PTH-134 'HANDS-ON' ERCP COURSES: CAN QUALITY AND SAFETY BE MAINTAINED?

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Introduction Nationally there is a drive amongst endoscopists to improve both procedural quality and safety through standardisation and sharing of best practice amongst trainers and trainees. This is perhaps most evident in colonoscopy where a number of KPIs and procedural evaluation tools (DOPyS) have been established in order to meet the requirements for JAG accreditation. ERCP however seems to have lagged behind with no existing formal evaluation process in the UK, yet is arguably a more challenging procedure with more inherent risks than standard endoscopy. It is imperative that high quality ERCP training be delivered safely, and therefore we have reviewed our 'hands-on' ERCP course data over the last 10 years to see if we're achieving this.

Methods RSUH provides 'Hands-on' ERCP courses in both basic and advanced skills training, and 'train the trainer' (TTT). Course data from 2007 – 2017 was collected from the 'Unisoft' endoscopy reporting system, the 'iSoft Clinical Manager' (iCM) and 'Medisec' databases. They were evaluated for the following:

1. Procedural success using standards outlined in the BSG's 2014 'ERCP service framework':
 - o $\geq 85\%$ cannulation rate of virgin papillae,
 - o CBD stone clearance for $\geq 75\%$ of those undergoing their 1st ERCP,
 - o Successful stenting at 1st ERCP where required in $\geq 80\%$.
2. Patient safety; comparing our risk of procedural related adverse events against those quoted in the literature.
 - o Delegate feedback was also reviewed where possible.

Results Biliary cannulation was successful in 304/345 (88%) of patients with a virgin ampulla, and in 443/495 (89%) patients overall. Complete stone clearance was achieved in 75% of patients at index endoscopy, and stents were successfully deployed in 98% of biliary strictures.

Complications occurred in 32 (6%) patients:

- 18 (4%) cases of bleeding,
- 9 (2%) cases of pancreatitis,
- 2 (0.4%) cases of perforation,

Feedback was positive, with delegates finding the courses organised, helpful, and informative.

Conclusions Royal Stoke University Hospital (RSUH) has been at the forefront of delivering 'hands-on' ERCP courses year on year. Our 10 year data is reassuring for both trainers and trainees and suggests that such courses are both safe and capable of providing high quality ERCP for patients in attendance.

PTH-135 GASTROENTEROLOGY IN SITU SIMULATION: THE ASPiH GUIDANCE IN PRACTICE

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Introduction Simulation is a powerful tool for learning, and has been shown to be effective for a wide range of skills. *In situ*

simulation is delivered in the clinical setting with the objective of incorporating simulated learning into real working environments. This provides additional scope for learning, not only team working and clinical skills, but also in identifying latent errors. We established an *in situ* simulation programme within our gastroenterology department using the recent Association for Simulated Practice in Healthcare (ASPiH)¹ key standards: clearly defined learning objectives, authentic delivery and faculty proficient in simulation-based education.

Methods We identified key learning objectives, highlighting both human factors (at an individual, team and organisational level) and clinical teaching pertinent to the gastroenterology team, to cover over the programme. We incorporated this into a series of clinically relevant scenarios including massive upper gastrointestinal haemorrhage, biliary sepsis and post-ERCP complications. We ran five sessions over a six month period with three faculty, involving twenty four participants across the spectrum of the multi-disciplinary team (MDT). Following each *in situ* simulation, we facilitated a short, structured debrief session highlighting key learning points, providing feedback and enabling reflection.

Results Twenty three of twenty four participants enjoyed the sessions and felt better prepared for similar real life clinical scenarios. All team members involved felt well supported during the debrief process. Through our sessions we recognised both latent error (confusion over the new massive haemorrhage protocol contact number) and resource requirements (no Sengstaken-Blakemore tube on the ward). Following the sessions we highlighted specific teaching needs, and established a mandatory teaching day for our Junior and Senior Clinical Fellows, focusing on the management of the acutely unwell adult.

Conclusions In conclusion, *in situ* simulation has proved a useful modality to deliver teaching in the clinical setting. The response from the multi-disciplinary team has been overwhelmingly positive, especially with feedback reporting it improved team dynamics. The team is currently expanding the *in situ* simulation programme across other wards to provide ongoing simulation teaching and consequently improve patient safety.

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PTH-136 DRAIN TRAINING: INCREASING CMT CONFIDENCE AND COMPETENCE IN ABDOMINAL PARACENTESIS

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Introduction Core Medical Trainees (CMTs) often find limited planned opportunities to practice abdominal paracentesis, a skill required for completion of Annual Review of Competence Progression (ARCP) and for medical registrar roles. This limited experience reduces procedural confidence. We aimed to provide CMTs at the Royal Free Hospital (RFH) with training and supervised opportunities to practice ascitic drain insertion with a view to increasing confidence and obtaining competencies for ARCP.

