

The ABC's of *Candida auris*: A Can-Do Guide for Leadership



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Healthcare Associated Infection/Antimicrobial Resistance (HAI/AR) Program



Department of
Public Health

CITY OF PHILADELPHIA

Objectives

- Empower the leadership in Long-Term Care Facilities (LTCF) to confidently care for residents with *C. auris*
- Enact vigilant infection control and environmental cleaning practices to prevent the transmission of *C. auris*



This simple can-do guide is built on an ABC approach that contains 3 major components for *C. auris* care:

A= About *C. auris*

B= Behaviors to break the chain of transmission

C= Clean & Disinfect



A
About
C. auris



About *C. auris*

- A rapidly emerging drug resistant fungus
- Ventilator capable facilities are at the highest risk
- It causes both serious infection and colonization
- More than 1 in 3 patients die within a month of being diagnosed with an invasive *C. auris* infection
- Can live on surfaces for over month
- Readily spread via direct contact with a colonized or infected resident, their belongings, or their environment

About *C. auris*: Colonization vs. Infection

Colonization

- Fungus lives on skin
- Residents may be colonized and unaffected but can transmit it to others
- Colonization can lead to infection
- No known decolonization strategy

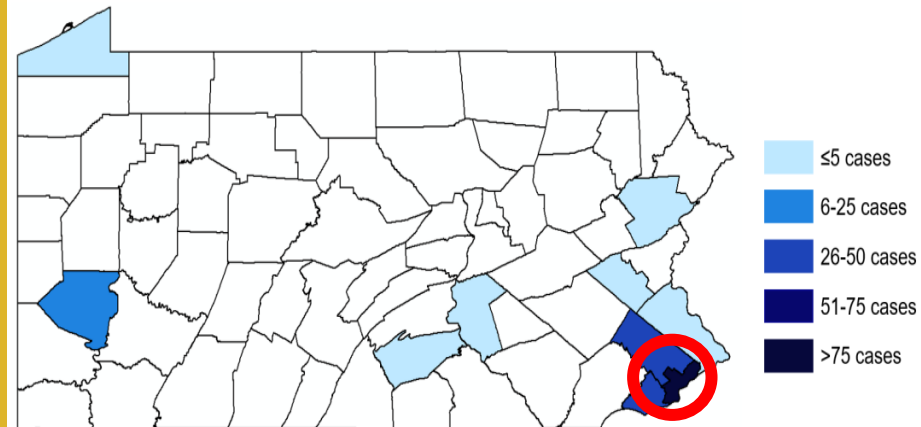
Infection

- *C. auris* can cause serious bloodstream, wound, or urinary tract infections
- Residents with treated infection remain colonized indefinitely

About *C. auris*: Epidemiology

- First identified in Japan 2009, emerged globally and was identified in the US by 2016
- The first case of *C. auris* in Philadelphia was detected in March 2020
- Cases of both infection and colonization continue to rise in Philadelphia healthcare facilities
- Philadelphia as of March 2023:
 - 77 colonized & 30 infections for a total of 107 cases

Figure: *Candida auris* Cases in Pennsylvania by County of Healthcare Facility where Identified, March 2020—March 29, 2023, N=199



Data for Philadelphia County courtesy of the Philadelphia Department of Public Health

[Candida auris in Pennsylvania \(pa.gov\)](#)

[Update: Outbreak and Containment of Candida auris in PA Healthcare Facilities](#)

About *C. auris*: Highest Risk Residents



- Residents with complex medical histories e.g., tracheostomies, vent-dependent, other invasive devices
- Multiple healthcare stays in acute and post-acute care facilities
- Close healthcare contact with another resident diagnosed with *C. auris* (i.e., roommates)
- Those colonized with other Multi Drug Resistant Organisms (MDRO)

