Introductions
Today’s Objectives

✓ Intro/review *Candida auris*
✓ Situation overview of *C. auris* nationally, statewide, and locally
✓ Discuss Long Beach response
✓ Infection control and prevention of *C. auris*
✓ When/how/why: *C. auris* testing
✓ Questions
A few words from our City Health Officer...

Anissa Davis, MD, MPH
The BAD News:

• A “yeast that acts like a bacteria”
• Spreads easily in healthcare settings
• Highly drug-resistant
• Causes severe infections
• Difficult to diagnose
The GOOD News:

• >100 colonization tests conducted in high-risk facilities in LB and **no proof of transmission has been found**

• We have an (almost) **fail-proof system** of finding patients discharged from OC facilities with ongoing transmission

• The OC “infected” facilities list has gone **from six facilities to three** in just 6 weeks
Intro to *C. auris*
Like any other Candida yeast, severity of infection will vary

• **Common infections**: Diaper rash, vaginal yeast infections, thrush

• **Serious infections**: Bloodstream infections, heart valve, bone, meningitis, etc

Source: CDC National Center for Emerging and Zoonotic Infectious Diseases. Shared on 6/13 by Edilora Karmarkar, MD MSc
Those at highest risk for *C. auris*:

- Old age
- Multiple healthcare stays
- Tracheostomies
- Feeding tubes
- Vent-dependent
- Antibiotics/Antifungals
- History of other MDROs

Source: CDC National Center for Emerging and Zoonotic Infectious Diseases. Shared on 6/13 by Ellora Karmarkar, MD MSc
C. auris Colonization

- Patients colonized indefinitely
- Primarily skin, but other body sites can become colonized
- No known decolonization strategies

Source: CA Dept of Public Health, Presented 6/24/19
C. auris Colonization

Colonization can lead to:

- Transmission to others
- Invasive infection
  (5-25% of colonized pts)
- Death
  (40% within 30 days)

Source: CDC National Center for Emerging and Zoonotic Infectious Diseases. Shared on 6/13 by Edllora Karmarkar, MD MSc
C. auris Transmission

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

C. auris colonization prevalence=1.5% (1/69)

- C. auris positive
- Screened negative for C. auris
- Not tested for C. auris (refused or not in room)

Source: Chicago Department of Public Health
C. auris Transmission

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

C. auris colonization prevalence=43% (29/67)

- C. auris positive
- Screened negative for C. auris
- Not tested for C. auris (refused or not in room)

Source: Chicago Department of Public Health
C. auris in the Environment

• Can survive >1 month on surfaces

• Common disinfectants (eg quat compounds) are not effective

• Mobile equipment has been closely associated with transmission

Source: CA Dept of Public Health, Presented 6/24/19
Some phenotypic methods can misidentify *C. auris* as a number of different organisms.

Most reliable way to ID *C. auris* is MALDI-TOF MS
- If you have it, make sure *C. auris* is included in the database.

DNA sequencing can also ID *C. auris*.

Source: CA Dept of Public Health, Presented 6/24/19
Resistance

- *C. auris* is commonly multidrug resistant, however antifungal resistance can vary widely.
  - All *C. auris* isolates should undergo antifungal susceptibility testing according to CLSI guidelines

- No established *C. auris*-specific susceptibility breakpoints

- CDC has recommended breakpoints on website but are a general guide – not definitive.

Source: CDC
C. auris Treatment

- Consult with ID specialist!