Methods An abdominal paracentesis teaching programme was introduced from October 2016 to July 2017. An online 'Survey Monkey' questionnaire assessed CMTs pre-existing experience in therapeutic procedures including ascitic drain insertion, their confidence performing procedures and availability of opportunities to practice with appropriate supervision. An online 'Doodle' poll offered CMTs weekly 'drop in' slots to attend the RFH Planned Investigation and Treatment Unit where patients attended for elective paracentesis. CMTs were given one-to-one teaching on ascitic drain insertion technique, including the use of bedside ultrasound to identify appropriate insertion sites. The CMTs were then supervised inserting ascitic drains on consenting, elective patients by an experienced clinician and signed off for Direct Observation of Procedural Skills (DOPS) assessments. A Whatsapp group allowed informal feedback and slot swaps amongst the CMTs. An online survey at the end of the programme sought feedback on how valuable the trainees had found it in improving procedural confidence and obtaining required DOPS. No complications were reported by supervisors during supervised drain insertion.

Abstract PTH-136 Table 1

	Pre-programme (n=22)	Post-programme (n=14)
Respondents (out of 22 CMT's)	19/22	14/14
Requisite experience (performed >2 times)	32%	100%
Difficult/unable to gain experience previously	53%	-
Confidence performing paracentesis independently	26%	64%
E-portfolio signed off by experienced clinician	79%	100%

Conclusion The introduction of a bespoke CMT paracentesis training programme at RFH helped trainees safely gain experience and confidence in ascitic drain insertion. The weekly opportunities throughout the year ensured all CMTs received the requisite number of DOPS assessments from experienced supervisors. Confidence performing the procedure increased significantly. However, following the programme, 36% of CMTs still lacked confidence performing paracentesis independently. Future programs should explore additional opportunities for simulation and real patient practice to further improve this. This model can be replicated in any Trusts with elective ascitic drain services, improving ARCP outcomes and increasing procedural confidence for CMTs progressing to medical registrar roles nationally.

PTH-137 ENDOSCOPY EXPERIENCE FOR UK TRAINEES IN KHARTOUM, SUDAN: SOUTH YORKSHIRE EXPERIENCE

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Introduction There is increasing interaction between UK gastroenterologists and those in resource-challenged countries. Our group has established links over 7 years with the Sudanese Society of Gastroenterology (SSG) and have previously provided training and support for consultant trainers, trainee endoscopists

and endoscopy nurses, as well as supporting the annual SSG conference. Our host hospital, Ibn Sina (IS) is the national gastrointestinal centre and a World Gastroenterology Organisation training centre. Up to 60 cases of oesophageal varices are admitted per week. This is accounted for by the endemic nature of schistosomiasis and a high prevalence of viral hepatitis. This year, we arranged for 2 UK StRs to travel to Sudan to experience therapy for bleeding varices and to work in a resource-limited environment.

Methods Two ST4 registrars were selected from the South Yorkshire region after a competitive application process. Funding was provided by UK based Sudanese doctors, SSG and local research funds. They performed UGI endoscopy from 8th – 11th of January 2018 at IS. The trainees were JAG accredited for diagnostic gastroscopy (OGD) only, therefore all therapeutic interventions were supervised. Prior experience of one registrar was 370 OGDs with 4 variceal band ligation – VBL (16 months). Registrar 2 had performed 242 OGDs, one VBL (24 months). All patients provided written consent. Pharyngeal anaesthesia and/or intravenous sedation are not routinely used. Prospective collection of data included demographics, indications, endoscopic diagnosis and therapy.

Results Between the 2 UK StRs, 29 OGDs were performed in 4 days. These were both acute (14) and elective therapeutic (15) cases with a mean age of 51. 16 patients had VBL; 5 patients had sclerotherapy because of the unavailability of VBL; 1 patient had histoacryl glue injection of gastric varices; 1 had an oesophageal balloon dilatation. 6 patients did not require interventions. 55% (16/29) were related to periportal fibrosis; 14% (4/29) were related to hepatitis cirrhosis.

Table 1: UGI endoscopic therapeutics performed over 4 days
Conclusion There is increasing cooperation between UK endoscopy and resource poor countries focusing on endoscopic training and support of their services. We have demonstrated that UK trainees can also benefit hugely from such interactions, both in terms of exposure to and skills acquisition from dealing with clinical problems relatively rare in UK training as well as experiencing the challenges of working in a resource poor healthcare setting. We would encourage these interactions as a mutually beneficial partnership. We plan to make the participation of our StRs a regular feature of our collaboration with SSG.

