MDM)		Minutes and Attendance Records

A service with appropriate imaging facilities	Adequate quality C Arm and Interventional Radiology Facilities, image storage, radiation protection audit. CT, MRI, USS, EUS available. Consultant radiologist/s with interest in and input into ERCP service	Dedicated ERCP radiology facilities with high quality imaging and radiological support	Peer Visit/Self Assessment Return
A service which is appropriately equipped and staffed	Sufficient video duodenoscopes and other accessories. Service delivered by trained nursing and technical staff		Questionnaire/GRS review
A service that can develop based on accurate data	Dedicated endoscopic record system integrated with hospital electronic records. Output able to be used for audit and research	Outcome data supplemented by patient telephone review at 30 days	Records feedback/GRS return/ Internal data sets
A service that reflects on its outcomes in order to improve	Regular morbidity and mortality meeting based on above data	Contributes 30 day outcome data to regional and national datasets	Audit evidence

5.0 Standards for ERCP Training

A minority of gastroenterology trainees and even fewer GI surgeons or radiologists now train in ERCP, as has been recommended and reported in previous publications. Those who do train in this challenging technique deserve to be taught to the highest standards. Those who do not intend to perform ERCP as consultants should be exposed to the procedure, its indications, scope and risks to inform their future roles as referrers. The standards for service provision and training should be consistent. However it is recognized that most newly qualified ERCP practitioners need a defined period of mentorship in order to achieve the outcomes expected of an experienced consultant. Whilst not all established consultants will be involved in the training of registrars, an ability and willingness to support junior consultant colleagues should be considered an essential skill.

5.1. Key Performance Indicators for ERCP training programmes

Input (Objective)	Output (Minimum)	Output (Achievable)	Evidence
All GI trainees understand indications for, and risks of, ERCP	Attachment to at least 1 ERCP unit during years 1-3 for core curriculum training	HPB "Orientation" programme for all interested year 1-3 trainees	Feedback from trainees, Exit exams e.g. MRCP Gastroenterology Output from STCs
Appropriate Number of Trainees enter ERCP training	1-2 ERCP trainees per deanery	Programmes supplemented by fellowships	Deanery Numbers Royal College Approved fellowships
Appropriate Selection of Trainees for ERCP training	Trainees selected with an aptitude for Upper GI Endoscopy via a transparent process. Commitment to practice ERCP at consultant level	Validated competitive selection process	Feedback from educational supervisors Regular appraisal (ARCP) to agree training needs.
Participation in sufficient number of ERCPs to acquire necessary skills	Participation in >= 300 procedures prior to consultant appointment	Participation in > 400 procedures prior to consultant practice	Audit
Appropriate number of Qualified Trainers	Minimum 2 per training centre		Peer visits/ consultant revalidation.
Recognised framework for feedback to trainers	Specific trainers for ERCP receiving feedback via training website (JETS)	Participation in ERCP train the trainers course	Record of feedback being reviewed in e.g. appraisal course
Attendance at Multi Disciplinary Meeting (MDM)	A weekly MDM must be in place covering benign and malignant disease.		Minutes/Attendance Records
Trainees acquire necessary experience in peri-procedural care	Participation in: MDM; hepatobiliary clinics; preassessment and post procedure care.		Peer Visit/Self Assessment Return, ARCP
All procedures recorded with appropriate feedback	Trainees complete records via JETS website		Audited data available

<p>Trainees enter consultant practice with necessary ERCP skills</p>	<p>Able to select and consent patients appropriately</p> <p>Works effectively within multidisciplinary team</p> <p>Able to identify and manage complications</p> <p>Unselected cannulation rate $\geq 80\%$ for last 50 cases</p> <p>Demonstrable ability to perform level 1 and 2 procedures without verbal or physical assistance</p> <p>Able to meet minimum outputs for competent ERCP practitioner (table 1) within 2 years of mentored consultant practice</p>	<p>External Basic skills course in ERCP undertaken by all ERCP trainees</p>	<p>Certificate/CME records on competency with sign off at each level.</p> <p>Formative and summative assessments</p> <p>Personal and departmental audit</p> <p>Appraisal</p>
<p>Newly appointed consultants supported to ensure performance indicators for ERCP service met</p>	<p>Colleagues mentor newly appointed consultants for first 2 years and are available to assist in difficult cases</p>		<p>Audit</p> <p>Evidence of appropriate job planning</p>

