

Lessons Learned: Inadequate processing of the needle guide was the most likely cause of these two infections. If the broth used to culture the needle guides was not able to freely flow through the lumen, the high level disinfectant would not have been able to flow through either. The process used to clean and disinfect the needle guide and the rectal probe was not consistent with the internal policy or the manufacturer's recommendations. Since the biopsy needle passes through the needle guide before penetrating sterile tissue, it is a critical device and should be sterilized. The rectal probe requires high level disinfection. The antibiotic prophylaxis regimens in use may have been selecting out resistant organisms. The organism that caused the infections was resistant to the antibiotics used for prophylaxis.

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Pseudo-Outbreak of *Mycobacterium Gordonae* Associated with Ice Machines

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Pseudo-Outbreak of *Mycobacterium gordonae* associated with ice machines.

Issue: A city outbreak of pulmonary tuberculosis heightened physicians' awareness and prompted an increase of acid-fast bacilli (AFB) culture requests. 27 positive AFB *Mycobacterium gordonae* cultures were identified.

Project: As a result of the increased testing for AFB, a significant rise of *Mycobacterium gordonae* isolates was noted. At this tertiary teaching hospital, between December 2006 and July 2007, we recognized 27 immunocompromised patients throughout the hospital with positive *M. gordonae* respiratory cultures. *Mycobacterium gordonae* is a commonly disregarded water contaminant.

Results: Epidemiological investigation uncovered an ice machine manufacturing modification (a dead leg), implemented to facilitate ice machine cleaning. This dead leg allowed concentration of *Mycobacterium gordonae* previously identified in city water.

Lesson Learned: This pseudo-outbreak illustrates that maintenance modifications to ice machines can be helpful, but work-arounds can jeopardize susceptible populations. Consequences of the changes should be considered before they are made. After the ice machines were repaired, eliminating the dead legs, the pseudo-outbreak stopped. *Mycobacterium gordonae* infectivity was not evaluated in this investigation. But, with the advent of emerging pathogens, we question the possibility of new variants of common contaminants and the potential effects on the rising immunocompromised population. This emphasizes the importance of maintaining vigilance in investigating outbreaks of organisms routinely overlooked as contaminants.

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Investigation and Control of a Diarrhea Outbreak in a Long Term Care Facility: A Tale of Two Causes

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Issue: A cluster of individuals with diarrhea in the nursing home (NH) were identified. The cluster included both patients and staff members. The community was at this time experiencing widespread gastrointestinal illness consistent with norovirus infection. Further investigation found additional cases in the inpatient domiciliary unit located in the same building.

Project: Evaluation for etiologies included testing for *Salmonella*, *Shigella*, *Campylobacter*, *Yersinia*, *E.coli* 0157, *Clostridium difficile*, *Cryptosporidium*, *Giardia*, and norovirus. The NH was closed to new admissions for the duration of the outbreak and the facility Christmas dinner was cancelled. Housekeeping implemented use of a 1:10 chlorine bleach solution for environmental cleaning. The NH instituted gowning and gloving for all patient contacts. Hand hygiene practices were reinforced. Symptomatic patients were not allowed to share space with well patients. No food from a patient tray could be stored for later use in a common refrigerator. All foods brought in by families and visitors were banned. Patients and employees were considered infectious until 48 hours after the cessation of symptoms. Information collected on all cases included date of onset of symptoms, symptoms, duration of illness, and culture results.

Results: The cohort included all patients and staff at the NH facility with onset of diarrhea between 12/5/2006 and 12/25/2006. This included 19 long term care patients (attack rate [AR]: 31.7%), 3 long term care staff, 13 domiciliary patients (27.1% AR), and 8 domiciliary staff. Attack rates were not calculated for staff because information could not be ascertained for many. No staff members in housekeeping or in food service were symptomatic during this time. No stool specimens were received from the domiciliary; 13 were received from the NH. Of these, 5 long term care patients were positive for *C.difficile* and 5 were positive for norovirus (one had both). No staff specimens were sent for norovirus testing. Review of food histories and community contacts excluded Dietary as possible source. Patients positive for norovirus described prior contacts with ill visitors or family members.

Lessons Learned:

1. Implementation of control measures prevented transmission of both infections before laboratory results were available.
2. Cooperation with outbreak testing recommendations may be poor among individuals able to care for themselves, such as employees or physically healthy patients.
3. Control measures must consider the community as a potential source.
4. Presence of a community viral outbreak does not exclude other possible causes such as *C. difficile*.
5. Testing for all reasonable causes should be performed.