B

Behaviors that Break the Chain of Transmission



Behavior: Teamwork Breaks the Chain of Transmission



**Infection
Preventionist**



**Nursing
Staff**



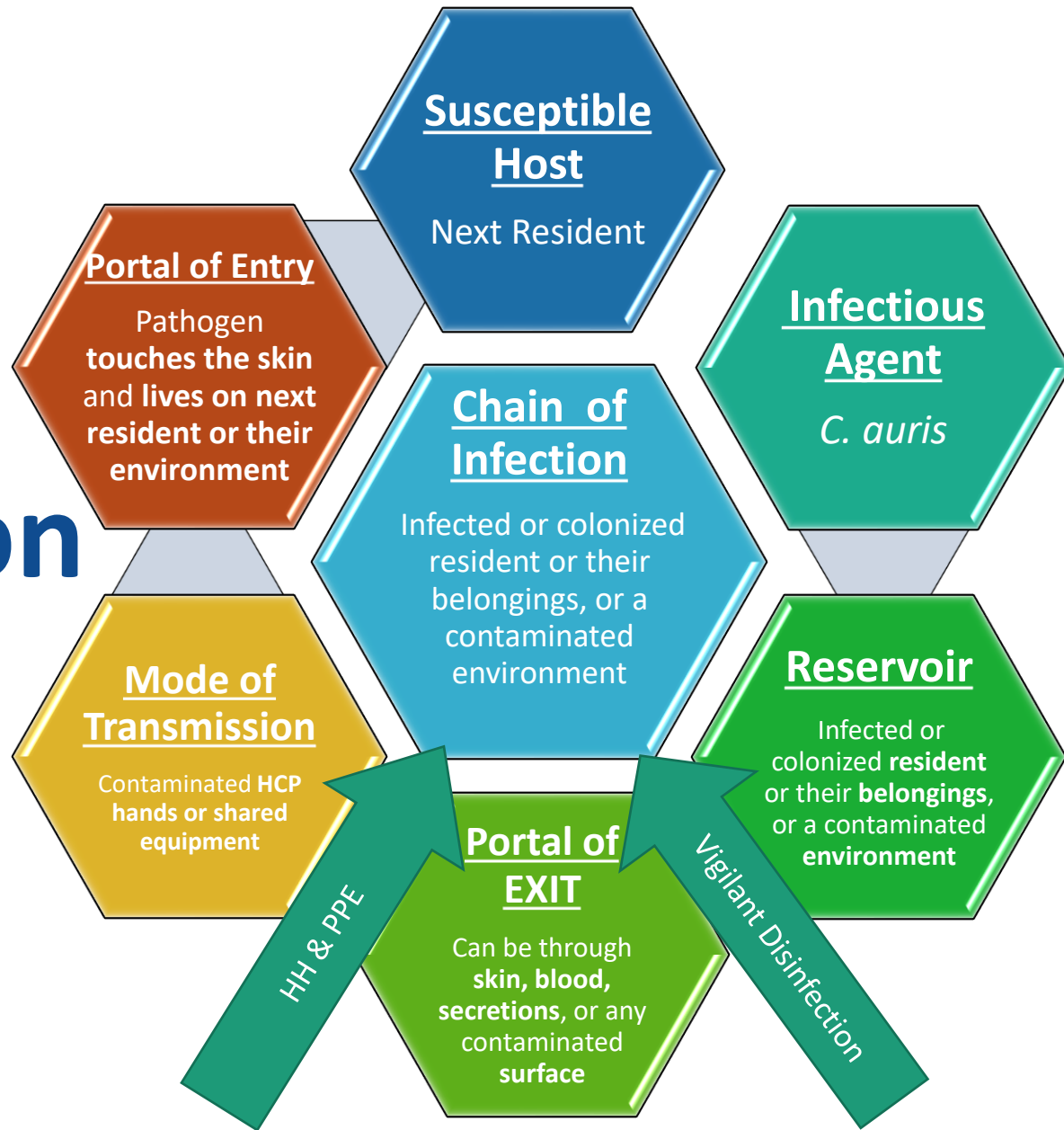
**Other
Regular and
Contracted
Staff**



**Environmental
Services**

***Leadership supports the Infection Prevention Program!**

Behavior: Break the Chain of Transmission



****Reminder****
Facilitating Infection
Control Behaviors at any
link stops *C. auris* from
spreading and causing
infection.

