CRC do not satisfy criteria for syndromes such as HNPCC, and fall into a “moderate risk” category. The reported polyp burden in this group is varied, and the optimum screening regimen is controversial. Our aims were (1) to evaluate the polyp yield at screening colonoscopy in a “moderate risk” group (above average, non-HNPCC) in the setting of a family-screening clinic, (2) to compare polyp yield on 2nd screening colonoscopy between patients with and without adenomas on 1st screening colonoscopy, (3) to evaluate the potential for longer screening intervals for patients with no adenomas on 1st screening colonoscopy.

Methods Family cancer history questionnaires were used to generate family pedigrees and identify “moderate risk” individuals using defined criteria. Adenoma yield on initial colonoscopy was evaluated, and comparisons were made between males & females, and subjects older & younger than 50 yrs. Advanced adenomas (AA) were defined as adenomas ≥10 mm, with high-grade dysplasia, or with a villous component. In patients who had >1 colonoscopy, adenoma yield on 2nd colonoscopy was compared between patients with and without adenomas on initial colonoscopy.

Results From a cohort of 2008 individuals in a high-risk family-screening clinic, 971 (45%) have been assigned a “moderate risk” category. Complete data were available for screening colonoscopies in 236 of these; 99 male, 137 female. On initial screening colonoscopy, 17/236 (7%) had AA, and a further 57/236 (16%) had simple adenomas (SA), (total polyp yield 23%). Polyp yield was higher in males (8% AA, 18% SA) vs females (7% AA, 14% SA), and in the >50 yrs (13% AA, 20% SA) vs <50 yrs (3% AA, 13% SA). More than 1 screening colonoscopy was carried out in 127/236 (54%). Of the 30/127 (24%) who had an adenoma on initial colonoscopy, 4/30 (13%) had AA, and a further 7/30 (23%) had SA on 2nd colonoscopy (mean interval to fn 3.62 yrs). In the cohort without adenomas at initial screening; 97/127 (76%), only 1/97 (1%) had an AA, and 10/97 (10%) had SA on 2nd colonoscopy (mean interval 4.6 yrs).

Conclusion In this moderate risk group the polyp yield is highest in males, and those >50 yrs. Adenoma at initial colonoscopy was predictive of adenoma detection at 2nd colonoscopy. In contrast, for individuals without adenomas at initial screening, a very low adenoma yield was observed at follow-up screening. Consequently, within this “moderate risk” cohort, the data supports the adoption of differing screening protocols depending on age, gender, and adenoma yield on initial colonoscopy.

Competing interests None declared.

PTU-228 IMPROVING EFFICIENCY IN CAPSULE ENDOSCOPY: CAN READING TIMES BE REDUCED WITHOUT SACRIFICING DIAGNOSTIC ACCURACY? A SELF-ASSESSMENT
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M Nakamura,* A Murino, A Fitzpatrick, C Fraser. The Wolfson Unit for Endoscopy, St Mark's Hospital and Academic Institute, Imperial College, London, UK

Introduction Capsule endoscopy (CE) is a time consuming procedure. The RAPID7 Access reading software (Given Imaging Ltd) has three patterns of view modes (VM) (one view, VM1; double views, VM2; quadruple views, VM4) and an adjustable frame rate (AFR) from 5 to 40 fps. The appropriate settings for VM and AFR depend on capsule endoscopist’s experience, and a consensus has not been achieved yet. The aim of this study was to investigate how different VM’s and AFR’s could influence diagnostic accuracy.

Methods An entire capsule endoscopy procedure consisting of 27 small bowel angioectasias was selected from our database. This was read by a single expert capsule endoscopist repeatedly using 11 different randomised combinations of VM and AFR (1, 2 and 4 VM × 10, 15, 25 and 40 fps). Reading times and number of angioectasias detected for each combination were recorded and then compared.

