



Prepare Now to Prevent Transmission of *Candida auris* in your Healthcare Facility

RECOMMENDATIONS AND RESOURCES FOR HEALTHCARE FACILITIES,
INFECTION PREVENTIONISTS, AND PUBLIC HEALTH

Washington State Department of Health
Healthcare Associated Infections & Antimicrobial Resistance Program

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Background on *Candida auris*

WHAT IS *CANDIDA AURIS*?

Candida auris (*C. auris*) is a recently identified fungus that is a serious health threat. *C. auris*

- Causes life threatening invasive infections in vulnerable patients
- Is frequently resistant to multiple antifungal drugs
- Is difficult to identify with standard lab methods, leading to incorrect management
- Causes difficult to control outbreaks in healthcare settings
- Can spread in healthcare settings through contact with contaminated environmental surfaces or equipment, or from person to person

As of June 2021, *C. auris* cases have been reported in 17 US states, including California on the West Coast, and, additionally, in British Columbia. It's only a matter of time before it's identified in a Washington healthcare facility.

WHO IS MOST LIKELY TO GET *CANDIDA AURIS*?

Patients at highest risk of *C. auris* infection have:

- Received healthcare in areas with *C. auris* transmission
- Spent time in nursing homes and long-term acute care hospitals
- Indwelling devices like breathing tubes, feeding tubes, and central venous catheters
- Serious chronic health issues requiring advanced healthcare

Work with your Leadership and Staff

EDUCATE YOUR LEADERSHIP ABOUT *C. AURIS*

C. auris outbreaks have forced some facilities to close to new admissions and damaged patients' confidence in the ability of facilities to provide safe care. It's imperative that healthcare facilities prepare for the arrival of *C. auris* in our state.

Two ways that your facility can prepare for *C. auris* are to:

1. Provide a brief educational session on *C. auris* for your leadership. [See Appendix I for an educational presentation, and link to a recording that you can show during an in-service.]
2. Share information and articles about *C. auris* to raise awareness and recruit necessary resources to prepare to prevent transmission in your facility. [See Appendix II for links to these sites.]
 - US Centers for Disease Control and Prevention information on *C. auris*
 - Adams E, Quinn M, Tsay S, et al. Candida auris in Healthcare Facilities, New York, USA, 2013–2017. *EID* 2018;24(10):1816-1824.
 - Richtel M, Jacobs A. A Mysterious Infection, Spanning the Globe in a Climate of Secrecy. *New York Times*, April 6, 2019.
 - Vallabhaneni S, Jackson BR, Chiller TM. Candida auris: An Emerging Antimicrobial Resistance Threat. *Ann Intern Med*. [Epub ahead of print 30 July 2019] doi: 10.7326/M19-2205

EDUCATE YOUR STAFF ABOUT *C. AURIS*

Provide a brief in-service for staff before you have *C. auris* in your facility. Be sure to include Environmental Services staff and emphasize their important role in preventing transmission of infectious agents in the facility. [See Appendix I for an educational presentation, and link to a recording that you can show during an in-service.] Make sure staff know that *C. auris*

- Causes life threatening invasive infections in vulnerable patients
- Can be spread from one patient to another by healthcare workers hands and contaminated environmental surface and equipment
- Can be shed from patients' skin even if they are only colonized (i.e., patient has *C. auris* on the skin or other parts of the body, but no symptoms of infection)
- Is unlikely to cause an infection in a healthy person, including staff and their families, but staff should still be careful not to contaminate themselves when caring for patients with *C. auris*.

Work with your Lab

HOW IS *C. AURIS* DIAGNOSED?

Laboratories identify yeast and fungi in tissue and cultures. The *C. auris* name can be broken down into genus and species-levels. *Candida* is the genus, while *auris* is a species of *Candida*. Labs may or may not identify the species of *Candida*. The decision for a lab to speciate (identify the species) may depend on whether the specimen source is a normally sterile site (i.e., blood) versus a non-sterile site (i.e., urine). *C. auris* can be misidentified by certain laboratory systems. Talk to your lab to make sure they know whether their laboratory system can properly identify *C. auris*. [See Appendix III for lab systems that can misidentify *C. auris*.] Educate the lab that any suspect or confirmed *C. auris* should be considered an alert value to be reported rapidly to facility infection prevention and public health.

