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Patient Comfort in Colonosopy and the Effect of Monitoring on Endoscopist Behaviour

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INTRODUCTION Patient comfort is an important part of endoscopy and reflects procedure quality and endoscopist technique. Using the validated, *Nurse Assisted Patient Comfort Score* (NAPCOMS), this study aimed to determine whether the introduction of NAPCOMS would affect endoscopist behavior - specifically the amount of sedation used and patient comfort. **METHODS** The study was conducted over two phases in an academic ambulatory endoscopy unit where all colonoscopies are performed with conscious sedation, using midazolam and fentanyl. Procedures are performed by trainees and consultants from gastroenterology (GI) and general surgery (GS), with an annual volume of 3500 colonoscopies. Phase One consisted of eight weeks of endoscopist blinded data collection, followed by endoscopist aware NAPCOMS collection. In Phase Two, data was collected over a five month period and scores fed back to individual endoscopists on a monthly basis. **RESULTS** NAPCOMS consists of three domains - pain, sedation, and global tolerability. In Phase One, there were 396 cases; 195 endoscopist blinded and 201 endoscopist aware. There was a trend towards increased global tolerability in the endoscopist aware group ($p = 0.05$), however, no significant differences in NAPCOMS scores or sedative use. Position changes were used more in the endoscopist aware group ($p = 0.003$). Phase Two documented 932 cases over the course of five months. There were nine GI (773 cases) and four GS (159 cases). Group data showed a decline in fentanyl use between individual months ($p = 0.035$), but no change in overall NAPCOMS. Subgroup analysis of NAPCOMS domains revealed a decline in pain score, specifically duration ($p = 0.037$). Data between GI and GS showed no change in NAPCOMS, but increased fentanyl use ($p = 0.037$) and decreased midazolam use ($p = 0.001$) among GIs over the course of Phase Two. Additionally, GI utilized more position changes ($p = 0.002$) compared to GS, but had no differences in procedure duration or use of abdominal pressure. **CONCLUSIONS** Introduction of a comfort score initially failed to change behavior of endoscopists using conscious sedation in an ambulatory endoscopy unit. When results were regularly fed back to endoscopists, there was a significant increase in fentanyl use, with a decline in pain score but not total NAPCOMS. The correlation of increased fentanyl and decreased pain score suggests a quality control measure can affect physician activity. Our data showed a difference in habits between GI and GS, with GI using significantly more position changes. While this did not change NAPCOMS scores, there were differences in the amount of sedation used. These changes do not allow us to draw inferences between the two specialties but provide interesting insight into the preferences of endoscopists at this center.

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Understanding Pancreatic Diseases: National Pancreas Foundation's (NPF) Animated Pancreas Patient (APP) - Informing Patients for Better Health Outcomes

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Background and Aim: Pancreatic diseases account for substantial morbidity, mortality and cost. Institute of Medicine reports 90 million Americans are health illiterate. Providing informative resources for patient education to overcome the barriers to health literacy, impart disease understanding, and facilitate sharing in patient decision-making has been shown to improve outcomes. However, there are limited visual resources to educate patients, specific to patient needs and interests in pancreatic diseases. The aim of this study is to evaluate APP as an effective patient education resource based on visual formats of learning, to help address patient gaps, address educational needs, areas of interest and potentially reduce health literacy barriers in order to inform patients for improved decisions, disease understanding and health outcomes in pancreatic diseases. **Methods:** Using visual formats for patient education (animations, videos, slide shows) we monitored web site (WS) and You Tube (YT) audience data from Sept 2013 to May 2015 for NPF's APP. We evaluated the number of sessions, pages viewed and duration on the APP website in the U.S. and globally. We calculated the metrics for top views, top views within media type (Animation, Expert Video, Patient Video, and Slide Show) and top retention videos on WS and YT. **Results:** Total: 23,627 sessions (U.S. 14,407 and other 9,220) were viewed by 153 countries on APP WS. (81,039 pages viewed; average session 5.24 min) and 294,726 views (US 123,100 and other 171,626) in 209 countries on YT during the study period. 48.1% of the viewers were patients, 17.3% were family/other, and 16.7% were health care providers. 61.9% were U.S. views. Patients were most interested in "Role and Anatomy of the Pancreas, Chronic Pancreatitis, Acute Pancreatitis, Understanding ERCP and Chronic Pancreatitis: what foods and beverages should I avoid?" with 97,034, 73,663, 52,753, 11,607 and 10,117 views respectively on YT and 3,499, 2,583, 5,938, 1,504 and 453 views on WS respectively. Videos 'Management and Understanding of Non-malignant Pancreatic Diseases' had highest retention (82% to 79%). **Conclusion:** Pancreas education in visual formats has vast potential to provide education for patients, caregivers, and health care professionals. Continued efforts should be made to provide patient resources that address literacy issues and focusing on patient education which responds to needs of patients for better quality of life and health outcomes in pancreatic diseases is vital.