PTH-138 EXPERIENCE FROM THE NATIONAL ERCP & ENDOSCOPIC ULTRASOUND COURSE FOR NURSES

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Introduction ERCP and Endoscopic ultrasound (EUS) are complex endoscopic procedures requiring highly skilled nursing assistants. For these to be performed safely and efficiently, regular training and teaching of medical and nursing assistants is essential. In addition EUS has rapidly evolved into a therapeutic endoscopic procedure similar to ERCP. There are several training courses for the endoscopists but very few dedicated courses for nurses. Nurses feel less confident, out of touch and vulnerable in this rapidly evolving branch of endoscopy. The aim of the course is to:

- Educate nurses on the basic principles of the ERCP and EUS
- Share best practice in this field of endoscopy including recent advances in the field

- Opportunity to familiarise themselves with various accessories in ERCP and EUS

Methods Since 2009 we have organised 9 annual courses which have been attended by >400 delegates from all parts of the UK. The programme is a combination of didactic lectures by nurses and endoscopists and breakout sessions with hands on training with models/equipment. The delegates complete a feedback questionnaire at the end of the day. We provide feedback from the last course in 2017.

Results 43 delegates attended the 2017 course from 16 regions in the United Kingdom. 41 (96%) delegates completed the questionnaire. The average experience of the staff working in endoscopy ranged from 6 months to 22 years. 30/41 (73%) of the delegates received funding from their trust. 24/41 (58%) had previously attended some form of informal ERCP ±EUS training. 36/41 (88%) thought their knowledge was either basic or moderate prior to attending the course but 41/41 (100%) delegates said that their knowledge had definitely improved after the course. 22/41 (54%) delegates thought their ability and confidence to assist during an ERCP or EUS was either basic or moderate prior to the course but 38/41 (93%) delegates said that it improved after the course. 41/41 (100%) attendees agreed that all nurses involved in pancreaticobiliary endoscopy should undergo a training course within the first year in post in the endoscopy unit. 100% of the delegates stated that it gave them an opportunity to interact with colleagues from other units and thereby take back ideas to implement in their respective units.

Conclusions Feedback from the course was positive with evidence of improved knowledge and confidence in assisting in EUS and ERCP. This course has highlighted the advantage of dedicated training in pancreaticobiliary endoscopy. NHS trusts appear to be keen to support training nurses and this course goes some of the way to meet the unmet need to provide a comprehensive national training programme for nurses involved in ERCP and EUS.

PTH-139 GASTRIN NOW: ESTABLISHING A TRAINEE LED RESEARCH NETWORK

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Introduction Research, quality improvement and audit are essential parts of effective personal and professional development. Increasing clinical demands and the proposed shortening of training time may limit trainees' involvement in clinical research. Trainee led research and improvement networks (TLRINs) allow us to develop large, cost-effective, multi-site quality improvement and research projects without necessitating time out of programme. They also provide opportunities for tailored input dependent on personal clinical interest.

Aims To assess the feasibility of a new TLRIN, GasTRIN NoW, within Health Education England North West, by conducting a multi-site clinical audit. We aimed to recruit trainee members from 75% of 16 potential hospital sites, and from these obtain 75% complete data.

Methods Membership was offered to all gastroenterology specialty trainees in the North West Deanery. All consultants were offered honorary membership. We replicated an audit proforma from the West Midlands TLRIN (GARnet) to assess the management of acute upper gastrointestinal bleeds, collecting prospective data over a one month period. Members were required to sign a constitution to ensure fair acknowledgment of work. Video conferencing enabled regular committee meetings with additional updates to members at regional gastroenterology teaching days.

Results Led by a committee of 6 trainee members, 27 trainees, supported by 25 consultants, from 13 sites (81%) were recruited to GasTRIN NoW. Complete audit data were received from 10 sites (77%).

Conclusion The need for and utilisation of TLRINs is increasing in gastroenterology. TLRINs offer trainees the opportunity to experience research and quality improvement in a peer-supported environment alongside clinical work. This will allow them to achieve competencies required for successful attainment of CCT and become more rounded consultants of the future. TLRINs provide a cost effective approach to answer questions of clinical importance and provide innovative change in a coordinated manner. Continuity for data collection and project structure exists even when trainees rotate hospital placements. Our current model has produced encouraging results, building a comprehensive and comparable picture of practice throughout the region with no financial requirements in initial set up.

PTH-140 VIRTUAL REALITY SIMULATION TRAINING IN GASTROINTESTINAL ENDOSCOPY: A COCHRANE SYSTEMATIC REVIEW

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Introduction Endoscopy simulation is increasingly being integrated into gastroenterology training programs; however, its effectiveness remains unclear. We sought to determine whether virtual reality (VR) simulation training can complement and/or replace conventional endoscopy training for novices.

Methods Methodological expectations of Cochrane intervention reviews were followed. Health professions, education and computer databases and conference abstracts were searched until July 2017. We included randomised and quasi-randomised clinical trials comparing VR training to conventional training, no training, or alternative simulation methods. Clinical outcomes were considered, including composite score of competency, procedure completion, time, mucosal visualisation, complication rate, discomfort, global rating of competency. We pooled effect size using random-effects meta-analyses.

Results We identified 18 studies with 421 participants. Ten studies compared VR training with no training, 5 with conventional training, 1 with another form of simulation, and 2 compared VR training methods. Table 1 summarises meta-analyses results. Compared with no training, VR training is