Introduction Gastric cancer is the 4th leading cause of cancer death worldwide. Prognosis remains poor, largely due to late diagnosis. Early gastric neoplasia carries a far better prognosis with a 5 year survival of 85%. Traditionally, gastrectomy is the definitive locoregional treatment, but carries significant perioperative morbidity. For early gastric cancer without risk of nodal metastasis, endoscopic en bloc resection with endoscopic submucosal dissection (ESD) is a feasible alternative. We present a prospective cohort analysis of patients with early gastric neoplasia undergoing ESD at a single tertiary Centre in the United Kingdom

Methods Patients were all referred through local cancer networks after staging to exclude metastatic disease. Patients underwent gastroscopy with biopsy for histology and contrast computed tomography (CT) for staging. High definition endoscopy & chromoendoscopy with indigo carmine were used to help delineate lesions. Pathology was confirmed by expert GI pathologists prior to resection. Surgery was discussed with all patients as an alternative to ESD. All gastric ESD were performed under propofol sedation by a single endoscopist with specialist training.

Results Over 24 months, 19 patients underwent ESD. Mean age was 71 years (range 23–87). 68% were male. Two lesions (10%) were in the proximal stomach, 1 in mid body (5%) 16 in distal stomach (85%). Mean resection size was 28mm (15–58). Mean resection time was 71 mins from intubation. En-bloc resection was achieved in 15/19 (74%) patients. 16/19 patients (84%) had a clear deep resection margin. Resection histology was high grade dysplasia in 52%, carcinoma in situ 11%, LGD 5%, poorly differentiated adenocarcinoma 21%, neuroendocrine tumour in 5%. 13/16 with clear resection margins post ESD remain in follow up. Of these 11/13 (87%) remain free of disease at most recent biopsy (median follow up 6 months, range 0–38). Both recurrences were LGD at the resection site. One was treated with laser ablation and the other with repeat ESD. There were no perforations or bleeding seen in our cohort during ESD

Conclusion In this small cohort of early gastric neoplasia, ESD appears to provide a safe and effective alternative to surgery with encouraging durability although our follow up time is short. Early recognition of lesions is essential to offer patients a minimally invasive curative intervention. With increasing use of high definition endoscopy more patients will become eligible for therapy. Long term durability remains to be seen.

Disclosure of Interest None Declared.

PTH-046 ANALYSIS OF METACHRONOUS COLORECTAL ADENOMA SITES SUGGESTS PROXIMAL OCCURRENCE IS MORE PROBABLE

doi:10.1136/gutjnl-2013-304907.533

¹R Rosser, ²B M Corfe, ²K S Chapple. ¹*Surgical Oncology, The University of Sheffield;* ²*Colorectal Surgery, Northern General Hospital, Sheffield, UK*

Introduction A human sporadic colorectal adenoma may influence the formation of another adenoma even after its removal, with up to 60% of such patients developing metachronous adenomas following adenoma excision. However data regarding the occurrence site of a metachronous colorectal adenoma relative to the index adenoma is scarce. Therefore, we investigated whether a metachronous colorectal adenoma was more likely to occur in the same, proximal or distal segment as the index adenoma.

Methods A prospectively-maintained database was interrogated to identify all colonoscopies performed over a ten-year period at a single university teaching hospital. All patients undergoing polypectomy were cross-referenced against a histological database to confirm adenoma status. Patients with synchronous adenomas were excluded. The site of adenoma removal at index and subsequent

colonoscopy was recorded and categorised into three groups (proximal, distal or same segment).

Results 15,121 colonoscopies and 4759 polyp events were recorded. 361 patients (235 male, 126 female, median age [range] 66 [32–91] years) developed a single metachronous adenoma at follow-up colonoscopy. Metachronous adenomas were more likely to develop in a different bowel segment (61%, 95% c.i. 56% > 66%) to that of the index adenoma (39%, 95% c.i. 34% > 44%; $P < 0.01$ one way Chi-squared test). Metachronous adenomas were more likely to occur at a site proximal (41%, 95% c.i. 36% > 46%) to the index adenoma than either the same segment (39%, 95% c.i. 34% > 44%) or a more distal segment (20%, 95% c.i. 16% > 24%; $P < 0.01$ one way Chi-squared test). Proximally-sited metachronous adenomas were more likely to occur in a segment further away (mean [SD] segments travelled 3.5 [2.3]) from the index adenoma than distally-sited metachronous adenomas (2.6 [1.8] segments travelled; $P < 0.01$ Kruskal-Wallis one way ANOVA).

