

Summary and Action Items

The Illinois Department of Public Health's (IDPH) Divisions of Patient Safety and Quality and Infectious Diseases are circulating this Health Alert to engage healthcare partners in the control and containment of *Candida auris* within Illinois.

- 1) The number of patients with *Candida auris* clinical infections continues to rise in Illinois. The majority of these individuals currently or previously resided in skilled nursing facilities with ventilated patients or in long term acute care hospitals.
- 2) All patients with *Candida auris* infection or colonization should be placed on Standard and Contact Precautions when located in a healthcare facility.
- 3) Facilities should consider placing patients with a tracheostomy or on mechanical ventilation admitted from any skilled nursing facility or long term acute care hospital on Standard and Contact Precautions in private rooms regardless of known *Candida auris* infection or colonization (including patients who previously screened negative for *Candida auris*). (For further guidance on this recommendation, see information below.)
- 4) Rooms of patients with confirmed or suspected *Candida auris* infection or colonization should be disinfected with an Environmental Protection Agency (EPA)-registered list K sporicidal agent. This includes rooms of all patients with tracheostomies or mechanical ventilation use admitted from skilled nursing facilities or long term acute care hospitals regardless of known *Candida auris* infection or colonization (including patients who previously screened negative for *Candida auris*).
- 5) The Extensively Drug-Resistant Organism Registry ([XDRO Registry](#)) should be queried for all new admissions to identify patients with *Candida auris* or other multidrug-resistant organisms.
- 6) Facilities must ensure interfacility communication regarding the status of any patient known to be infected or colonized with *Candida auris* or other multidrug-resistant organisms at the time of transfer to another facility. Communication should include any patient screened for a multidrug-resistant organism, but for whom laboratory results are not available at the time of transfer.

Background and Illinois Disease Burden

Candida auris (*C. auris*) is an emerging fungus of public health importance due to the following:

- 1) *C. auris* can be difficult to treat due to resistance to multiple drugs commonly used to treat *Candida* infections.
- 2) *C. auris* can be difficult to identify by some standard laboratory techniques.
- 3) *C. auris* can cause outbreaks in healthcare facilities.

Since May 24, 2016, the following *C.auris* data from Illinois have been collected (as of August 24, 2018):

- IDPH has received reports of 354 cases of *Candida auris* (clinical cases: 61 confirmed, 4 probable, 2 suspect; 287 colonized) among patients primarily residing in the metro-Chicago area.
 - 11 patients were known to be colonized with *C. auris* prior to developing clinical disease. The mean time from positive colonization to clinical culture was 84 days (range: 4 – 159 days).
 - The vast majority of patients colonized or infected with *C. auris* currently or previously resided in a skilled nursing facility with ventilated patients or long-term acute care hospitals.
- State and local health staff conduct point prevalence surveys in case-associated facilities. As of August 24, 2018, 10 skilled nursing facilities with ventilated patients have been surveyed in Illinois. The prevalence of *C. auris* colonization on floors with ventilated patients ranged from 0–71%. Colonization was detected through skin swabs of the axillae and groin.
- CDC has completed antifungal susceptibility testing on 44 isolates from 29 patients in Illinois. One isolate was fluconazole-resistant and one isolate was fluconazole and echinocandin-resistant. All others were susceptible to the antifungals tested.
- Among 47 clinical patients with available risk factor data, 83% had an IV device, 79% had wounds, 70% had a feeding tube, 66% had a urinary catheter, 62% had a tracheostomy, and 62% were mechanically ventilated.
- Among 57 colonized patients with available risk factor data, 74% had a feeding tube, 68% had a tracheostomy, 58% were mechanically ventilated, 54% had wounds, 37% had a urinary catheter, and 33% had an IV device.
- Of the 61 clinical cases in Illinois, 30 (45%) were identified through blood cultures and 20 (30%) through urine cultures. Other clinical isolates were obtained from wounds, sputum, and bronchoalveolar lavage fluid.