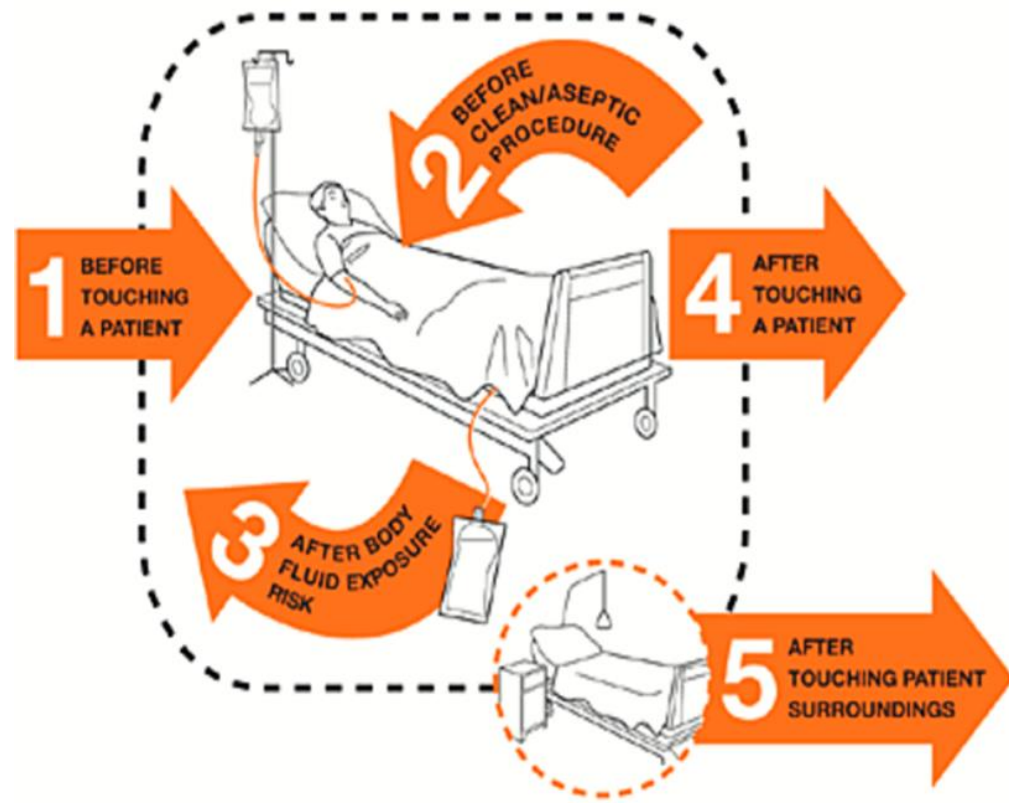
Behavior: HAND HYGIENE (HH)

- Single most important practice to break the chain of transmission of any infectious agent in the healthcare setting
- Alcohol based hand sanitizer (ABHS) is the preferred method of HH by the CDC for staff and patients
- Soap and water should be used when hands are visibly soiled and with *C. difficile* and norovirus
- Audit staff on HH moments and techniques



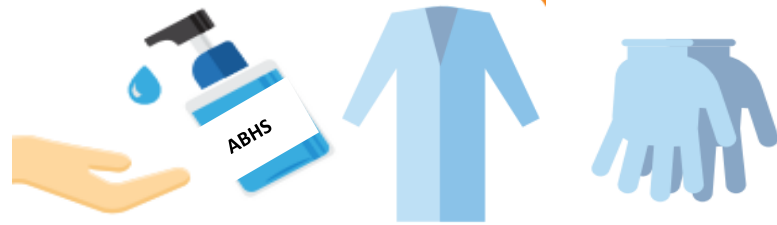
World Health Organization's Five Moments of HH

