A 65-year-old woman is ambulating slowly 5 days after her hip replacement which was performed 48 hours after a fracture. She has developed abdominal distension, frequent loose stools, and a white blood cell count of 23,000 cells/mm³. Stool sent for C. difficile toxin assay by enzyme immunoassay (EIA) is negative. Which of the following is the most likely cause of the diarrhea?

A. Salmonella  
B. C. difficile  
C. Dietary supplements  
D. Diarrheagenic E. coli  
E. Medications

**Answer: B**

Although non-infectious causes of diarrhea are common in hospitalized patients, C. difficile is the only enteric infectious agent that merits serious initial consideration in a patient who develops diarrhea after being in the hospital 3 days or more. Stool tests for other enteric pathogens (salmonella, shigella, campylobacter, and protozoa) are almost never positive in patients with hospital-acquired diarrhea. When the epidemiology suggests increased risk (inpatient, recent hospitalization or antibiotic use, or contact with health personnel), stool should be sent for C. difficile toxin assay. In this patient, not only the epidemiology is suggestive of C. difficile (hospitalized patient) but also the clinical features (diarrhea, high WBC, distension). The enzyme assays for toxin are only 55-85% sensitive. Therefore, negative toxin assays by EIA at times must prompt further testing - repeat EIA, colonoscopy, or the bioassay for cytotoxin using tissue cell culture. A dramatic increase in the frequency and severity of C. difficile infection is occurring. Presumptive treatment while awaiting test results is appropriate in severely ill patients when the epidemiology and clinical features are strongly suggestive.

**References:**