

# Low dose antibiotic treatment of C-difficile as effective as high dose in hospital setting

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*Clostridium difficile* infection (CDI) treatment in a hospital setting using low dose oral vancomycin showed similar effectiveness compared to high dose, according to a new study by researchers at Montefiore Medical Center and Albert Einstein College of Medicine of Yeshiva University. These data were presented yesterday at the 53rd Annual Interscience Conference on Antimicrobial Agents and Chemotherapy meeting in Denver.

Patients with CDI treated with vancomycin at the low dose (LD) (125 mg every 6 hours) and high dose (HD) (greater than 125mg every 6 hours) showed clinical improvements 72 hours after administration (85% and 86%, respectively).

CDI is an infection of the large bowel that can result in mild to severe symptoms including [stomach pain](#), severe cramping, profuse diarrhea, and, in the most severe form, can lead to death. CDI is linked to 14,000 deaths each year in the United States, according to the Centers for Disease Control and Prevention.

"This study's comparable results in low dose and high dose antibiotic treatment of CDI reinforce the importance of considering new approaches to using these medications," said Philip Chung, PharmD, M.S., clinical pharmacy manager in Infectious Diseases, Montefiore Medical Center and assistant professor of medicine, Department of Medicine (Infectious Diseases), Einstein. "Antibiotic stewardship is an important focus in hospitals today. We are using our study findings to

develop treatment guidelines that encourage low dose treatment."

Comparable results in the LD and HD groups were shown in secondary endpoints, including rates of clinical improvement at end of therapy or time of hospital discharge (93% and 95%, respectively), in-hospital mortality (15% and 23%), re-treatment (4% and 6%), and 30-day readmission (34% and 24%).

"Montefiore is committed to the appropriate [use of antibiotics](#) through a multi-disciplinary Antimicrobial Stewardship Team that supports better patient care and safety, improved clinical outcomes and reduced resistance and healthcare-acquired infections such as CDI," said [infectious diseases](#) specialist Belinda Ostrowsky, M.D., M.P.H., director, Antibiotic Stewardship Program, Montefiore and associate professor of clinical medicine, Department of Medicine (Infectious Diseases), Einstein. "Based on our study results, we know making small changes can make a big difference without impacting patient care in a [hospital setting](#). These results are encouraging and we plan to continue exploring other ways to impact antibiotic use."

This retrospective study included 300 patients (197 LD, 103 HD) hospitalized at Montefiore between 2006 and 2010 who had a diagnosis of diarrhea associated CDI and received at least 72 hours of oral vancomycin. Medical records of eligible patients were reviewed for demographics, clinical and laboratory parameters for resolution of infection, other antibiotics prescribed during treatment of CDI, death during hospitalization and hospital readmission within 30-days after discharge.

In addition to Dr. Chung and Dr. Ostrowsky, other researchers involved in the study are Montefiore pharmacist Monica Ramirez, PharmD, and [clinical pharmacy](#) managers Angela Cheng, PharmD, (also assistant professor of medicine, Department of Medicine (Cardiology) at

Einstein), Toshiba Morgan-Joseph, PharmD, and Yi Guo, PharmD, (also assistant professor of medicine, Department of Medicine (Infectious Disease) at Einstein).

Provided by Albert Einstein College of Medicine

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