- Go to the resident with clean hands and leave the resident with clean hands
- Doing HH between procedures on the same resident prevents infection from spreading to other areas of the body
- Touching anything in the resident's environment requires HH before exiting the room



Behavior: Use Personal Protective Equipment (PPE)

- Keep an isolation cart outside of the resident's room, stocked with appropriately sized **gowns**, **gloves**, and **disinfectant wipes** with a *C. auris* kill claim
- **Audit** staff on safely:
 - Donning PPE before room entry
 - Doffing and discarding PPE before exiting
 - **Performing HH after sequential PPE removal**
 - [ppe-sequence.pdf \(cdc.gov\)](https://www.cdc.gov/ppe-sequence.pdf)



Behavior: Using Contact Precautions

- Signs should be posted in the resident's doorway
 - Signs Must **remind ALL staff** entering the room about HH and required PPE before entry
 - Use **disposable or dedicated equipment** when possible and store it in resident's room
 - Always disinfect any shared equipment prior to re-use
 - A private resident room placement is best
- * may cohort with other *C. auris* patients**



**CONTACT
PRECAUTIONS**
EVERYONE MUST:



Clean their hands, including before entering and when leaving the room.

PROVIDERS AND STAFF MUST ALSO:



Put on gloves before room entry.
Discard gloves before room exit.



Put on gown before room entry.
Discard gown before room exit.

Do not wear the same gown and gloves for the care of more than one person.



Use dedicated or disposable equipment.
Clean and disinfect reusable equipment before use on another person.

CS19-306149-A



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

Behavior: Use a Transfer Form to Communicate

- Clearly communicate about the *C. auris* resident's needs to receiving healthcare providers inside and outside of the facility
- Contact Precautions Notification

Example



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Patient Name/ID: _____

Completing facility: _____ Date completed: _____

This patient was identified to have *Candida auris*: (select one)

Infection

This infection has been treated (patient is likely to be colonized and should be maintained on contact precautions)

Treatment is ongoing

Colonization

This case status is: (select one)

Confirmed: *Candida auris* was isolated from a body site

Under investigation: Laboratory results are pending and *Candida auris* is suspected

The organism was isolated from the patient's: (check all that apply)

Skin Blood Urine Respiratory tract

Wound Stool Other: _____

The Isolation/Transmission-based Precaution status at time of discharge:

Contact Droplet Airborne Enhanced barrier

Other organisms requiring isolation: _____

Most recent topical antiseptic application (chlorhexidine gluconate [CHG]) if applicable:

Date: _____ **Body Sites:** _____

Additional Notes:

Behaviors: Reporting

- Train all staff to Call PDPH: (215) 685-6748 [after-hours (215) 686-4514] to report a case of *C. auris* **within 24 hours**
- **Fax** the completed report form to PDPH at (215) 238-6947
- Implement the same infection control measures for **suspected** cases too