Results The small bowel transit time was 321 min. Mean reading times (all VM’s) at 10, 15, 25 and 40 fps respectively were 54, 22, 14 and 10 min. Considering 10 fps as the gold standard for reading, the reduction in reading time at 15, 25 and 40 fps was 33%, 60% and 70% respectively. No significant differences were noticed in reading times between VM’s at the same AFR. A mean of 25, 16, 7 and 6 angioectasias were detected at 10, 15, 25 and 40 fps respectively (all VM’s combined). Diagnostic accuracy at 25 and 40 fps was significantly lower than 10 fps (p=0.04, 0.01). The mean numbers of detected angioectasias according to VM were 14, 17 and 16 for VM1, VM2 and VM4 respectively. The lowest number of angioectasias (5) was achieved using VM2 × 40 fps. The highest number of angioectasias (25) was detected using VM2 × 10 fps and VM4 × 10 fps. Using VM2 × 15 fps, 18 angioectasias were detected, meaning that diagnostic accuracy was reduced to 72% (compared with VM2 × 10 fps), although the reading time decreased by 33%.

Conclusion Our findings suggest that the highest diagnostic accuracy was achieved with VM2 × 10 fps or VM4 × 10 fps. The AFR influences both diagnostic accuracy and reading time. As the AFR increases, reading times are reduced but this is associated with a reduction in diagnostic accuracy and a concomitant increase in miss rates. Capsule endoscopists need to be aware of this phenomenon.

Competing interests None declared.

PTU-228 PREDICTING DIFFICULT COLONOSCOPY USING THE ST MARK’S DIFFICULT COLONOSCOPY SCORING SYSTEM: A PILOT STUDY
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M Nakamura,* A Murino, E Despott, N Suzuki, L Bourikas, R Man, C Fraser. The Wolfson Unit for Endoscopy, St Mark’s Hospital and Academic Institute, Imperial College, London, UK

Introduction Colonoscopy can sometimes be difficult. This may be due to a number of factors such as age, gender, increased colon length, waist/hip ratio <1, BMI<22, abdominopelvic surgery and a history of constipation. Colonoscopists tend to develop their own strategies based on their personal experience and the availability of specialised equipment. A scoring system based on these factors could be a useful predictor of difficult colonoscopy with the advantage that a score could be calculated prior to the procedure. We therefore developed an evidence based difficult colonoscopy score (DCS), incorporating factors associated with difficult colonoscopy. The aim of this study was to validate the reliability of the proposed St Mark’s DCS evaluating the relationship between each factor and caecal intubation time.

Methods Patients referred for routine colonoscopy were recruited. 30 patients were prospectively selected. Each patient was screened using a questionnaire. Colonoscopies were started with an adult lubricant spray. Patients older than 50 yrs (13% AA, 20% SA) vs ≤50 yrs (3% AA, 13% SA). More than 1 screening colonoscopy was carried out in 127/236 (54%). Of the 30/127 (24%) who had an adenoma on initial colonoscopy, 4/30 (13%) had AA, and a further 7/30 (23%) had SA on 2nd colonoscopy (mean interval to fn 3.62 yrs). In the cohort without adenomas at initial screening; 97/127 (76%), only 1/97 (1%) had an AA, and 10/97 (10%) had SA on 2nd colonoscopy (mean interval 4.6 yrs).

Conclusion In this moderate risk group the polyp yield is highest in males, and those >50 yrs. Adenoma at initial colonoscopy was predictive of adenoma detection at 2nd colonoscopy. In contrast, for individuals without adenomas at initial screening, a very low adenoma yield was observed at follow-up screening. Consequently, within this “moderate risk” cohort, the data supports the adoption of differing screening protocols depending on age, gender, and adenoma yield on initial colonoscopy.

Competing interests None declared.

