Successful Environmental Disinfection to Prevent Transmission of *Candida Auris*

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### Background
- *Candida auris* is a globally-emerging, multidrug-resistant yeast causing invasive infections and can persist on environmental surfaces if not adequately disinfected.
- Last summer, two patients with *C. auris* infections were admitted at University of Chicago Medicine (UCM).
- Environmental samples were collected to assess environmental contamination before and after cleaning.

### Methods
- Environmental samples were collected using 3M Sponge Sticks with neutralizing Buffer during one patient’s stay, weeks after another patient’s stay, and after enhanced terminal cleaning.
- Samples were cultured directly and yeast was identified using MALDI.
- The following surfaces were sampled: Bathroom sink drain, bedside table, bedrail, mattress, chair and window ledge.
- Routine terminal cleaning includes 10% sodium hypochlorite solution applied high touch surfaces of both room and bathroom.
- The enhanced terminal cleaning process used for these rooms included: (1) 10% sodium hypochlorite solution applied to all high touch surfaces and walls; (2) privacy curtains removed and replaced; (3) supervision by environmental services manager; and (4) single UV disinfection cycle in room and bathroom.

### Results

#### Figure 1

<table>
<thead>
<tr>
<th>Location</th>
<th>Direct Colonization Growth (%)</th>
<th>Species ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathroom sink drain pre-clean</td>
<td>N</td>
<td>N/α</td>
</tr>
<tr>
<td>Bedrail post-clean</td>
<td>N</td>
<td>N/α</td>
</tr>
<tr>
<td>Mattress post-clean</td>
<td>N</td>
<td>N/α</td>
</tr>
<tr>
<td>Window ledge post-clean</td>
<td>N</td>
<td>N/α</td>
</tr>
</tbody>
</table>

- Due to delay in identification of *C. auris* for the first patient, pre-clean samples were taken ≥2 weeks after the patient had been discharged.
- During the intervening weeks, multiple patients had occupied the room and there had been >3 routine terminal cleanings.
- None of these samples were positive for *C. auris*.
- Pre-clean, in-residence samples indicated *C. auris* contamination of multiple surfaces for the second patient. Because of transfers within the institution, there are three sets of post-cleaning cultures for the second patient.
- All post-clean environmental cultures were negative for both patients.
- Results are shown in Figure 1

### Conclusions
- *Candida auris* can contaminate environmental surfaces.
- While routine terminal cleaning may have been effective in removing *C. auris* from surfaces in one patient’s room, the enhanced terminal cleaning strategy used here was effective and reliable in our facility.
- With persistent colonization of two patients that led to contamination of the environment, strict adherence to contact precautions and thorough environmental decontamination is essential in controlling the spread.