Candida auris Report Form		Philadelphia Department of Public Health Division of Disease Control 1101 Market St., 12th Floor Philadelphia, PA 19107 Telephone: (215) 685-6748 Fax: (215) 238-6947 Form available at hip.phila.gov	
PATIENT DEMOGRAPHIC INFORMATION			
PATIENT'S NAME (LAST, FIRST)		D.O.B. / /	AGE (years) / /
		SEX <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other	
RACE <input type="checkbox"/> African-American <input type="checkbox"/> White <input type="checkbox"/> Asian <input type="checkbox"/> Pacific Islander <input type="checkbox"/> Native-American <input type="checkbox"/> Unknown <input type="checkbox"/> Other		HISPANIC <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> UNK	
CURRENT ADDRESS <input type="checkbox"/> Private Residence <input type="checkbox"/> Healthcare/Assisted Living Facility		ZIP CODE	PATIENT TELEPHONE <input type="checkbox"/> Work <input type="checkbox"/> Cell <input type="checkbox"/> Home
FACILITY NAME, if residing in a healthcare/assisted living facility		WAS FACILITY NOTIFIED <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	PART OF OUTBREAK/CLUSTER <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
CLINICAL DATA			
HOSPITALIZED <input type="checkbox"/> Yes <input type="checkbox"/> No	HOSPITAL NAME	ADMIT DATE / /	DISCHARGE DATE / /
		Admitted to Intensive Care Unit <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> UNK Fatal <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Date of Death: / /	
REASON FOR TESTING <input type="checkbox"/> Screening/Surveillance <input type="checkbox"/> Signs/Symptoms of Infection		SIGNS/SYMPTOMS ONSET DATE, if infection: / /	
		History of <i>C. auris</i> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> UNK Date of first positive: / /	
INFECTION(S) ASSOCIATED WITH CULTURE(S) (Check all that apply) <input type="checkbox"/> None <input type="checkbox"/> Candidemia (blood) <input type="checkbox"/> Respiratory Tract Infection			
<input type="checkbox"/> Urinary Tract Infection (UTI) <input type="checkbox"/> Organ Space/Abscess <input type="checkbox"/> Skin/Soft Tissue Infection or Wound <input type="checkbox"/> Other: _____			
UNDERLYING MEDICAL CONDITIONS (Check all that apply or attach problems list or pertinent sections of medical records)			
<input type="checkbox"/> Chronic Heart/Cardiovascular Disease <input type="checkbox"/> Kidney Disease: <input type="checkbox"/> Dialysis in Past Year <input type="checkbox"/> Wound(s), specify: _____		<input type="checkbox"/> Diabetes <input type="checkbox"/> Neurological, specify: _____ <input type="checkbox"/> Other, specify: _____	
<input type="checkbox"/> COPD <input type="checkbox"/> Immunosuppression, specify: _____		<input type="checkbox"/> None <input type="checkbox"/> Unknown	
RISK FACTORS			
IF AVAILABLE, HISTORY OF HEALTHCARE STAYS IN THE UNITED STATES IN THE PREVIOUS YEAR (List where the patient was transferred from first)			
Facility: _____	Admission/Discharge Dates: / / - / /		
Facility: _____	Admission/Discharge Dates: / / - / /		
Facility: _____	Admission/Discharge Dates: / / - / /		
HISTORY OF INTERNATIONAL TRAVEL and/or MEDICAL CARE ABROAD IN PREVIOUS YEAR (Check all that apply)			
<input type="checkbox"/> International Travel <input type="checkbox"/> Medical Care Abroad <input type="checkbox"/> No <input type="checkbox"/> Unknown Dates of travel: / / - / /			
If yes, location(s): _____			
SURGERY/PROCEDURE INVOLVING A SCOPING DEVICE IN THE PAST YEAR? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If yes, date: / /			
LABORATORY (Please attach culture and sensitivity results and any other applicable test results available)			
SPECIMEN COLLECTION DATE: / /		RESULT DATE: / /	
		GENUS and SPECIES: <input type="checkbox"/> <i>Candida auris</i> <input type="checkbox"/> <i>Candida haemulonii</i> <input type="checkbox"/> Other: _____	
SPECIMEN TYPE (Check all that apply) <input type="checkbox"/> Blood <input type="checkbox"/> Urine		DIAGNOSTIC METHOD <input type="checkbox"/> MALDI-TOF <input type="checkbox"/> VITEK 2 YST	
<input type="checkbox"/> Wound <input type="checkbox"/> Respiratory Secretions		<input type="checkbox"/> MALDI Biotyper <input type="checkbox"/> API 20c AUX	
<input type="checkbox"/> Skin <input type="checkbox"/> Ear		<input type="checkbox"/> BD Phoenix <input type="checkbox"/> MicroScan	
<input type="checkbox"/> Groin <input type="checkbox"/> Axilla		<input type="checkbox"/> Whole Genome Sequencing (WGS)	
<input type="checkbox"/> Other, specify: _____		<input type="checkbox"/> Other: _____	
RESISTANT/INTERMEDIATE TO AT LEAST ONE DRUG IN THE CLASS: (Check all that apply)			
<input type="checkbox"/> Azoles (e.g. Fluconazole)		<input type="checkbox"/> 5-fluorocytosine	
<input type="checkbox"/> Polyenes (e.g. Amphotericin B)		<input type="checkbox"/> Pandrug-Resistant	
<input type="checkbox"/> Echinocandins (e.g. anidula-, caspo-, mica-fungin)		<input type="checkbox"/> None	
<input type="checkbox"/> Allylamines (e.g. terbinafine, amorolfin, naftifine)		<input type="checkbox"/> Unknown	
REPORTER INFORMATION			
REPORT DATE / /	REPORTER NAME	FACILITY NAME	REPORTER PHONE # & EMAIL
	Role: <input type="checkbox"/> DO/MD <input type="checkbox"/> ICP <input type="checkbox"/> PA/NP <input type="checkbox"/> RN <input type="checkbox"/> Other: _____		
PLEASE FAX REPORT TO (215) 238-6947 UPON COMPLETION. RETAIN ISOLATE FOR ONE MONTH			
<small>Form Updated: 05/03/2018</small>			

