



Fig. 1.

limitations of SEOL are that respiratory symptoms are not specific to influenza; thus, they are subject to variation due to other respiratory viruses circulating among our employees.

1. The North Carolina Disease Event Tracking and Epidemiologic Collection Tool. NC DETECT website. <http://www.ncdetect.org>. Accessed Nov 8, 2019.

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**Disclosures:** None

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#### **Presentation Type:**

Poster Presentation

#### **Evaluation of Antibiotic Prophylaxis and Postsurgery Antibiotics for Urological Surgeries at an Academic Medical Center**

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**Objective:** The purpose of this study was to evaluate antibiotic use in patients undergoing urological procedures. **Methodology:** This single-center, IRB-approved, retrospective, observational study was conducted at Grady Health System. Patients were included if they underwent their first inpatient urologic procedure between April 1, 2016, and April 1, 2018. Patients were excluded if they were <18 years old, pregnant, or a prisoner. The primary outcome was percentage of overall adherence to our institutional guidelines for surgical prophylaxis as a composite of antibiotic selection, dose, preoperative timing, and postoperative duration. Secondary outcomes include individual components of the composite outcome, nephrotoxicity, *Clostridium difficile* infection, and discharge antibiotic prescriptions. Descriptive statistics were used. **Results:** Of

the 100 patients evaluated, 11% achieved adherence with the primary outcome. Of the 89 patients who did not achieve composite outcome, only 8 selected the appropriate perioperative antibiotic. Overall, 30% were dosed appropriately, 47% were administered at the appropriate time with respect to time of incision, and 46% received perioperative antibiotics for no more than 24 hours. Also, 19 patients did not receive perioperative antibiotics. Overall, 14 different perioperative antibiotic regimens were utilized, despite institutional guidelines recommending 1 of 3 options. All 9 patients who developed nephrotoxicity received noncompliant perioperative prophylaxis. No patient developed *Clostridium difficile* infection within 30 days of surgery. Moreover, 58 patients were discharged with a prescription for at least 1 antibiotic. **Conclusions:** Most perioperative antibiotic prophylaxes for genitourinary surgeries are not compliant with institution guideline recommendations. Despite having institutional guidelines, there was a large variety in the antibiotic regimens that patients received. All of the patients identified as having an evaluated antibiotic-related adverse effect did not receive appropriate perioperative antibiotic prophylaxis. More than half of the patients received a prescription at discharge for at least 1 antibiotic.

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Poster Presentation

#### **Evaluation of Environmental Decontamination of Surfaces Using Continuous Application of Low-Level Hydrogen Peroxide**

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	Baseline	Intervention								Results
	Period 1	Period 2		Period 3		Period 4		Period 5		
Micro-Burdens	CFUs	CFUs	% Reduction from Baseline	CFUs	% Reduction from Baseline	CFUs	% Reduction from Baseline	CFUs	% Reduction from Baseline	Average % Reduction from Baseline
Bacteria	16	7	56%	6	63%	6	62%	6	63%	61%
Fungi	5	3	40%	1	80%	1	80%	1	80%	70%

Fig. 1.

Pathogens	Baseline	Intervention								Results
	Period 1	Period 2	% Reduction from Baseline	Period 3	% Reduction from Baseline	Period 4	% Reduction from Baseline	Period 5	% Reduction from Baseline	Average % Reduction from Baseline
MRSA (Positive Locations)	16	7	56%	6	63%	6	62%	6	63%	61%
VRE (Positive Locations)	5	3	40%	1	80%	1	80%	1	80%	70%

Fig. 2.

**Background:** Pathogens that remain on healthcare surfaces after standard cleaning have been reported to cause 10%–30% of all healthcare-associated infections among admitted patients. The study reported here evaluated the effect of a continuous application of low-level gaseous hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) on microbial surface contamination in a pulmonary specialty unit (PSU) of a large magnet-designated urban hospital. **Methods:** A baseline surface contamination level was measured by obtaining cultures of 5 high-touch points in 8 patient rooms, a nurse's station, and a nurse's charting room to determine the bacterial and fungal microbial burden levels (period 1). No revisions to cleaning practices were made during any period. Also, 8 continuous decontamination devices were installed in the HVAC near the area to be treated. The devices convert humidified air into predominately H<sub>2</sub>O<sub>2</sub>, which then exited the ducts, covering all surfaces. Environmental sampling was conducted every 4 weeks for 4 months after activation to measure the effects on the intrinsic microbial burden on surfaces as well as the incidence of MRSA and VRE (periods 2–5). In addition, the unit manager tracked the level of absenteeism of employees in the PCU during the trial to compare results to the same 4-month period from the prior year. **Results:** In concert with regular cleaning and disinfecting practices, the average bacterial microbial burden levels found on 52 locations prior to the activation of the devices were 6,446 CFU/100"2. Incidence of MRSA and VRE were 31% and 10%, respectively. During the intervention, the levels of both bacterial and fungal microbial burden on surfaces were significantly lower, as was the incidence of MRSA and VRE. The continuous application of low-levels of oxidizing molecules exerted a significant 78% and 97% reduction in the average bacterial and fungal microbial burden found on PSU surfaces (1,415 CFU/100"2 and 328 CFU/100"2 for bacteria and fungi, respectively). The incidences of MRSA and VRE on surfaces were reduced by 63% and 70%, respectively. In addition, the unit manager reported a significant decline in absenteeism, with a reduction of 550 hours (1,313 vs 752) during the 4-month trial versus the same 4-month period the previous year. **Conclusions:** The introduction of continuous low-level gaseous H<sub>2</sub>O<sub>2</sub> on all surfaces throughout a PSU reduced the overall bacterial and fungal microbial burden

as well as lowered the incidence of both MRSA and VRE on surfaces, and it reduced employee absenteeism, providing a potentially safer environment for patients, staff, and visitors.

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**Evaluation of Initial Outcomes of an Antimicrobial Stewardship Program in a Nonprofit Hospital in Brazil**

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**Background:** One of the main global public health challenges is the fight against microbial resistance, according to the World Health Organization. Inadequate use of antimicrobials is considered one of the main factors related to the phenomenon and is quite common in the hospital environment. Managing the use of antimicrobials in hospitals has become a necessity and has shown positive results in many ways, such as maximizing the effects of pharmacotherapy, preventing the emergence of resistant microorganisms, and reducing healthcare costs. **Methods:** The prescriptions for patients admitted to a 380-bed nonprofit private hospital in Belo Horizonte, Brazil were monitored from January 1, 2019, to August 31, 2019, with a monthly average of 251 patients followed by the antimicrobial stewardship (AMS) team (1 infectious diseases doctor and 2 clinical pharmacists). Patients selected for follow-up and intervention were those submitted to intravenous, intramuscular, and/or oral antibiotic therapy with the following antimicrobial agents: piperacillin/tazobactam, carbapenem, polymyxin B, tigecycline, vancomycin, teicoplanin, daptomycin, third- and fourth-generation cephalosporins, quinolone, and aminoglycosides. Patients on prophylactic or antimicrobial treatment not mentioned above were excluded from surveillance. Interventions were dose adjustments, drug adjustment by culture results,