more difficult. In our study, long segment stricture was the worst problem to
be solved.

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**Probiotic Prophylaxis Significantly Reduces the Incidence of Antibiotic Associated Diarrhea: A Meta Analysis**

**2011 ACG Presidential Poster**

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**Purpose:** Antibiotic-associated diarrhea (AAD) and *Clostridium difficile*-associated diarrhea (CDAD) are complications of long-term antibiotic use and are associated with significant cost and morbidity. Potential preventative strategies are essential in order to counter this rising epidemic. The role of probiotics as prophylaxis for AAD and CDAD has been investigated in several trials with conflicting results. We performed a dichotomous unmatched variable meta analysis to examine the efficacy of probiotics as prophylaxis in these debilitating and often deadly diseases.

**Methods:** A search of MEDLINE, Pubmed, Google Scholar, and NIH register of clinical trials was carried out between the years of 1977 and 2010. We included all randomized control trials which examined probiotics as prophylaxis for patients receiving antibiotics versus placebo. The endpoint of all studies was the development of AAD. Data was sorted by sample size, treatment dose, duration and outcomes. Meta-analysis was carried out utilizing the Comprehensive-Meta analysis Program. A forest plot was utilized to analyze the pooled data.

**Results:** Twenty-two studies were identified and a total of 3096 patients were included. 14 of the 24 studies strictly looked at adults which accounted for 63% of the patients. Inpatient hospitalized patients accounted for 47% of the patients while the remaining 53% were from the outpatient setting or mixed studies. The average treatment period with prophylactic probiotics was 1.5 weeks with the shortest period being 5 days and the longest period being 3 weeks. The average dose/day of probiotics was noted to be 2x10^9. There was extreme variability with the species of probiotics utilized between the studies. Species used consisted of *Saccharomyces boulardii*, *Lactobacillus rhamnosus*, *Clostridium butyricum*, and a combination of *L. acidophilus* and *L. bulgaricus*. 4 studies used *S. boulardii* as the probiotic of choice which would account for 35% of the population in the study. Overall, in Twenty-two studies probiotic prophylaxis significantly reduced the odds ratio of developing AAD. (OR 0.39; 95% CI 0.317 - 0.483).

**Conclusion:** This is the first meta-analysis examining the role of probiotics as prophylaxis for AAD and CDAD. This analysis clearly demonstrates that probiotics offer protective benefit in the prevention of these diseases. We conclude that all patients who are at high risk for these infections as demonstrated by recent antibiotics use, old age, recent hospitalization, low albumin, and immunosuppression should be considered for probiotic prophylaxis. Further prospective studies are warranted to examine the most efficacious duration, dose and specific species of probiotics in prevention of AAD and CDAD in high risk patients.

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**An Evaluation of Repeat Polymerase Chain Reaction Stool Testing for *Clostridium difficile* Infection**

**2011 ACG Presidential Poster**

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**Purpose:** *Clostridium difficile* infection (CDI) is a major health-care challenge with an increasing incidence and severity, worsening outcomes, and high associated costs. There have been considerable recent advances in infection control and treatment of CDI, and newer stool tests are available with increased sensitivity and specificity. It has been a common practice to repeat a stool test for CDI if the initial test is negative. In the current study, we evaluated our practice regarding the yield of repeat polymerase chain reaction (PCR) testing in patients with suspected CDI.

**Methods:** The microbiology laboratory database at Mayo Clinic, Rochester, MN was queried for all patients who underwent PCR stool testing for suspected CDI from June 1, 2007 to May 31, 2010. Data collected included age, gender, number and timing of stool tests and location of patient (inpatient versus outpatient). Descriptive and multivariate regression analyses were done with JMP version 9.0.1.

**Results:** PCR testing was performed in 18,629 patients in the three-year period. The median age of patients was 58.3 years (range 10 days to 104.3 years) and 46.2% were females. Repetitive testing was infrequent; 86.3% of patients had testing done only once in a 14-day period. On multivariate analysis, increased age, male sex, and in-patient location were predictors of repetitive testing. Patients with an initial negative test did not have an increased likelihood of repeat testing than those with an initial positive test (11.4% versus 10.2%, p=0.06). The mean time between an index test and a first repeat test was 3.5 days in a 7-day time period and 5.3 days in a 14-day time period. After an initial negative test, the chance of having a subsequent positive test was unlikely (2.4% in 7 days and 3.2% in 14 days).

**Conclusion:** The yield of repeat stool testing for CDI by PCR is low, and patients with an initial negative stool test should not be re-tested for that bout of diarrhea unless clinical suspicion for CDI remains high.