C

Clean & Disinfect



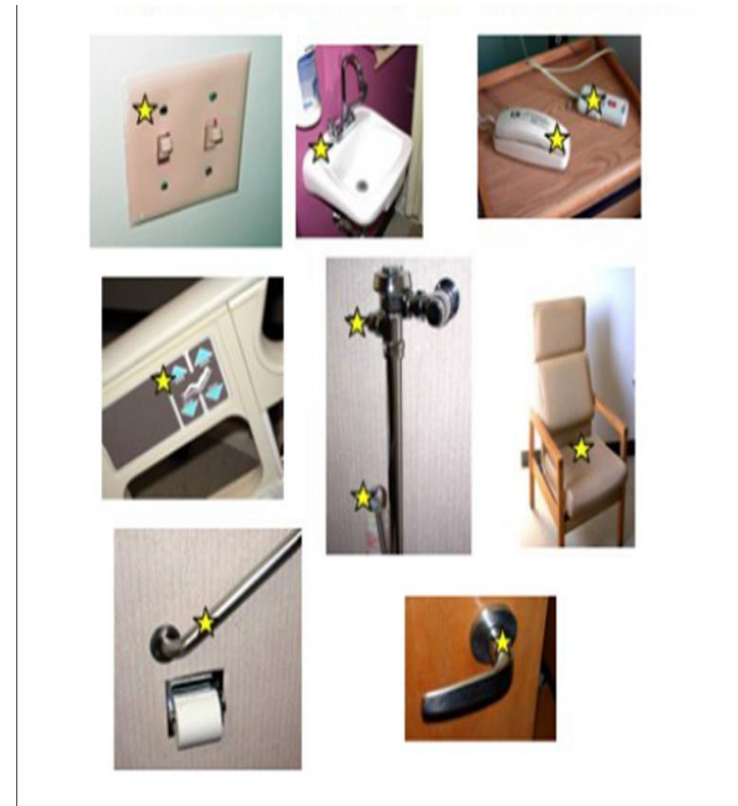
Clean & Disinfect: Provide the Right Products

- Use an **EPA registered product**:
 - **List P** for *C. auris*
 - **List K** for *C. difficile* will kill *C. auris* too
- Use **elbow grease** when cleaning and disinfecting
- Use manufacturer specified **dwell or contact times**
- Let **air dry and reapply if needed to reach contact time**