LAB ALERTS FOR SUSPECTED OR CONFIRMED *C. AURIS*

Make sure your lab will notify you immediately when *C. auris* is suspected or confirmed in one of your patients. *C. auris* should be an alert value and labs should report suspected or confirmed *C. auris* to public health and submit isolates to the public health laboratory.

REPORTING SUSPECTED OR CONFIRMED *C. AURIS* TO PUBLIC HEALTH

Healthcare facilities, providers and labs are required to report suspected or confirmed *C. auris* to public health. [Find your local health department on this map](https://www.doh.wa.gov/AboutUs/PublicHealthSystem/LocalHealthJurisdictions) (<https://www.doh.wa.gov/AboutUs/PublicHealthSystem/LocalHealthJurisdictions>) and have the number readily available.

ADMISSION SCREENING FOR *C. AURIS*

Centers for Disease Control and Prevention (CDC) recommends screening for *C. auris* in patients who

- Had an overnight hospitalization outside the United States in the previous year, especially if in a country with documented *C. auris* cases
- Had an overnight hospitalization in an area of the United States with ongoing transmission of *C. auris*, such as Southern California, New York, New Jersey and Illinois
- Are infected or colonized with a non-KPC carbapenemase producing organism (e.g., NDM, VIM, IMP, OXA-48).

Contact the HAI Program if you would like to implement admission screening in your facility. HAI@DOH.wa.gov

Prepare Now

INFECTION CONTROL BASICS ARE EFFECTIVE AGAINST *C. AURIS*

Train, reinforce, and audit infection control basics:

- Standard & Transmission-based Precautions
- Hand Hygiene
- Environmental Cleaning and Disinfection
- Appropriate use of Personal Protective Equipment
- Reprocessing of Reusable Medical Equipment

Make sure all of your caregiving staff can perform these actions correctly and do so when caring for patients. We cannot overstate how important it is to audit these practices.

Create a table of all equipment in patient rooms (e.g., wheelchair, recliner, commode, glucose monitor, ventilator, IV pole, feeding pump, patient lift) identifying the person responsible for cleaning it (e.g., environmental services, bedside caregiving staff, respiratory therapist, etc.), when and how often it should be cleaned, the product used to clean it, and the contact time (i.e., length of time a surface is exposed to a disinfectant). Ensure that the cleaning method and product used follow manufacturer's instructions for cleaning.

HAVE THE NECESSARY SUPPLIES ON HAND

Transmission-based Precautions Set-Up—*C. auris* patients should be placed on contact precautions, and gown and gloves used for every entry to the patient's room. The set up should include

- Appropriate signage
- Isolation equipment storage cart to be placed outside of the rooms
- Designated waste disposal container to be placed inside the room
- Adequate personal protective equipment that is readily available
- Single patient use equipment

See Appendix V for examples of isolation signs and isolation equipment set-up.

Single Patient Use Equipment—Stethoscopes, blood pressure cuffs, pulse oximeter sensors, and gait belts should be assigned to each *C. auris* patient and stored inside the patient's room.

Hand Sanitizer—Hand sanitizer is effective against *C. auris*. Facilities should have adequate hand sanitizer dispensers so that hand sanitizer is readily accessible immediately outside the room and inside the room. In most healthcare settings, risk to patients from transmission of infectious agents due to inadequate hand hygiene is greater than the risk of poisoning from drinking hand sanitizer.

Products for Cleaning and Disinfection—Similar to *C. difficile* and *Norovirus*, *C. auris* requires special cleaning and disinfection solutions to effectively kill it. We advise that you select a single product that can be used for all three organisms and have it on hand now before you have *C. auris* in your facility. Bleach and hydrogen peroxide appear to be most effective. [See Appendix VI for resources on appropriate products for use against *C. auris*.] In most healthcare settings, risk to patients from transmission of infectious agents due to inadequate cleaning is greater than the risk of harm from accessing disinfecting wipes.

I have a patient with *C. auris*—what should I do?

See “[What to do if you identify a targeted multidrug resistant organism \(MDRO\) case in your facility](https://www.doh.wa.gov/Portals/1/Documents/Pubs/420-333-facilityMDROResponseWorksheet.pdf)” (<https://www.doh.wa.gov/Portals/1/Documents/Pubs/420-333-facilityMDROResponseWorksheet.pdf>) and follow the instructions.

Healthcare Associated Infection & Antimicrobial Resistance Program

CONSULTATION

The HAI & AR Program is available for phone or email consultation for any questions related to healthcare infection prevention, unusual organisms, and healthcare outbreaks.

