for ability to detect and quantify DSS-induced acute colonic inflammation or chronic colitis in 129v5/EIL-10 null mice. We hypothesized that probes would differ in sensitivity or specificity for detection of inflammation. Methods: DSS-treated mice, IL-10 null mice with chronic colitis, and H2O2 controls were fed a liquid diet (Nutren 1.0 Fiber/dH2O, 11) for 4 days to clear GI tract of solid feces. WT mice were given 3% DDS for 5 days and studied 4 days later, a time of known severe colonic inflammation. Probes were given by retinal injection. In vivo imaging was performed with an OCT-2000 DX imaging system. Intestinal tissues were dissected immediately after In Vivo imaging, fixed, fresh or after fixation to test if In Vivo signal was preserved in fixed tissues. Inflammation detected by probe activation was verified by H&E staining and confocal microscopy. NIRF signal intensity was quantified by spectral imaging (3D ROI) analysis (2, 3). (1) All 7 probes were tested in In Vivo and ex vivo in DSS model. Several probes yielded significantly increased fluorescence signal (p<0.05) in colon of diseased mice versus H2O2 controls. Most sensitive probes were used and confirmed in IL-10 null mice (2) In Vivo Cat K 680 FAST (132±24 vs. 8±7 pmol in fluorochromes, p<0.05) and MMPSense 680 (134±23 vs. 12±7 pmol in fluorochromes, p<0.05) probes yielded significantly higher NIRF signal in inflammation/collitis models vs. controls. Signal was localized to colon by co-registration with MRI (2) Ex vivo, all 7 probes yielded significant increases in NIRF signal which was highest with Cat K 680 (134±23, 133% increase vs. controls) and cathepsin b probes (>100% increase vs. controls). (3) Ex vivo fluorescence signal was preserved by appropriate fixation. H&E staining and confocal microscopy confirmed inflammation detected by NIRF probes. NIRF signal intensity and colitis score were strongly correlated (r=0.87). Conclusions: We developed a new In Vivo method for valid detection and quantification of GI inflammation using activatable NIRF probes in living animals. Cat K 680 FAST and MMPSense 680 were the most sensitive for detection and quantification of acute inflammation In Vivo and ex vivo. This approach is useful for In Vivo or ex vivo monitoring and quantification of murine inflammatory bowel diseases. 1 Zhang, Gastrointest Endosc 2008 68 S20, 2 Marten, Gastroenterology 2002 122 406.

Tu1140
Does Capsule Endoscopy (CE) Have an Added Value in Patients With Perianal Disease and a Negative Work up for Crohn’s Disease (CD)?
Samuel N. Adler, Yuvo C. Metzger, Eitan Scapa, Rami Eliakim
Introduction: CD of the small bowel is associated with perianal manifestations such as ano- rectal fistulas and perianal abscesses. Colonoendoscopy with liquid small bowel enema capsule endoscopy examinations are relied upon to document the presence of CD of the small bowel. It is well documented in the literature that CE is more sensitive than these methods to diagnose CD of the small bowel. Thus, we suspect that the prevalence of inflammatory small bowel CD disease is understated in a group of patients. Methods: In a cohort of patients using NSECA for a history of inflammatory bowel disease or rachitic disease were excluded. Results: We recruited 26 patients aged 21-61(avg 35.6), 17 males, 9 females. One case could not be evaluated since the capsule did not leave the stomach. In 6 out of 25 (24%) patients with a negative standard work up for Crohn’s disease CE findings were consistent with Crohn’s disease of the small bowel. Family history of CD, WEC, HB, ESR or CRP did not predict a diagnosis of CD. Capsule endoscopy findings led to a change in treatment. Conclusion: In patients with perianal disease and a negative conventional work up to exclude CD, CE leads to incremental diagnostic yield of 24%. This changes management and improves outcome.

Tu1141
Chromoendoscopy With Automatic LesionEnhancement in Magnetically Guided Capsule Endoscopy: A Feasibility Study
Philip W. Messes, Stefan Forteutsch, Elii Angelopoulou, Dirk M. Guld, Helmut Messmann
Introduction: Gastric cancer is the 2nd most lethal digestive neoplasm in the world. Intestinal metaplasia, dysplasia and dysplasia are precancerous signs which grow to gastric cancer. In addition to these lesions, and selection of afflicted patients could lead to early diagnosis. Diagnosis via conventional endoscopy is characterized by low interobserver agreement and poor correlation with histopathologic findings. Chromoendoscopy has been proven to significantly enhance the visibility of mucosal irregularities, like metaplasia and dysplasia mucosa In 2010, magnetic guided capsule endoscopy (MGCE) was introduced. In MGCE a patient swallows an endoscopic capsule, which is navigated by an external magnetic field in a water-filled stomach. The procedure is virtually non-invasive, comfortable for the patient and requires no sedation (Clinical study, Rey et al., 2010). MGCE series seems feasible and sufficiently accurate for gastric examination. Knowledge difficulties in the diagnosis of metaplasia in conventional endoscopy transfer to MGCE. Therefore, MGCE may also require the use of stains, but is limited by its specificity. Our group has created a low cost, battery-operated high-resolution microendoscopy (HRME) that provides subcellular epithelial imaging after the application of topical profilavine (0.01%) to Lugol’s unstained areas (Figure 1). Aim: To determine the accuracy and interobserver agreement of experiences and novice endoscopists of identifying neoplasia from high-resolution images when compared to histopathology. These questions will help determine the feasibility of using this low-cost device as an adjunct to Lugol’s chromoendoscopy. Methods: In this IRB-approved prospective clinical trial, 30 patients from the First University Hospital (Chargevine, China) undergoing endoscopic screening for ESCC were enrolled. High-definition white light endoscopy followed by Lugol’s iodine staining of the mucosa was performed, followed by 1-2 ml of topical profilavine 0.01% to Lugol’s unstained areas. After inserting the HRME through the accessory channel of the scope, “optical” and tissue biopsy specimens were obtained from GI mucosal sites. A total of 163 optical sites were imaged, of these, 45 images were used in a training set of 10 images, a test set of 39 images, and 8 movies. Two “experienced” endoscopists with significant HRME experience (>50 cases) and four “novice” endoscopists with no HRME experience completed the training and test set in a mixed, blinded fashion. Results: Among all endoscopists, the negative predictive value was 0.89 (95% CI, 0.86-0.93) for still HRME images and 0.94 (95% CI, 0.87-1.00) for movies. Sensitivity for cancer was 0.84 (95% CI, 0.78-0.90) for images and 0.89 (95% CI, 0.75-1.00) for movies and specificity further improve the image quality. Though the visibility of metaplasia and dysplasia is enhanced, other pathologies may be masked. This, however, is acceptable for examinations focused on the detection of mucosal irregularities.