knowledgeable and motivated individuals who can make the case for stewardship.

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Poster Presentation

Perioperative Microbial Contamination From Patients on Contact Precaution in Operating Room Environment

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Background: The contaminated healthcare environment, including operating rooms (ORs), can serve as an important role in transmission of healthcare-associated pathogens. Studies are very limited regarding the level of contamination of ORs during the surgery of a patient on contact precautions and the risk to the next surgery patient after standard room cleaning and disinfection.
Objective: Here, we investigated the microbial burden on the OR environment when patients on contact precautions receive surgery, and we assessed the impact of cleaning and disinfection on

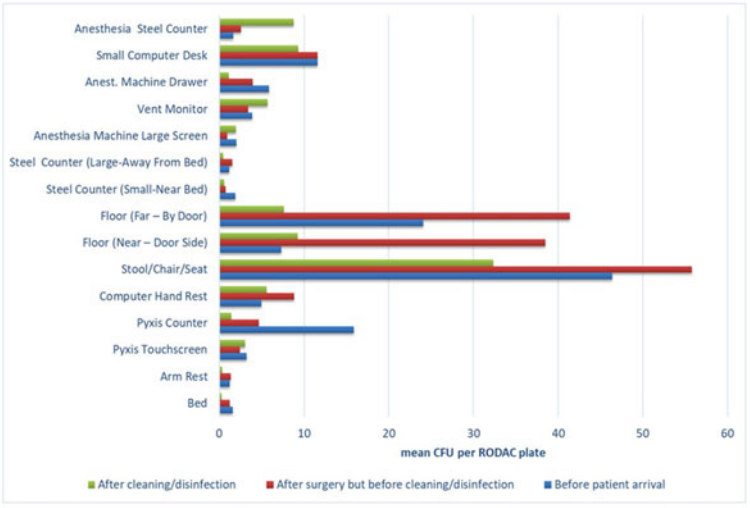

Figure 1. Microbial Burden by Environmental Site in Operating Rooms Before Patient Arrival, Before Cleaning/Disinfection, and After Cleaning/Disinfection.

Fig. 1.

Surgical Patient	Contact Isolation Organism	PFGE Relatedness of Environmental MRSA isolates			Environmental Site	Operating Room
		Before Patient Surgery	After Surgery Before Cleaning	After Cleaning		
Pt2	MRSA		B		Floor (Near Door)	OR32
			B, B		Floor (Far Door)	
Pt3	MRSA		A2/B2, C		Floor (Far Door)	OR2
			A2/B2		Computer Desk	
Pt4	MRSA, CRE	A2/B2	D		Pyxis Counter	OR10
			A2/B2, A2/B2, A2/B2	A2/B2	Floor (Near Door)	
		A2/B2, A2B2	A2/B2, A2/B2, A2/B2, A2/B2, A2/B2, A2/B2, A2/B2	A2/B2, A2/B2, A2/B2	Floor (Far Door)	
Pt5	MRSA		G1, G		Floor (Near Door)	OR29
		G			Floor (Far Door)	
Pt6	MRSA		H		Blue Stool	OR16
		A2/B2, A2/B2, A2/B2	F1, I, A2/B2		Floor (Far Door)	
Pt7	MRSA, CRE		J		Floor (Far Door)	OR9
			J1		Steel Counter	
Pt8	MRSA			F2	Floor (Near Door)	OR2
			F2	A2/B2	Floor (Far Door)	
Pt9	MRSA	F2	A2/B2, A2/B2	A2/B2	Floor (Far Door)	OR2
Pt10	MRSA	Fp			Floor (Far Door)	OR9

Figure 2. PFGE relatedness of environmental MRSA isolates from operating rooms.

Fig. 2.