Results The overall caecal intubation rate was 97% (29/30). One patient was excluded due to a colonic stricture. The median DCS was 3 (range 0–6). Median insertion time was 8 min (range 3–25). In three patients colonoscopists changed to an alternative option during colonoscopy. There was a significant correlation between the DCS and insertion time (r=0.511, p=0.005, Pearson’s correlation coefficient). Moreover, if the DCS was five or more, caecal intubation time was >15 min suggesting a strong correlation. The significant factors by univariate analysis influencing a caecal intubation time of more than 15 min were “Waist/hip ratio <1” and/or BMI<22”, “over 60 years old” and “Constipation”. Multivariate analysis suggested the most significant factor for difficult colonoscopy was a history of constipation.

Competing interests None declared.
Conclusion This pilot study has shown the DCS could be a useful tool for the prediction of difficult colonoscopy. This could be of benefit when scheduling lists for training and choosing the level of experience of colonoscopists before procedures are performed. A large study is planned.

Competing interests None declared.

THE EFFECT OF FRAME RATE AND VIEW MODE ON LESION DETECTABILITY BY NOVICE AND EXPERT CAPSULE ENDOSCOPY DURING READING

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M Nakamura,* A Murino, A Fitzpatrick, Y Komeda, R La Nauze, S Green, C Fraser. The Wolfson Unit for Endoscopy, St Mark’s Hospital and Academic Institute, Imperial College, London, UK

Introduction The RAPID 7 Access reading software (Given Imaging Ltd) allows the capsule endoscopist to adjust the frame rate of presented images (adjustable frame rate, AFR) and their view mode (VM1 - single view; VM2 - dual view; VM4 - quad view) during capsule endoscopy (CE) reading. The aim of this study was to establish the relationship between AFR, VM, lesion miss rate and reading time between non-expert (NEXs) and expert (EXs) capsule endoscopists.

Methods One short video clip containing 60 positive images of angioectasias was selected from our CE database. The clip was read by 3 EXs and 3 NEXs using nine different combinations of VM and AFR (1, 2 and 4 VMs × 10, 15 and 25 fps) presented in randomised order. Readers were asked to count each positive image of an angioectasia using a manual counter, without interrupting the video clip.

Results The reading times at 10, 15 and 25 fps were 54, 34 and 20 s, respectively for any VM. Considering 10 fps as the gold standard, an AFR of 15 and 25 fps resulted in a reduction in reading time of 37% respectively for any VM. The reading times at 10, 15 and 25 fps were 54, 34 and 20 s, respectively for any VM. Considering 10 fps as the gold standard, an AFR of 15 and 25 fps resulted in a reduction in reading time of 37% respectively for any VM.

Conclusion While a higher AFR results in a reduction in reading time, lesion detectability is reduced and miss rates increase. Higher AFR is problematic than outpatient colonoscopy, with poorer quality of bowel preparation and the success rate of inpatient colonoscopy.

BOWEL PREPARATION FOR INPATIENT COLONOSCOPY: AN AUDIT OF QUALITY AND OUTCOMES

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M Aldridge,* A Philips, I Gee. Department of Gastroenterology, Worcestershire Acute Hospitals NHS Trust, Worcester, UK

Introduction It is well recognised that inpatient colonoscopy is more problematic than outpatient colonoscopy, with poorer quality of bowel preparation and reduced rates of successful completion of the procedure among inpatients. We aimed to measure the quality of bowel preparation and the success rate of inpatient colonoscopy in a large district general hospital.

Methods All patients undergoing inpatient colonoscopy at Worcestershire Royal Hospital between 1 September 2010 and 1 September 2011 were identified retrospectively using paper-based documentation available in the Endoscopy department. The computerised colonoscopy reports (Unisoft, Enfield, UK) were then obtained for these patients. Standard bowel preparation for these patients was two sachets of Picolax, one the evening before and one the following morning, with colonoscopy performed on an afternoon list. Successful colonoscopy was defined as intubation of the caecum with "excellent" or "good" bowel preparation.

Results We identified 50 patients undergoing inpatient colonoscopy, with a median age of 74 (IQR 62–90), representing 5% of all colonoscopies done during this period. Approximately one-third (33%) were performed due to suspicious symptoms (most commonly PR bleeding), one-third (34%) were performed due to a CT abnormality,