Clean & Disinfect: Who Cleans What, When, Where, & How

- Clean from top to bottom, cleanest to dirtiest, and use **elbow grease to apply disinfectant**
- High touch surfaces daily
- Bag soiled linens in the room
- Change mophead, bucket, and cleaning cloth between *C. auris* room and non-*C. auris* room
- Perform terminal disinfection of rooms upon discharge **and include changing curtains**
- Competency based training for ANY staff performing any cleaning/disinfection tasks:

[Training Video: Cleaning for *C. auris* – GNYHA](#)



1

Clean & Disinfect: Shared Equipment

- If items must be shared, use the appropriate List P or K disinfectant agents
- Disinfect equipment immediately after use (e.g., walkers, stethoscopes, X-ray machines, respiratory therapy equipment...)
- Educate all staff including incoming consultants & vendors about the vigilant cleaning and disinfection of shared equipment between
- **Tip* If you are not sure its disinfected, it's not***



Clean & Disinfect: Audit for EVS Adherence

- Use the CDC's evaluation toolkit for auditing all staff tasked with daily, terminal, and shared equipment environmental cleaning and disinfection:
[Options for Evaluating Environmental Cleaning | HAI | CDC](#)
- Use this CDC worksheet, with instructions for use, to covertly monitor environmental cleaning:
<https://www.cdc.gov/hai/pdfs/toolkits/Environmental-Cleaning-Eval-Worksheet-10-6-2010.xls>
- Along with direct observation use Visual Identifiers for improving techniques like:
[Glo Germ Glo Germ Kits - Glo Germ Oil Kit with 21 LED UV Flashlight, 8 -Grayline Medical](#)



SUMMARY:

Be Prepared for *C. auris*

- Educate and audit all staff on how to perform the behaviors of HH, proper PPE use and disposal, using contact precautions, and adequately disinfecting all shared equipment when a case of *C. auris* is suspected or confirmed
- Create a plan for *C. auris* that includes competency validated EVS training for staff, and audits, to monitor of all staff behaviors
- Properly use EPA List P (List K for *C. difficile*) disinfectants- Keep them and PPE in stock
- Have transfer forms ready for any resident transfers and PDPH reporting forms to collaborate with PDPH when a *C. auris* resident is identified
- You can use this ABC Can-Do-Plan at your facility as a guide for success 😊

ANY QUESTIONS??

Now You Know the
ABC's & We Can
Fight *C. auris*

Web Resources

https://www.who.int/gpsc/5may/tools/who_guidelines-handhygiene_summary.pdf

[List P: Antimicrobial Products Registered with EPA for Claims Against Candida Auris | US EPA](#)

https://hip.phila.gov/document/486/PDPH_CandidaAuris_ReportForm_Fillable.pdf/

https://hip.phila.gov/document/1083/PDPH_Cauris_TransferLetter_September2020_1.pdf/

[Infection Prevention and Control for Candida auris | Candida auris | Fungal Diseases | CDC](#)

[Philadelphia Department of Public Health - Candida Auris Toolkit - PDPH Health Information Portal](#)

[C. auris Information for Families and Residents.pdf](#)

[Frequently Asked Questions \(FAQs\) about Enhanced Barrier Precautions in Nursing Homes | HAI | CDC](#)

[CDC COCA Call: Multidrug-resistant Candida auris – YouTube](#)

https://hip.phila.gov/document/2869/PDPH-HAN-Update_4_CaurisOutbreak_08.08.2022.pdf/

<https://hip.phila.gov/disease-control/healthcare-associated-infections-antibiotic-resistance/candida-auris-toolkit/>

[Information for Infection Preventionists | Fact Sheets | Candida auris | Fungal Diseases | CDC](#)

https://hip.phila.gov/document/2869/PDPH-HAN-Update_4_CaurisOutbreak_08.08.2022.pdf/

[Environmental Guidelines | Guidelines Library | Infection Control | CDC](#)

Thank You Leadership For Your Time & Attention

HAI/AR TEAM