ONSITE INFECTION PREVENTION AND CONTROL ASSESSMENTS

The HAI & AR Program performs on-site assessments of infection prevention programs to ensure that your program meets minimum expectations for safe care in order to improve patient safety. An additional benefit is that the assessment can improve your survey readiness.

CONTACT US

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Infection Prevention Epidemiologist: Peggy Douglas, MPH, RRT, CIC

Multidrug Resistant Organism Epidemiologist: Kelly Kauber, MPH, CIC

Phone: 206-418-5500

Email: HAI@DOH.wa.gov

To schedule onsite infection prevention assessment, email Melissa Feskin at melissa.feskin@doh.wa.gov

Appendix I

Educational presentation for healthcare staff. A [video recording](#) is available under “Resources” on the [Candida auris webpage](#) available at:

https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions/Candida_auris

Candida auris: Working together to prevent spread in your healthcare facility



Washington State Department of Health
Updated 6/15/2021 Pub number 420-271

Candida Auris: Here's why it's a superbug and what that means

Candida Auris: The Fungus Nobody Wants to Talk About

This drug-resistant fungus is spreading
Scientists warn of new superbugs to come

How a Chicago Woman Fell Victim to Candida Auris, a Drug-Resistant Fungus
The mysterious infection has appeared at hospitals around the world. Institutions or families have dismissed their

Schumer Calls On CDC To Declare Emergency Over Superbug Fungus Spreading In N.Y.

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What is *Candida auris*?

- Newly identified species of fungus (2009, Japan, from a patient's ear)
- Candida* is a common genus of yeast
 - Candida albicans* is a common cause of infections such as thrush and vaginal yeast infections
 - Many *Candida* species are found inside and outside the body and, in most cases, does not cause serious infections
- However, *C. auris* is **different**

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Why are we concerned about *Candida auris*?



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***Candida auris* cases have been reported across the world**

Countries from which *Candida auris* cases have been reported, as of February 15, 2021
This map is no longer being updated given how widespread *C. auris* has become.



Updated 6/15/2021 Pub number 420-271

***C. auris* clinical cases reported by state of collection—United States, April 1, 2020-March 31, 2021**

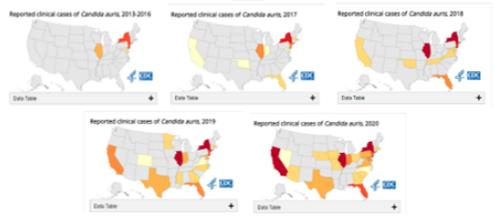
Reported clinical cases of *Candida auris*, April 1, 2020-March 31, 2021



Clinical Cases= 676
Colonization Cases= 1,789

Updated 6/15/2021 Pub number 420-271

Reported clinical cases of *C. auris* by state of collection, 2013-2020



Updated 12/17/2020 Pub number 420-271

***C. auris* typically affects the sickest patients**

- Not a threat to general public or healthy individuals
- Usually affects patients with
 - Tracheostomies
 - Ventilator-dependence
 - Indwelling medial devices
 - Drug-resistant organisms
 - Recent receipt of antibiotics or antifungals
 - Healthcare in a region with HC transmission



Updated 12/17/2020 Pub number 420-271

More common in higher acuity facilities

C. auris prevalence in nursing home units with ventilator beds



7.7%

C. auris prevalence in regular nursing homes



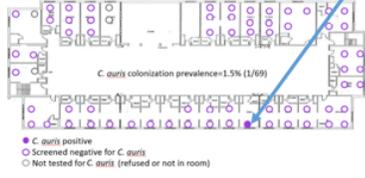
0.7%

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Candida auris spreads in healthcare facilities

vSNF A Ventilator/Trach Floor
March 2017 C. auris PPS Results



1 case of C. auris

Site courtesy of Chicago Department of Public Health.

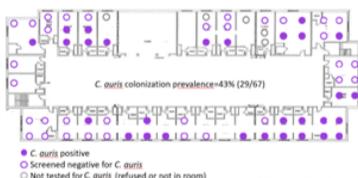
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Candida auris spreads in healthcare facilities

vSNF A Ventilator/Trach Floor
January 2018 C. auris PPS Results

10 months later,
29 cases of C. auris!