Conclusion A metachronous human sporadic colorectal adenoma is more likely to be found in a section of the colorectum proximal to that of the index adenoma. Travel in segments may be significant. Taken together, the data suggest research effort into underlying mechanisms of metachronous adenoma is needed.

Disclosure of Interest None Declared.

PTH-047 A PROSPECTIVE STUDY ON THE IMPACT OF A 'BOWEL CLEANSING CARE BUNDLE' ON INPATIENT COLONOSCOPY VISUALISATION SCORES: A LONDON DISTRICT HOSPITAL EXPERIENCE

doi:10.1136/gutjnl-2013-304907.534

¹R K Fofaria, ¹N Hamilton, ¹V J Blackwell, ¹D Sherman, ¹A W Sharif. ¹*Gastroenterology Department, Central Middlesex Hospital, London, UK*

Introduction It is recognised that a well prepared colon increases adenoma detection and removal rates¹ and the discovery of other significant pathology at endoscopy. Several factors can lead to a sub-optimal outcome at inpatient colonoscopy but inadequate bowel preparation is a major contributor². Potentially, this leads to repeat and/or alternative procedures and costly and prolonged hospital length of stays. 'Care Bundles' improve outcomes by decreasing the unwanted variation in clinical care and ensure the application of accepted clinical practices³. Consequently, we created a *bowel cleansing bundle* to address these issues and see whether it would lead to better visualisation scores.

Methods All inpatients requiring colonoscopy were recruited over two six-month periods at a London district hospital. A bowel cleansing bundle was devised formalising accepted clinical guidelines and it was implemented for all subsequent inpatient colonoscopies during the latter study phase. The bundle included sections on timings for the administration of bowel preparation agents, cessation of anti-motility agents, nutrition and hydration. Visualisation scores were noted from the endoscopists' reports (good, moderate and poor) and patients were followed up until discharge.

Results In total there were 93 eligible procedures. 53 patients in the pre-bundle population [56% Male, average age 69 years] and 40 patients in the post-bundle population [three exclusions, 57% male, average age 64 years] of which: 'good' visualisation scores = 45% vs 81%, 'moderate' = 21% vs 1% and 'poor' = 34% vs 16%. Implementation of the bundle led to significantly superior 'good' visualisation scores ($p < 0.001$).

Abstract PTH-047 Table 1

	Pre-Bundle Population	Post-Bundle Population	Total
Good Visualisation	24	30	54
Moderate/Poor Visualisation	29	7	36
Total	53	37	

P-value = 0.0008; two-tailed Fisher's exact test.

Conclusion Our study - the first looking at the effect of a bowel cleansing care bundle on inpatients - shows that its implementation conferred significantly better visualisation scores at colonoscopy with a dramatic reduction in poor visualisation.

Disclosure of Interest None Declared.

REFERENCES

- Adler A, Wegscheider K, Lieberman D *et al.* Factors determining the quality of screening colonoscopy: a prospective study on adenoma detection rates, from 12 134 examinations. (BECOP-3). Gut. 2013 Feb; 62(2):236–41. Epub 2012 Mar 22.
- Canard JM, Arpurt JP, Boustiere C, *et al.* La coloscopie en France en 2004: résultat d'une enquête prospective nationale de la Société Française d'Endoscopie Digestive. Endoscopy 2006; 38: A1467.
- Resar R, Griffin FA, Haraden C, *et al.* Using Care Bundles to Improve Health Care Quality. IHI Innovation Series white paper. Cambridge, Massachusetts: Institute for Healthcare Improvement; 2012.

PTH-048 BENCHMARKING IN UPPER ENDOSCOPY - BEST PRACTICE MARKERS

doi:10.1136/gutjnl-2013-304907.535

¹R J Mead, ²N Hawkes. ¹Gastroenterology, Cambridge University Hospitals NHS Trust, Cambridge; ²Gastroenterology, Royal Glamorgan Hospital, Llantrissant, UK

Introduction UK practise in diagnostic oesophago-gastric-duodenoscopy (OGD) has changed little over the last 10–20 years. Currently the only quality measure relates to ability to reach the second part of the duodenum. Evidence-based quality indicators in colonoscopy pertain to the quality of views, the amount of time spent examining the mucosa and expected levels of lesion detection, in addition to completion rates. Their adoption, in combination with robust clinical governance has undoubtedly improved the detection of colorectal diseases, patient safety and patient experience. The equivalent evidence base for diagnostic OGD does not exist and this has limited development.

