



Successful Environmental Disinfection to Prevent Transmission of *Candida Auris*

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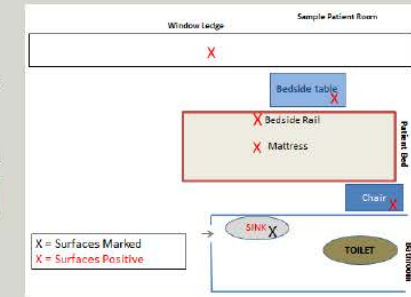


Background

- 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.



UV Light Disinfection



3M Sponge Stick



Results

Figure 1

Source	Direct culture growth (Y/N)	Species ID
Bathroom sink drain pre-clean	N	n/a
Bedside table pre-clean	N, broth	<i>C. auris</i> by MALDI
Bed rail pre-clean	N, broth	<i>C. auris</i> by MALDI
Mattress pre-clean	Y	<i>C. auris</i> by MALDI
Chair pre-clean	N, broth	<i>C. auris</i> by MALDI
Window ledge pre-clean	Y	<i>C. auris</i> by MALDI
Bathroom sink drain post-clean	N	n/a
Bedside table post-clean	N	n/a
Bed rail post-clean	N	n/a
Mattress post-clean	N	n/a
Chair post-clean	N	n/a
Window ledge post-clean	N	n/a
Bathroom sink drain post-clean	N	n/a
Bedside table post-clean	N	n/a
Bed rail post-clean	N	n/a
Mattress post-clean	N	n/a
Chair post-clean	N	n/a
Window ledge post-clean	N	n/a
Bathroom sink drain pre-clean	N	n/a
Bedside table pre-clean	N	n/a
Bed rail pre-clean	N	n/a
Mattress pre-clean	N	n/a
Chair pre-clean	N	n/a
Window ledge pre-clean	N	n/a
Bathroom sink drain post-clean	N	n/a
Bedside table post-clean	N	n/a
Bed rail post-clean	N	n/a
Mattress post-clean	N	n/a
Chair post-clean	N	n/a
Window ledge post-clean	N	n/a
Bathroom sink drain pre-clean	N	n/a
Bedside table post-clean	N	n/a
Bed rail post-clean	N	n/a
Mattress post-clean	N	n/a
Chair post-clean	N	n/a
Window ledge post-clean	N	n/a

Results

- 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.