Prevention

- 1) IDPH recommends that all facilities be aware of their likelihood of admitting patients with multidrug-resistant organisms such as *C. auris*.
 - Facilities should be aware if they receive patients from other facilities with a high prevalence of patients with known multidrug-resistant organisms or patients with risk factors for multidrug-resistant organisms.
 - If a facility requires guidance in determining this likelihood, they should contact their local health department.
- 2) Per CDC recommendations, all patients known to be infected or colonized with *C. auris* should be placed on Standard and Contact Precautions and ideally in a private room.
 - If a private room is not feasible, avoid rooming the patient with other patients who have invasive devices (e.g., central venous catheter, tracheostomy tubes, urinary catheters mechanical ventilators), have had recent surgery, or are otherwise immunocompromised (e.g., cancer, transplants, poorly controlled HIV).
 - Patients with *C. auris* could be placed in rooms with other patients with *C. auris*. Patients colonized with *C. auris* and other multidrug-resistant organisms should be placed in rooms with patients colonized with the same MDROs. CDC does **not** recommend placing patients with *C. auris* in rooms with patients with other types of multidrug-resistant organisms.

- IDPH does not currently recommend the discontinuation of Contact Precautions for any patient colonized or infected with *C. auris* including patients with subsequent negative screening tests.
 - Skilled nursing facilities can consider relaxing Contract Precautions for certain residents such as those without wounds or indwelling devices and can perform hand hygiene. For more information see this link: <https://www.cdc.gov/fungal/diseases/candidiasis/c-auris-infection-control.html>
- 3) Facilities should consider placing patients admitted from any skilled nursing facility or long term acute care hospital with a tracheostomy or on mechanical ventilation on Standard and Contact Precautions in private rooms regardless of known *C. auris* infection or colonization (including patients who previously screened negative for *C. auris*).
- The decision to implement this measure may in part be guided by a facility's likelihood of admitting patients with multidrug-resistant organisms as noted in recommendation #1.
 - If a private room is not feasible, the same guidance should be used as in recommendation #2.
- 4) Rooms of patients with confirmed or suspected *C. auris* infection or colonization should be disinfected with an Environmental Protection Agency (EPA)-registered list K sporicidal agent. This includes rooms of all patients with tracheostomies or mechanical ventilation use admitted from skilled nursing facilities or long term acute care hospitals regardless of known *C. auris* infection or colonization (including patients who previously screened negative for *C. auris*).
- CDC recommends the use of a hospital-grade EPA List K sporicidal effective against *C. difficile* for daily and terminal cleaning. A list of recommended products is available here: <https://www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium>
 - Consider the use of environmental marking to ensure surfaces are adequately cleaned/disinfected. Resources for evaluating environmental cleaning are available from the CDC at: <https://www.cdc.gov/hai/toolkits/evaluating-environmental-cleaning.html>
- 5) When possible, dedicate reusable medical equipment such as thermometers, blood glucose meters, and blood pressure cuffs to *C. auris* positive patients.
- If equipment must be shared, ensure it is disinfected with an EPA List K agent before removing the equipment from the room.
 - Having the EPA List K product available at the point of care will support compliance with disinfection before removal from the room.
- 6) The Extensively Drug-Resistant Organism Registry ([XDRO Registry](#)) should be queried for all new admissions to identify patients with *C. auris* and place them on Contact Precautions (Note: Facilities do not enter *C. auris* directly into the XDRO registry. IDPH enters all patients reported with *C. auris* infection or colonization into the registry)
- Facilities should report all cases of *C. auris* to local public health for review within 7 days of notification.
 - Details on how to access the XDRO registry can be found at: <https://www.xdro.org/login.html>
 - Contact IDPH if you require assistance with XDRO registry access.

- 7) Facilities must ensure interfacility communication regarding the status of any patient known to be colonized or infected with a multidrug-resistant organism at the time of transfer to another facility. This should also include any patient screened for a multidrug-resistant organism, but for whom laboratory results are not available at the time of transfer.
- Robust communication at the time of transfer ensures the continuation of infection prevention and control measures during transitions of care. This can be accomplished via verbal report at the time of transfer, in the discharge summary, or through the use of an interfacility transfer tool.
 - An interfacility transfer tool is available at this link: https://www.chicagohan.org/documents/14171/93622/Inter-facility+transfer+form_9_4_18.pdf/bedf5d63-a071-4d3c-ba52-2c4234ccc237

Potential Exposures

Patient risk factors for acquiring multidrug-resistant organisms such as *C. auris* include:

- Recent exposure to skilled nursing facilities or long-term acute care hospitals
- Presence of invasive lines and tubes (tracheostomies, urinary catheters, central venous catheters, feeding tubes)
- Mechanical ventilation
- Immune compromising conditions such as cancers, transplants, diabetes, renal failure, poorly controlled HIV, etc.
- Broad-spectrum antibiotic or anti-fungal use
- Recent surgery

Symptoms

C. auris can cause a range of symptoms from asymptomatic colonization to bloodstream, wound, and ear infections. *C. auris* has been found in urine and respiratory specimens, though its contribution to clinical disease in these sites is unclear.