the contamination of OR environmental sites. **Methods:** This investigation was conducted in the ORs of an academic facility during an 8-month period. It involved 10 patients on contact precautions for multidrug-resistant pathogens, including methicillin-resistant *Staphylococcus aureus* (MRSA; n = 7); carbapenem-resistant *Enterobacteriaceae* (CRE) plus MRSA (n = 2); and vancomycin-resistant *Enterococcus* (VRE) plus MRSA (n = 1), who underwent surgery. Environmental sampling was performed at the following time points: (1) immediately before the surgical patient's arrival in the OR, (2) after surgery but before the OR cleaning and disinfection, and (3) after the OR cleaning and disinfection. In total, 1,520 environmental samples collected from 15 OR sites for 10 surgical patients at 3 time points were analyzed. Relatedness among environmental MRSA isolates was determined by pulsed-field gel electrophoresis. **Results:** Overall, the mean CFUs of aerobes per Rodac plate (CFU/25 cm^2) were 10.1 before patient arrival, 14.7 before cleaning and disinfection, and 6.3 after cleaning and disinfection ($P < .0001$, after cleaning and disinfection vs before cleaning and disinfection). Moreover, 7 environmental sites (46.7%) after cleaning and disinfection, including bed, arm rest, pyxis counter, floor (near, door side), floor (far, by door), steel counter (small, near bed), and small computer desk, had significantly lower mean counts of aerobes than before patient arrival or before cleaning and disinfection (Fig. 1). The mean CFUs of MRSA per Rodac plate (CFU/25 cm^2) were 0.04 before patient arrival, 0.66 before cleaning and disinfection, and 0.08 after cleaning and disinfection ($P = .0006$, after cleaning and disinfection vs before cleaning and disinfection). Of environmental sites where MRSA was identified, 87.2% were on floors (41 of 47) and 19.1% were after cleaning and disinfection (9 of 47, 8 from floors and 1 from pyxis touchscreen). The A2/B2 MRSA strain was identified on different environmental sites (eg, floor, computer desk, counter) in various rooms (eg, OR2, OR10, and OR16), even after cleaning and disinfection (Fig. 2). **Conclusions:** Our study has demonstrated that the OR environment was contaminated with aerobic bacteria and MRSA after surgery and that MRSA persisted in the environment even after cleaning and disinfection. Enhanced environmental cleaning in the perioperative environment used for patients on isolation is necessary to prevent transmission of healthcare-associated pathogens in ORs.

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Poster Presentation

Peripherally Inserted Central Catheters Present on Admission and the Risk of Central-Line–Associated Bloodstream Infection

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Background: Patients presenting to hospitals often arrive with peripherally inserted central catheters (PICC) in place upon admission. The admitting facility may not be familiar with that device's history and the unknown risk for bloodstream infection associated with it often prompts requests for device replacement. A blanket approach to "change all lines" must be balanced with the potential for patient discomfort and insertion-related complications. To better inform our approach to prevention, we determined the incidence of central-line–associated bloodstream infection (CLABSI) in adult patients presenting to hospitals in our health system with a PICC present on admission (POA), relative to those who have a PICC placed after admission (PAA). **Methods:** This retrospective cohort study included all adult hospital encounters at 11 Cleveland Clinic acute-care hospitals lasting > 2 days in 2018 with electronic medical record nursing care flowsheet documentation of a PICC during the stay. Patients whose admission diagnosis was related to intravascular catheter infection, children aged <18 years, and observation unit encounters were excluded. Patients were categorized as having a PICC POA if a nurse selected that option on a PICC flowsheet, otherwise the patient was categorized has having a PICC PAA. Surveillance for CLABSI was performed in all inpatient locations at all hospitals according to the NHSN protocol. Patients with ≥1 CLABSI were matched to encounters by name and date of admission. Repeat infections occurring to the same patient were excluded. **Results:** Of the 8,827 eligible hospital encounters, 1,799 (20%) involved a PICC POA and 7,028 (80%) had PICCs PAA. Across 11 hospitals, the median proportion of PICC-associated encounters with a device POA was 15% (range, 8%–25%). Moreover, 23 of the 112 CLABSIs (21%) in our cohort occurred in patients with a PICC POA and 89 (79%) occurred in patients with a PICC PAA (Table 1). The overall relative risk of CLABSI, whether the PICC was placed before or after admission, was 1.00 (95% CI, 0.64–1.60). **Conclusions:** Patients with a PICC present on admission to our hospitals were no more likely to experience a CLABSI than patients who had a PICC placed after admission. Replacing vascular catheters that are POA may not reduce the risk of CLABSI. With up to 25% of PICC-associated encounters having the device POA, universal device replacement at admission would involve hundreds of patients per year at our multihospital health system.

Table – Frequency and attack rates (AR) per 100 admissions of central line-associated bloodstream infection (CLABSI) during patient encounters with peripherally inserted central catheters (PICC) in place on admission (POA) and placed after admission (PAA), eleven hospitals, 2018

	PICC POA			PICC PAA		
Hospital	n CLABSI	n encounters	AR	n CLABSI	n encounters	AR
A	18	1 047	1.72	59	3 129	1.89
B	3	161	1.86	13	715	1.82
C	1	40	2.50	2	267	0.75
D	1	113	0.88	3	716	0.42
E	0	223	-	8	894	0.89
F	0	83	-	2	454	0.44
G	0	23	-	1	144	0.69
H	0	41	-	1	209	0.48
I	0	35	-	0	226	-
J	0	18	-	0	102	-
K	0	15	-	0	171	-
TOTAL	23	1 799	1.28	89	7 028	1.27

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Poster Presentation

Phylogenetic Analysis of *Candida auris* Isolates From Clinical Samples of Surgical Intensive Care Units

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Background: Between January and September of 2019, 15 patients acquired *Candida auris* infection in our surgical intensive care unit (SICU). Although the outbreak was controlled by enhancing