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C. auris persists in the environment and on mobile equipment



- Can survive more than a month on common surfaces
- Quaternary ammonium disinfectants do not work
- Shed in patients' skin cells
- Mobile equipment (BP machine, pulse oximeters, thermometers, etc.) have been implicated in outbreaks

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How do we STOP C. auris?

- Patient placement
- Transmission-based precautions
- Hand hygiene
- Environmental cleaning and disinfection
- Personal protective equipment
- Reprocessing reusable medical equipment
- Colonization screening



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Patient placement

- Private room if possible (or cohorted with another C. auris patient)

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Transmission-based precautions

- Contact precautions
- Isolation
- Appropriate signage

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Standard precautions

- All patients
- All the time
- All healthcare facilities



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Contact precautions

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Source: CDC

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Hand hygiene

- Hand sanitizer works as well as soap and water, except when hands are visibly soiled (and not for Norovirus or C difficile)
- Hand sanitizer should be available in each patient room and at many sites in the hallways
- Clean hands before and after patient care, and always after removing gloves

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Not enough hand sanitizer

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Environmental cleaning and disinfection

- *C. auris* requires special cleaning solutions (See EPA list K for products effective against spore forming organisms)
- Train and audit environmental services staff

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Personal protective equipment

- Gowns and gloves for all room entry
- Additional PPE as needed if splashing is anticipated
- Signage should name level of precautions to use
- Isolation cart outside room
- Isolation waste disposal inside room

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Reprocessing reusable medical equipment

- Patient should have dedicated personal equipment (stethoscope, BP cuff, pulse oximeter probe, gait belt) stored inside room
- All shared medical equipment must be thoroughly cleaned and disinfected after use according to manufacturers' instructions
- Make sure appropriate cleaning product is easily accessible for use
- Ensure clean and dirty are clearly marked

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Shared equipment

- Who cleans what?
- When? How often?
- With what product?
- What is contact time?

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Communication when patients transfer care

- Does the patient have any multidrug resistant or other transmissible infectious organisms?
- Symptoms or other indications for transmission-based precautions (TBP)?
- Currently in TBP?
- On antibiotics?
- Recent vaccinations? (e.g., COVID, pneumococcal, influenza)

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Resources

- DOH Candida auris webpage
<https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions/Candidaauris>
- EPA list P
<https://www.epa.gov/pesticide-registration/list-p-antimicrobial-products-registered-epa-claims-against-candida-auris>
- CDC interfacility communication form
<https://www.cdc.gov/hai/cdfs/toolkits/interfacility-IC-Transfer-Form-508.pdf>
- Washington Local Health Departments
<https://www.doh.wa.gov/AboutUs/PublicHealthSystem/LocalHealthJurisdictions>

Updated 4/15/2021. Not number 420-371.

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Appendix II

Information and articles about *C. auris*

- US Centers for Disease Control and Prevention information on *C. auris*
<https://www.cdc.gov/fungal/candida-auris/index.html>
- Adams E, Quinn M, Tsay S, et al. Candida auris in Healthcare Facilities, New York, USA, 2013–2017. *EID* 2018;24(10):1816-1824.
https://wwwnc.cdc.gov/eid/article/24/10/18-0649_article
- Richtel M, Jacobs A. A Mysterious Infection, Spanning the Globe in a Climate of Secrecy. *New York Times*, April 6, 2019.
<https://www.nytimes.com/2019/04/06/health/drug-resistant-candida-auris.html>
- Vallabhaneni S, Jackson BR, Chiller TM. Candida auris: An Emerging Antimicrobial Resistance Threat. *Ann Intern Med*. [Epub ahead of print 30 July 2019] doi: 10.7326/M19-2205
<https://annals.org/aim/fullarticle/2739790/candida-auris-emerging-antimicrobial-resistance-threat>

Appendix III

The table below shows common lab systems that can misidentify *C. auris*:

Identification Method	Organism <i>C. auris</i> can be misidentified as
Vitek 2 YST	<i>Candida haemulonii</i> <i>Candida duobushaemulonii</i>
API 20C	<i>Rhodotorula glutinis</i> (characteristic red color not present) <i>Candida sake</i>
BD Phoenix yeast identification system	<i>Candida haemulonii</i> <i>Candida catenulata</i>
MicroScan	<i>Candida famata</i> <i>Candida guilliermondii</i> * <i>Candida lusitaniae</i> * <i>Candida parapsilosis</i> *
RapID Yeast Plus	<i>Candida parapsilosis</i> *

