**Methods** We reviewed endoscopy reports of all patients who had surgery for colorectal neoplasia during a 12-month period. The report was deemed fully compliant if the following were clearly documented: location of the tattoos, correct location of the tattoos, the number of tattoos placed and a correct number of tattoos placed, hence, scoring 4/4. Non-compliance was defined if none of the parameters was mentioned and partial compliance was awarded to those scoring between one and three points.

**Results** 155 patients were identified, of which 114 had reports available. The overall compliance with the protocol was observed in 71 cases (62%) whereas 19 cases (17%) were partially compliant and 24 cases (21%) were non-compliant. Rates for full, partial and incomplete compliance were better for patients diagnosed though the BCSP (71% 26% and 3% respectively) when compared to those diagnosed through non-screening (58%, 13% and 29% respectively). Incomplete documentation (22 cases) and inability to place tattoos proximal to obstructing lesions (19 cases) were the major causes of reduced compliance.

**Conclusion** Educational intervention is necessary to address poor documentation. However, changes to our protocol are also required. We have therefore revised our protocol recommending that all tattoos should be placed distal to the lesion regardless of the anatomical position.

**Competing interests** None declared.

## REFERENCE

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## PMO-185 DUODENAL TAMPONADE: A CASE SERIES AND FOURTH MODALITY IN GASTROINTESTINAL BLEED CONTROL

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**Introduction** The mortalitiy associated with gastrointestinal bleeding is around 10%, a figure which has remained roughly constant despite continuing innovation in therapy. The use of injection, thermocoagulation, and endo-clips is widely practiced in the context of bleeding duodenal ulcers. However a number of patients will re-bleed in spite of dual or even triple therapy. In cases where co-morbidity precludes surgical intervention further therapeutic options may be non-existent.

**Methods** We describe a case series of five patients with multiple co-morbidity who presented with upper gastrointestinal haemorrhage from duodenal lesions. A variety of therapeutic modalities were employed that is, injection with Adrenaline, thermocoagulation or endoclips. Unfortunately haemostasis was not achieved and surgical intervention deemed inappropriate. Our technique involves tamponade with a 18 mm CRE (constant radial expansion) balloon inflated in the duodenum. The gastroscope with the deflated balloon is passed via the pylorus. The balloon is then inflated keeping the proximal portion of the balloon under direct vision at all times to ensure correct placement. Tamponade is maintained for up to 50 min.

**Results** This procedure achieved haemostasis in all five cases. The tamponade was maintained for a total of between 10 and 50 min.

**Conclusion** Duodenal tamponade to control Haemorrhage has been described previously only twice and has required either specialist equipment[1] or surgical intervention.[2] The CRE balloon is readily available within most endoscopy units and therefore no expenditure is required to use this new modality. In addition the technique is easily learnt and can be readily applied to lesions whose orientation makes targeted intervention difficult. Tamponade is a useful adjunct and may prove lifesaving in an otherwise hopeless situation.

**Competing interests** None declared.

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## PMO-186 COMPLICATION RATES OF COLONOSCOPIC REMOVAL OF LARGE COLORECTAL POLYPS IN A DISTRICT GENERAL HOSPITAL: A RETROSPECTIVE AUDIT

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**Introduction** Colonoscopic removal of large colorectal polyps, sessile or pedunculated, can pose a challenge. Techniques most commonly used are hot snare polypectomy or endoscopic mucosal resection using electrocautery snare. The bigger the size of the polyp greater the skill needed to avoid complications. The potential complications are bleeding and perforation. According to the British Society of Gastroenterology guidelines post polypectomy bleeding requiring transfusion should be <1:100 (for >1 cm polyps) and post polypectomy perforation rate should be <1:500.

**Methods** A retrospective audit was taken between the dates of October 2009 to October 2010 and included patients who had large polyps, defined as polyps equal to and >20 mm in size, removed from the colorectal region by various colonoscopists during their routine colonoscopy lists in a district general hospital. The size of the polyp was confirmed from both the colonoscopy and histology report.

**Results** In total 64 patients with large colorectal polyps were treated. Majorities were pedunculated (n=49) and the rest were sessile (n=15). In the group of patients who had pedunculated polyp, 29 were male and 20 were female with a mean age of 62.72 years. The average size of the polyp was 26.22 mm (range:

Abstract PMO-185 Table 1

| Patient | Age | Co-morbidity | Initial endoscopic intervention | Tamponade in minutes | Outcome |
|---|---|---|---|---|---|
| 1 | 77 | Rheumatoid arthritis recurrent falls | Adrenaline injection thermocoagulation | 50 | Survived and discharged |
| 2 | 88 | Renal failure | Adrenaline endoclips three procedures in 4 days | 10 | Survived GI bleed but passed away from unrelated cause |
| 3 | 89 | Osteoarthritis, admitted with fractured neck of femur | Adrenaline infection thermocoagulation | 10 | Survived and discharged |
| 4 | 79 | Alcoholic liver disease type 2 diabetes | Awkwardly placed lesion at D1, injection with adrenaline only | 10 | Survived and discharged |
| 5 | 88 | Renal failure | Adrenaline injection | 10 | Survived and discharged |

20–50). Snare polypectomy was performed for all pedunculated polyps. The colonoscopists were able to remove the polyp enbloc in 87.7% of patient (n=43) while in the rest polyps were removed piecemeal (n=6). There was no reported perforation or major bleeding requiring blood transfusion. Only 4 (8.1%) patients had minor bleeding which was successfully controlled during the procedure and no further intervention was required. Histologically, pedunculated polyps were 93.9 % villous or tubulvillous (n=46), 4.1% hamartomatous (n=2) and 2% benign leimyoma (n=1). In the group of patient who had sessile polyp, 10 were male while rest were female. There mean age was 71.93 years. The average size of the polyp was 33.67 mm (range: 20–55). Endoscopic mucosal resection was performed in all of them. The polyp was removed enbloc in only three cases (20%) while in rest it was removed piecemeal (n=12). There was no reported perforation or blood loss requiring blood transfusion. Only 1 (6.66%) of the patient had a minor bleeding which was controlled during the procedure. All 15 of sessile polyp were histological either villous or tubulovillous.