6.0 Checking our performance; a national registry

This document makes a number of assertions about ERCP practice and training in the UK, and outlines some of the desirable criteria with which to demonstrate high standards of performance in service and training. There is, however, no national system for checking ERCP performance in real time, akin to the US-derived ERCP Quality Network (ERCP-QN (16)). We propose a system which would not, unlike the ERCP-QN, be selective, either about who was involved, or about data entry, and would contain hard end-points, including complications and 30 day mortality, which are not subject to interpretation. All patients undergoing ERCP would be entered on this continuous register.

Such a process would need to engage all ERCP-performing units in the country and would require a significant amount of ongoing data entry and pro-active patient follow-up by a clinically experienced individual at each unit. It should aim to incorporate private as well as NHS practitioners and units.

Experience from the previous large-scale BSG ERCP audit has shown us which data are important to collect and the practical problems in so doing. Experience from large data collection registers for high risk surgical procedures has also demonstrated the kinds of problems which are likely to be encountered. The resources to operate such a database are essential to the successful operation of this standards framework.

We therefore propose a national register of ERCPs which should aim to be 100% inclusive, with a view to identifying both good and poor performance, with an ultimate aim of improving standards at all levels.

7.0 Future research

These recommendations are based on a consensus of current stake-holders, and need to be validated by research. The proposed registry would address this need.

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Appendix 1 - Grading of Difficulty/Complexity of ERCP procedures (ref 6):

Increase 1 level (to a maximum of 4) for procedures performed after normal working hours, in children under 3 years of age, in post Billroth II gastrectomy patients or for procedures that have previously failed.

Level 1 Deep cannulation of duct of interest via main papilla, biopsy/cytology
Biliary stent removal/exchange

Level 2 Biliary stone extraction < 10mm
Treat biliary leaks
Treatment of extrahepatic strictures (benign or malignant)
Place prophylactic pancreatic stents

Level 3 Biliary stone extraction >10mm
Minor papilla cannulation in divisum, and therapy
Removal of internally migrated biliary stents
Intraductal imaging, biopsy, FNA
Manage acute or recurrent pancreatitis
Treat pancreatic strictures
Remove pancreatic stones, mobile and <5mm
Treat hilar tumours
Treat benign biliary strictures, hilum and above
Manage suspected sphincter of Oddi dysfunction, with or without manometry

Level 4

Remove internally migrated pancreatic stents

Intraductal image-guided therapy (eg electrohydraulic lithotripsy)

Remove pancreatic stones, impacted and/or >5mm

Remove intrahepatic stones

Pseudocyst drainage, necrosectomy Ampullectomy

ERCP post-Whipple's or Roux-en-Y

Appendix 2 - Indications and Contraindications for ERCP

ERCP is a highly effective treatment for a range of pancreato-biliary conditions. As with all invasive procedures there are clearly defined associated risks, which can be minimised by careful patient selection. In particular it should be noted that ERCP in patients with no ductal pathology is unlikely to result in benefit, and is associated with a higher incidence of post procedural pancreatitis. Therefore as a general principle ERCP should be reserved for patients in whom the clinician is confident that an intervention will be required. If, based on history, biochemistry and USS finding the need for intervention is unclear then it is recommended that an MRCP or EUS is performed. In addition, for patients who may have operable malignancy it is important that adequate staging (CT scanning) precedes ERCP. As a purely diagnostic procedure ERCP is rarely appropriate though biliary manometry, tissue acquisition and cholangioscopy may be required in carefully considered cases. Before listing a patient for ERCP the clinician should also consider alternative treatment strategies (e.g. percutaneous drainage, laparoscopic CBD exploration or referral for immediate resection of pancreato-biliary cancer.)