Transmission

C. auris spreads from person to person or through contact with contaminated surfaces or equipment, particularly within the healthcare setting.

Diagnosis

C. auris is usually diagnosed by culture of blood or other bodily fluids. However, *C. auris* is harder to identify from cultures than other, more common types of *Candida*. *C. auris* can be misidentified as a number of different organisms, particularly *Candida haemulonii*, when using traditional phenotypic methods for yeast identification.

- For a summary of common organisms misidentifications based upon identification methods, see this link: <https://www.cdc.gov/fungal/candida-auris/recommendations.html>
 - Notify your local health department of any patient infected with *C. haemulonii* or another species for which *C. auris* is frequently misidentified
- A Centers for Disease Control and Prevention (CDC) algorithm to identify *C. auris* based on phenotypic laboratory method and initial species identification is available here: <https://www.cdc.gov/fungal/diseases/candidiasis/pdf/Testing-algorithm-by-Method-temp.pdf>.

General recommendations regarding *Candida* species identification include:

- Identify all *Candida* isolates from sterile sites (e.g., bloodstream, cerebrospinal fluid) to the species level so that appropriate **initial** treatment can be administered based on the typical, species-specific susceptibility patterns.

- Consider identifying all *Candida* isolates to the species level from non-sterile sites (e.g., urine, wounds, bile, sputum) if:
 - Clinically indicated (e.g. treatment failure is suspected)
 - Patient has been in contact with a known *C. auris* patient
 - Patient has been recently hospitalized in an area with known *C. auris* transmission. This information can be found on the CDC website: <https://www.cdc.gov/fungal/candida-auris/tracking-c-auris.html>
 - Patient with a tracheostomy or on mechanical ventilation admitted from a skilled nursing facility or long term acute care hospital
 - Patient is colonized or infected with another multidrug-resistant organism, especially carbapenemase-producing organisms
 - There is an increase in unspciated *Candida* isolates from any specimen source within a healthcare facility
- All laboratories should submit the first clinical isolate per patient to the IDPH laboratory in Chicago for confirmatory and antifungal drug susceptibility testing. Laboratories should notify their local health department prior to sending the isolate to the IDPH laboratory.

IDPH and LHD Response

IDPH along with local health departments (LHD) continues to aid in *C. auris* case investigation, surveillance, and prevention efforts in collaboration with multiple healthcare facilities throughout the state.

Contact

Contact your local health department for:

- Patients newly colonized or infected with *C. auris* within 7 days of notification
- Guidance on *C. auris* screening of roommates or other close contacts
- Guidance on patient cohorting (i.e., grouping patients infected with the same infectious agents together to confine their care to one area and prevent contact with susceptible patients)
- Guidance of infection control interventions

LHD contacts can be found at this [link](#).

IDPH can be contacted at the following email address: dph.XRORRegistry@illinois.gov

Additional Resources

Centers for Disease Control and Prevention *Candida auris* website:

<https://www.cdc.gov/fungal/candida-auris/index.html>

Centers for Disease Control and Prevention. (2014). Options for Evaluating Environmental Cleaning. Retrieved from <https://www.cdc.gov/hai/toolkits/evaluating-environmental-cleaning.html>

Centers for Disease Control and Prevention. (2017). *Candida auris*: A drug-resistant germ that spreads in healthcare facilities. Retrieved from https://www.cdc.gov/fungal/diseases/candidiasis/pdf/Candida_auris_508.pdf

Centers for Disease Control and Prevention. (2018a). *Candida auris* 2018 Case Definition. Retrieved from <https://www.cdc.gov/nndss/conditions/candida-auris/case-definition/2018/>

Centers for Disease Control and Prevention. (2018b). Healthcare Professionals. Retrieved from <https://www.cdc.gov/fungal/candida-auris/health-professionals.html>

Centers for Disease Control and Prevention. (2018c). Recommendations for Identification of Candida auris. Retrieved from <https://www.cdc.gov/fungal/candida-auris/recommendations.html>

Centers for Medicare and Medicaid Services Long Term Care Facility regulations to include the need for a facility assessment and infection control regulations.
https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf

Target Audience

Local Health Departments, Infectious Disease Physicians, Hospital Emergency Departments, Infection Control Preventionists, Health Care Providers, Long Term Care Facilities, and Laboratories

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