**Conclusion** The complication rates of colonoscopic removal of large pedunculated and sessile polyps in a district general hospital are very low as evident from the data presented. Hence these procedures when performed by skilled colonoscopists are safe and can save the patient from major surgical procedures.

**Competing interests** None declared.

## PMO-187 A MULTI-CENTRE AUDIT OF 16 064 COLONOSCOPIES LOOKING AT CAECAL INTUBATION RATES, OVER A 2-YEAR PERIOD. NON-GI OPERATORS AND THOSE DOING <100 P.A. NEED TO IMPROVE OR STOP PERFORMING COLONOSCOPY

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**Introduction** Colonoscopy is the gold standard assessment for large bowel mucosal pathology, but a complete examination is an essential requirement. The first national colonoscopy audit carried out in 1999 demonstrated caecal intubation rates (CIRs) of 56.9%, which the authors described as "unacceptably low". As a result the Joint Advisory Group on Gastrointestinal endoscopy (JAG) launched a programme of continuous quality improvement by standardising training, peer review and audit. JAG recommends practitioners undertake at least 100 procedures per annum with target CIRs of 90%. This current audit provides an assessment of performance against these quality standards.

**Methods** Data were collected from all procedures undertaken in 2008–2009 from six hospitals across three English regions. The data included grade and specialism of operator, number of procedures and CIRs. Caecal intubation was recorded if reports positively documented reaching defined landmarks.

**Results** 16 064 colonoscopies performed with a CIR of 90.57% (95% CI 90.11% to 91.01%). Operators doing 100+ procedures per annum. CIR=91.76% (95% CI 91.24% to 92.25%). **Operators doing <100 procedures per annum=87.77% (95% CI 86.82% to 88.67%)**. Gastroenterologists=91.01% (95% CI 90.32% to 91.70%). Surgeons=91.03% (95% CI 90.27% to 91.79%). **Others practitioners=81.51% (95% CI 78.79% to 84.22%)**. Bowel cancer screening colonoscopies=97.71% (95% CI 97.07% to 98.34%). Non-screening colonoscopies=88.31% (95% CI 87.68% to 88.94%).

**Conclusion** This audit of 16 064 colonoscopies over three regions demonstrates aggregated achievement of the CIR quality standard, which is evidence of the effects of improvements in training and the implementation of standards Introduced by JAG since the 1999 national audit of colonoscopy. There is however a significant performance gap when comparing BCSP colonoscopists with non-screening colonoscopists and the CIR of >90% is supported by the volume of BCS colonoscopy work load (BCSP colonoscopies should be considered the new "gold standard"). Endoscopists performing low volume colonoscopy (<100 procedures per annum) and non-GI practitioners have a CIR (including the 95% CIs) of <90%. Endoscopists and/or non-GI practitioners with low volume practice who does not meet the quality standards should engage in skills augmentation plus further training and increase the numbers of procedures performed with local mentorship, **or stop performing colonoscopy**.

**Competing interests** None declared.

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## PMO-188 GENDER DIFFERENCES: ANALYSIS OF 5162 COLONOSCOPIES OVER 4 YEARS REVEALS HIGHER CAECAL INTUBATION RATES IN MALE PATIENTS

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**Introduction** Colonoscopy is the gold standard assessment for large bowel mucosal pathology, but a complete examination is an essential requirement. Higher caecal intubation rates in male patients vs female patients have been shown in the literature.[1–3] Several theories are mooted for this difference such as female patients undergoing previous hysterectomy,[1] low BMI[2] and the suggestion that female patients have longer colons.[3] The published papers on this subject are mostly over 10 years old and colonoscopy practice has changed dramatically over the last decade in the UK. The Joint Advisory Group on Gastrointestinal endoscopy (JAG) has run a programme of continuous quality improvement by standardising training, peer review and audit. The Bowel Cancer Screening Programme (BCSP) has been rolled out since 2006. This large audit revisits this subject to see if the improvements in colonoscopic practice have evened out the differences.

**Methods** Data were collected from all colonoscopies undertaken (symptomatic, surveillance and BCSP procedures) at Kettering General Hospital between 1 July 2007 and 30 June 2011.

**Results**

| | Number of colonoscopies | Reached caecum/ TI/anastomosis | Failed | CIR (%) | 95% CI |
|---|---|---|---|---|---|
| Females | 2440 | 2138 | 302 | **87.62** | 86.26 to 88.87 |
| Males | 2772 | 2524 | 198 | **92.73** | 91.69 to 93.64 |
| Total | 5162 | 4662 | 500 | 90.31 | 89.48 to 91.09 |

**Conclusion** Analysis of the data reveals significant differences in CIR between female and male patients (87.62% vs 92.73% (p≤0.0001) NNT 19.57). This large retrospective audit shows despite the improvements in training and practice overseen by JAG and the introduction of BCSP, significant gender differences remain in CIR. Perhaps it would be prudent for endoscopy units to delineate these differences in gender and the potential ramifications (missed polyps etc) when giving information and consenting patients for