- Even after treatment for invasive infections, patients will remain colonized for long periods, even indefinitely

- Most *C. auris* strains in the US have been susceptible to echinocandins (although some resistance has been identified)

C. auris Trends
Countries from which *Candida auris* cases have been reported, as of May 31, 2019
U.S. Map: Clinical cases of *Candida auris* reported by U.S. states, as of May 31, 2019
C. auris in the US

C. auris clinical cases reported — United States, 2013–April 2019

~690 clinical cases
~1880 clinical + screening cases

CDC’s clinical alert

Source: CA Dept of Public Health, Presented 6/24/19
• 1-2 cases in Northern CA over the past ~2 years

• Southern California
  • March 2019: First patient found because Kindred lab began speciating *Candida*
  • Public Health/CDC ran a Point Prevalence Survey (PPS)
  • First + pts identified at Kindred Hospital, Santa Ana
  • OC Public Health found all pts dc from Kindred Santa Ana to conduct f/u and testing
C. auris: Southern CA

- OC continued PPS at other Kindred hospitals and vSNFs
- Continued to find colonized patients at various facilities in OC
- OC recommendations:
  - Test/Isolate any patient admitted from an LTAC in OC or vSNF where C. auris patients have been identified.
• May 22, LB sent out first Provider alert:

Healthcare facilities accepting patients from an Orange County Long-Term Acute Care Facility (LTAC) or patients from an Orange County Skilled Nursing Facility who are on a ventilator or have a tracheostomy in place should perform admission screening for *C. auris* and institute empiric Contact precautions.

• This is still the recommendation! (kind of.)
C. auris: Long Beach

• First round of testing → 8 patients d/c from KW at various facilities throughout LB

• Found 2 + cases at a LB vSNF

• No other positives at the other facilities

• Conducted PPS at ENTIRE facility within 1 week

• No other positives
Currently:

- We continue to conduct PPS in vSNFs throughout Long Beach weekly
- Acute Care Hospitals are identifying patients for testing and conduct testing themselves
- Skilled Nursing Facilities are identifying patients for testing and public health facilitates the testing and sending specimens
C. auris: Southern CA

In total:

• Orange County: >100 colonized cases, 3 clinical cases

• Long Beach: 2 colonized cases

• Los Angeles County: 1 colonized case
Healthcare Facilities’ Role in *C. auris* control
Laboratory Identification

• Know the yeast identification method used by your laboratory

• If possible, request your lab to speciate *Candida* spp for all clinical isolates collected, including non-sterile sites.

• Ensure your laboratory will immediately notify infection prevention (or alternate) if a preliminary *C. auris* result occurs

Source: CDPH, [https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/Candida-auris.aspx](https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/Candida-auris.aspx)
Colonization testing

• When a patient with *C. auris* is identified in your facility
  • Test high-risk patients and patient contacts

• When a patient is discharged from an OC LTAC or vSNF with trach/on vent AND you have consulted with Long Beach public health to assess whether patient requires testing

Source: CDPH, [https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/Candida-auris.aspx](https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/Candida-auris.aspx)
Also consider colonization testing for those who:

1. Have extensive exposure to healthcare facilities, especially long-term care facilities with ventilator units

2. Are colonized with another multi-drug resistant organism, especially carbapenemase-producing organisms

3. Have indwelling medical devices

4. Have recently received healthcare in countries where *C. auris* transmission has been reported

Source: CDPH, [https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/Candida-auris.aspx](https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/Candida-auris.aspx)
Benefits to colonization testing:

• If your facility has positive patients, you can isolate them to avoid outbreaks and/or additional transmission

• Testing is free

• If your patients are *C. auris* +, ID MDs will be able to treat more quickly and result in better outcomes for patients
Proper Infection Control – when to isolate:

• Immediately isolate patients upon admission IF:
  • They are coming from an OC LTAC or vSNF with trach/vent (THEN call public health to see if testing/isolation is warranted)

• Isolate patients who are undergoing testing for C. auris

• Isolate any patient who is colonized OR infected with C. auris
Proper Infection Control cont.

• Place patient in a single room if possible

• Reinforce standard hand hygiene practices for all healthcare personnel (hand sanitizer is okay!)

• Use dedicated medical equipment and minimize number of HC staff caring for patient

Source: CDPH, https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/Candida-auris.aspx
Environmental Cleaning

• Ensure EVS uses List K products only – the same as used for C. diff throughout unit or entire facility where patient is located

• Focus on high-touch surfaces or any shared reusable patient equipment

Source: CDPH, https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/Candida-auris.aspx
Transferring a C. auris + patient:

1. Contact the Infection Control Practitioner at the facility regarding the patient’s diagnosis and contact precautions necessary.