Benchmarking is a process measuring the practise of one organisation against its peers and may provide a basis for developing quality standards for upper GI practise. This study measures routine OGD practise in the UK and practise in a Japanese centre of excellence for endoscopy and oesophago-gastric cancers.

Methods Two experienced endoscopists recorded OGD practise in the National Cancer Centre Hospital in Tokyo. The following were recorded: net procedural time spent screening the oesophagus, stomach, and duodenum; lens cleaning, mucosa cleaning, presence of residual food; use of dye spray and narrow band imaging; picture numbers and biopsies; patient age and sex.

One experienced endoscopist recorded OGD practise during routine diagnostic lists at 3 hospitals.

Results 134 procedures were recorded, 67 in each country. The average age in the UK was 58.5 yrs (60% male) and 68.2 yrs in Japan (57% male). The average screening time in Japan was 6:51 mins, and 5:49 mins in the UK. The Japanese use advanced imaging techniques 73% of the time. They were never used in routine UK practise.

Japanese endoscopists met weekly reviewing all pathology detected and discussing therapeutic cases. All images were reviewed closely and were an essential part of decision making and education in the unit.

	Japan	UK
Overall Screening time (mins)	00:05:51	00:05:49
% of cases where the lens was cleaned pre-procedurally	46.3	1.9
% of procedures where stomach/oesophagus was washed	100	13.2
% of cases with a stomach clear of food	92.5	96.2
% of cases using advanced imaging	73.1	0
% of cases using NBI	37.3	0
% of cases using iodine	13.4	0
% of cases using indigo carmine	49.3	0
% of cases using zoom	1.5	0
Average pictures taken	45.7	2.4
Average biopsies taken	0.6	2.8
% of cases with extra pathology found	22.4	15.1

Abstract PTH-048 Figure 1

Conclusion Comparison of the 'cultures of practise' are interesting, revealing significant differences of approach in UGI examination.

In the Japanese cohort a 48% higher yield of pathological findings was achieved despite the average screening time being only one minute longer per case.

Although there are differing disease prevalence's in the background populations, it seems likely that better cleaning of the upper GI tract, use of mucosal enhancement techniques, care in image capture, and better awareness of upper GI pathology will have significantly contributed to increased detection.

Further investigation is needed into which factors can be used as independent measures of quality in UGI examination, including time taken to examine the upper GI tract and measures of endoscopists' lesion recognition skills (not currently assessed as part of endoscopy training).

Disclosure of Interest None Declared.

PTH-049 SUB-OPTIMAL BOWEL PREPARATION IN THE SURVEILLANCE POPULATION - WHAT DOES IT MEAN?

doi:10.1136/gutjnl-2013-304907.536

¹R J Mead, ¹Y C Lim, ¹E Cameron. ¹Gastroenterology, Cambridge University Hospitals NHS Foundation Trust, Cambridge, UK

Introduction Modern colonoscopic surveillance follows clear evidence based guidelines, and clinical decisions appear straight forward. However, the guidelines do not define what should be done in cases with sub-optimal preparation.

Methods We retrospectively reviewed all adenoma and post carcinoma surveillance colonoscopies over 5 years (2006–2011) with a further year follow up looking for incident cancers.

Polyp site, number, size, and colonoscopy completion rates were recorded.

Two cleaning regimes were used: standard - Fleet; second line and in older patients/renal failure - KleanPrep, picolax and senna. Preparation was graded by the performing colonoscopist as satisfactory, sub-optimal or unsatisfactory.

Results 2176 patients underwent 2649 surveillance colonoscopies. Average patient age was 68.8 years. Mean follow up was 3.4 years.

3758 polyps were identified in 1539 procedures; 525 polyps were 1cm or larger. There was a marked trend towards lower polyp detection with worsening bowel preparation ($p = 0.056$ Chi²) with a marked reduction in mean number of polyps particularly on the right side with worsening preparation.

12 colorectal cancers were detected in this population. The overall cancer rate in this high risk population was 1 in 181 patients (95% C.I. 103 – 350).

73 patients with sub-optimal or unsatisfactory preparation had a repeat colonoscopy. In 64% the preparation was satisfactory, 28% were sub-optimal, and 8% had an un-satisfactory examination.