C. guilliermondii, *C. lusitaniae*, and *C. parapsilosis* generally make pseudohyphae on cornmeal agar. If hyphae or pseudohyphae are not present on cornmeal agar, this should raise suspicion for *C. auris* as *C. auris* typically does not make hyphae or pseudohyphae. However, some *C. auris* isolates have formed hyphae or pseudohyphae. Therefore, it would be prudent to consider any *C. guilliermondii*, *C. lusitaniae*, and *C. parapsilosis* isolates identified on MicroScan or any *C. parapsilosis* isolates identified on RapID Yeast Plus as possible *C. auris* isolates and forward them for further identification.

Source: CDC

Please note that this list is based on current knowledge about *C. auris* misidentification. It may change we learn more about misidentification of *C. auris*.

Laboratorians should also review [detailed algorithms for when to suspect *C. auris* based on identification methods](#) available at:

<https://www.cdc.gov/fungal/diseases/candidiasis/pdf/Testing-algorithm-by-Method-temp.pdf>

Appendix IV

Isolation sign and isolation equipment set-up examples

EXAMPLE 1

Washington State Hospital Association Isolation Precautions signs

<https://washington-state-hospital-association.myshopify.com/collections/isolation-precautions>

Washington State Hospital Association Contact Precautions sign download

http://www.wsha.org/wp-content/uploads/Contact_2019_Everyone-Must-Gown-Glove-2019.05.30.pdf



EXAMPLE 2

US Centers for Disease Control Isolation Precautions signs

https://www.cdc.gov/infectioncontrol/basics/transmission-based-precautions.html#anchor_1564058318

US Centers for Disease Control Contact Precautions sign download

<https://www.cdc.gov/infectioncontrol/pdf/contact-precautions-sign-P.pdf>



Isolation Cart



Do not store patient equipment in isolation cart. Patient equipment should be stored in the patient's room.

Appendix V

Appropriate products for use against *C. auris*

List P: [EPA's Registered Antimicrobial Products Effective against *Candida auris*](https://www.epa.gov/pesticide-registration/list-p-antimicrobial-products-registered-epa-claims-against-candida-auris)
<https://www.epa.gov/pesticide-registration/list-p-antimicrobial-products-registered-epa-claims-against-candida-auris>

When use of products on List P is not feasible, published research found that the following products led to a substantial reduction (≥ 4 log reduction) of *C. auris* in laboratory testing (Cadnum et al., 2017; Rutala, et al., 2019):

- Oxivir Tb
- Clorox Healthcare Hydrogen Peroxide Cleaner Disinfectant
- Prime Sani-Cloth Wipe
- Super Sani-Cloth Wipe

Data on hands-free disinfection methods, like germicidal UV irradiation, are limited, and these methods may require cycle times similar to those used to inactivate bacterial spores (e.g., *Clostridioides difficile*) when used for *C. auris* (Cadnum et al., 2018).

It is important to follow all manufacturers' directions for use of the surface disinfectant, including applying the product for the correct contact time.

References are provided below.

Cadnum JL, Shaikh AA, Piedrahita CT, et al. Effectiveness of Disinfectants against *Candida auris* and Other *Candida* Species. *Infect Control Hosp Epidemiol* 2017; 38:1240–1243.
<https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/effectiveness-of-disinfectants-against-candida-auris-and-other-candida-species/Co335D6FB5B4017A36E2ABE7A8BABA62>

Rutala WA, Kanamori H, Gergen MF, et al. Susceptibility of *Candida auris* and *Candida albicans* to 21 germicides used in healthcare facilities. *Infect Cont Host Epidemiol* 2019;40(3):380–382.
<https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/susceptibility-of-candida-auris-and-candida-albicans-to-21-germicides-used-in-healthcare-facilities/DFE3E75621EA6FE96F009B9D2E192F36>

Cadnum JL, Shaikh AA, Piedrahita CT, et al. Relative Resistance of the Emerging Fungal Pathogen *Candida auris* and other *Candida* Speies to Killing by Ultraviolet Light. *Infect Control Hosp Epidemiol* 2018;39(1):94–96.
<https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/relative-resistance-of-the-emerging-fungal-pathogen-candida-auris-and-other-candida-species-to-killing-by-ultraviolet-light/661E58B60842657A951DE2E44C5FD46A>