The following are generally considered acceptable indications for ERCP:

- Cholangitis requiring emergency biliary drainage
- History and imaging suggest high probability of bile duct stones.
- Lower biliary stricture with obstructive jaundice following imaging by pancreas protocol CT, in those patients not suitable for immediate resection
- Hilar biliary stricture following adequate cross-sectional imaging and MDT discussion. Cases need intervention tailored to their disease which may involve ERCP, percutaneous drainage or both
- Bile leak or obstructive jaundice following cholecystectomy
- Symptomatic pancreatic duct stricture, with no features of malignancy and shown on cross-sectional imaging
- Symptomatic pancreatic pseudocyst or fistula suitable for transpapillary drainage
- Biliary manometry
- Placement of pancreatic stents or nasobiliary tubes to facilitate extracorporeal shock wave lithotripsy on to pancreatic or large common bile duct stones respectively
- Placement of pancreatic stents as part of ampullectomy
- To permit cholangioscopy or other methods for tissue acquisition when MDM has agreed that findings will alter management.

The following are generally indications for further investigation (CT, MR, EUS or OTC) prior to considering ERCP:

- Low to intermediate probability of bile duct stones (e.g. isolated duct dilatation with normal LFTs or elevated liver enzymes with normal CBD on USS).
- Biliary obstruction with no clue as to cause on USS.

The following are generally not indications for ERCP:

- Abdominal pain in the absence of evidence of biliary disease on imaging.
- Gallstones in the gallbladder with resolved acute pancreatitis, unless bile duct stones are demonstrated by imaging, or where cholecystectomy is not to be done, or both.
- Suspected pancreatic cancer in the absence of jaundice.

Appendix 3 History and Faculty

Recognising that there was an opportunity to improve ERCP practice in the UK, it was decided to ask as wide a group of professional stakeholders as possible to contribute to a review of ERCP practice and training and to recommend the best way to move the service forward. Under the umbrella of BSG Endoscopy, representatives of DGH and Teaching Hospital ERCP services, in England and the devolved regions, the Pancreatic Society, the Association of Upper GI Surgeons, The Joint Advisory Group, known ERCP experts with clinical and academic interests in ERCP, those involved heavily in training, the lead author of the previous ERCP audit, the lead author of the previous ERCP strategy by 'ERCP Stakeholders' in 2007, the National Endoscopy 'Tsar' and others who were judged to have contributions to make were invited to a facilitated meeting which took place at Guy's Hospital on 25th May 2012. From this a framework document was produced, which all invitees were asked to comment on/amend.

The resulting document was sent out once more to invitees in March 2013, and subsequently discussed by the BSG endoscopy committee, representatives of BSG council and of the Clinical Services and Standards Committee and the main committees of several of the constituent bodies. This is the revised document following those consultations, and a prolonged e-mail correspondence.

Invited faculty

Mark Wilkinson, BSG Endoscopy, convenor and chairman
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Appendix 4 - Glossary of abbreviations

ARCP	Annual Review of Competence Progression
BSG	British Society for Gastroenterology www.bsg.org.uk
CBD	Common Bile Duct
CCT	Certificate of Completion of Training
CME	Continuing Medical Education
CPD	Continuing Professional Development
CT	Computed Axial Tomography
DGH	District General Hospital unit usually covering population of 250-400,000
DoH	Department of Health
DOTs	Directly Observed Teaching
ERCP	Endoscopic Retrograde Cholangio Pancreatography
ERCP-QN	ERCP-Quality Network https://ercp.olympusamerica.com
EUS	Endoscopic ultrasound
FNA	Fine needle aspiration
GRS	Global Rating Scale, www.Globalratingscale.com created in 2004 to improve gastrointestinal endoscopy in the UK
HPB	Hepato-Pancreato-Biliary
JAG	Joint Advisory Group www.thejag.org.uk
JETS	JAG Endoscopy Training System
LFTs	Liver Function Tests
MDM	MultiDisciplinary (team) Meeting
MRCP	Magnetic Resonance Cholangio Pancreatography
MRCP	Membership of Royal College of Physicians, qualifying examination to start higher medical training in UK.
MRI	Magnetic Resonance Imaging
NCEPOD	National Enquiry into Perioperative Outcomes and Death
NHS	National Health Service
OTC	On Table Cholangiogram
PIMS	Patient Information Management System(s)
PTC/D	Percutaneous transhepatic cholangiography/drainage
STC	Specialty Training Committee
TTT	Train the Trainers
USS	(transabdominal) Ultrasound Scan