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Addressing the Psychosocial Needs of IBD Patients

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Background: Inflammatory bowel disease (IBD) is a category of gastrointestinal diseases including Crohn's disease (CD) and ulcerative colitis (UC), both of which can lead to devastating medical and psychosocial outcomes for patients. Anxiety and depression are common in patients with IBD, occurring at a rate more than double that of a healthy population. One third of IBD patients indicate a need for psychological intervention, which may be attributed to psychosocial issues regarding their disease. The purpose of this study is to identify the psychological needs of IBD patients in a tertiary care university hospital setting and evaluate whether such needs are being addressed. ***Methods***: This is a retrospective quality improvement study. We used electronic medical records (EMR) from our gastroenterology clinic. Data from all outpatient visits for IBD patients between January 2014 and January 2015 was included. Patients completed the short inflammatory bowel disease quality of life questionnaire (S-IBDQ), which includes questions regarding symptoms of anxiety and depression. Responses to the SIBDQ were entered by the clinician on each visit. Patients with scores of 4 or less on questions regarding anxiety and depression were then selected. Chart reviews using EMRs determined whether any psychological intervention was performed for those patients. ***Results***: A chart review of 244 visits of 124 total patients indicated that only 41 of these visits had physician documentation addressing the psychological needs of the patients. 124 patients endorsed a low score on questions pertaining to symptoms of anxiety and/or depression, indicating a potential need for psychological treatment. Only 41 visits (17%) had documentation of the potential need for psychological intervention and only 19 visits (1%) had an intervention to address it. ***Conclusions:*** In our tertiary care university clinic, there has been a deficiency in addressing the psychological factors associated with IBD. This gap in care has been identified as a systems-related problem. With more emotional support, such as psychological intervention, patients' quality of life may improve and there may be a decrease in unnecessary health care utilization (clinic visits, ER visits). Disease course, such as flare-up rate, may also improve. There is a need to provide a more comprehensive management of IBD patients in the GI clinic, with adequate screening and referral to mental health providers when appropriate. We will re-evaluate this deficiency after an educational session for fellow physicians, as well as implementing a protocol that notifies physicians when a patient may have psychological needs.

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Underuse of Iron Therapy Upon Discharge for Anemic Patients With Acute Gastrointestinal Bleeding

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INTRODUCTION: Many patients with gastrointestinal bleeding (GIB) are discharged from hospital with anemia. One recent study found that iron therapy leads to more rapid correction of anemia in patients after GIB. Current guidelines do not address the utility of iron in these patients and recent survey data suggests that clinicians do not routinely prescribe iron therapy in this setting. The aim of the current study is to determine iron-prescribing behavior among anemic patients discharged from hospital after GIB. **METHODS**: We performed a retrospective review of 100 patients who were anemic upon discharge after GIB at two quaternary care hospitals in Toronto, Canada. Patient comorbidities, medications, endoscopic findings, hemoglobin level during hospitalization, need for transfusion, and iron therapy prescribed either in hospital or upon discharge were recorded. Descriptive statistics were carried out. **RESULTS**: The mean hemoglobin level (Hgb) at discharge for the 100 study patients was 92 g/L (range, 69 to 127 g/L). Only 33 patients (33%) were prescribed any form of iron therapy upon discharge. The majority of prescriptions were for oral iron therapy (91%) and the remainder (9%) were for intravenous (IV) iron. There were four patients who were given a dose of IV iron in hospital, three of whom continued to receive iron on discharge. Patients who were given iron therapy at discharge had a lower Hgb level than those not given iron (86 +/- 11 g/L vs. 94 +/- 12 g/L, $p < 0.001$). Of the patients prescribed iron at discharge, 22 (67%) were already taking iron on admission. Iron studies were performed in only 30% of patients during admission. The proportion of patients needing a transfusion in hospital did not differ between patients who received iron on discharge and those who did not receive iron on discharge (67% vs. 69%, p=ns) The mean HgB at time of first transfusion was 71 g/L (range, 45 g/L to 118 g/L). **DISCUSSION**: There is a paucity of research investigating the utility of iron replacement therapy in anemic patients after GIB. Few clinicians are prescribing iron on discharge to anemic patients despite evidence suggesting benefit in terms of more rapid correction of anemia. Overall, more high-quality evidence is needed to assess the efficacy of iron therapy in anemic patients after GIB. Educational and quality improvement initiatives may be helpful in encouraging more clinicians to prescribe iron to these patients.

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Implementation of an Algorithm for Providers to Utilize When Ordering Esophageal Diagnostic Tests (High Resolution Manometry, Catheter-Free Ambulatory pH Monitoring and the Catheter-Based Impedance/pH)

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Abstract Background:Diagnostic tests are essential tools for disease screening, diagnosis, treatment and monitoring.They also represent an enormous expenditure and research reflects wide variations in test ordering behavior.Improving clinician knowledge and accuracy in selecting and ordering the appropriate diagnostic test(s) can decrease overall costs and improve patient outcomes.Decreasing knowledge gaps can also reduce variations in test ordering behavior which will improve diagnosis, treatment and outcomes.The aims of this QI Project was to engage providers with an evidence-based decisional support Algorithm to increase knowledge, improve accuracy in selecting the most appropriate of these esophageal diagnostic test(s) for their patient's unique presenting symptoms and to ultimately decrease wait times for the patient undergoing one/two of these procedures by eliminating missing or inaccurate information. **Methods:** An evidenced-based Algorithm was developed to assist the ordering providers for these esophageal diagnostic tests. The Order Form was updated to include a space for the Provider to check if the Algorithm was used. It was reviewed with the Chief of the Motility Lab and of the GI Department. It was sent to two in-house and one community GI Specialists for review prior to implementation. This Algorithm outlines each specific test with the evidence-based guidelines referenced. Algorithm distributed to all ordering providers.A post survey was sent to every ordering provider (June-November 2015) to assess the value and utilization in the selection of the most appropriate test(s). **Results:** Survey sent to 52 ordering providers and practices. A return of 30 responses to date was achieved. A review of incoming orders was completed to assess accuracy. A decrease