2. Inform the Long Beach Communicable Disease Control Program of the transfer, by calling (562) 570-4302 during business hours, or (562) 500-5537 after hours.

3. Maintain the Interfacility Transfer Form in brightly colored paper; complete and place on top of the documents that are sent with the patient.
Consult with Long Beach Health Department:

- When transferring a positive *C. auris* patient to another facility OR d/c home.

- When receiving a patient from an OC LTAC or vSNF w/vent or trach to determine testing

- For assistance with testing procedures (ACH)

- When there are questions regarding anything *C. auris*-related
Facilities that have a + \textit{C. auris} patient will:

• Keep positive patient on isolation

• Likely undergo PPS to determine whether spread has occurred in your facility

• Adhere to strict guidelines if + patient requires transfer to another facility

• Have local AND state support for subject matter expertise, advice, and guidance on how to prevent further spread
There are still many unknowns...

• Why is *C. auris* resistant to antifungal medicines?
• Why did *C. auris* start spreading in recent years?
• From where did *C. auris* originate, and how did it appear in different parts of the world simultaneously?
Thank you!

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562.570.4344
Infection Control and Prevention of Candida auris

Long Beach Health Department Candida auris information session
Long Beach, California
August 7, 2019
topics

• Hand hygiene
• Environmental cleaning
• Contact precautions
• Enhanced standard precautions
Candida yeasts can cause many types of infections

Common infections caused by the yeast, Candida:
  • Diaper rash
  • Vaginal yeast infections
  • Thrush in the mouth

Serious infections caused by the yeast, Candida
  • Bloodstream infections
  • Heart valve, bone
  • Meningitis or brain infections

There are hundreds of species of Candida, but we are going to talk about Candida auris today
Discovery of *C. auris*—2009

**ORIGINAL ARTICLE**

*Candida auris* sp. nov., a novel ascomycetous yeast isolated from the external ear canal of an inpatient in a Japanese hospital

Kazuo Satoh¹,², Koichi Makimura¹,³, Yayoi Hasumi¹, Yayoi Nishiyama¹, Katsuhisa Uchida¹ and Hideyo Yamaguchi¹

¹Tokyo University Institute of Medical Mycology, 359 Otsuka, Hachioji, Tokyo 192-0395, ²Japan Health Sciences Foundation, 13-4 Nihonbash-i-Kodenmachi, Chuo-ku, Tokyo 103-0001 and ³Genome Research Center, Graduate School of Medicine and Faculty of Medicine, Tokyo University, Otsuka 359, Hachioji, Tokyo 192-0395, Japan

*Auris* is Latin for ?
Global emergence of *C. auris*

Chowdhary et al., 2017
Why is *Candida auris* a public health threat?

- Spreads easily in healthcare settings
- Highly drug-resistant yeast
- Causes severe infections
C. auris clinical cases reported by state — United States, 2013–February 2019

- **Number of clinical cases**
- **C. auris clinical cases reported by state**
- **United States, 2013–February 2019**

**Graph Details**
- Solid: Confirmed case
- Striped: Probable case
- States represented: New York, New Jersey, Maryland, Illinois, California, Massachusetts, Oklahoma, Indiana, Florida, Connecticut, Texas, Virginia
Typically affects the sickest of the sick

- Older age
- Multiple healthcare stays
- Tracheostomies
- Feeding tubes
- Ventilator-dependent
- Antibiotics and antifungals
- Colonized with other multidrug resistant organisms
Why is colonization important?

- Colonization (asymptomatic): can easily spread *C. auris* to others

- Colonization increases risk of **invasive infection** (symptomatic):
  - 5-10% develop *C. auris* bloodstream infection within a year

- **Invasive infection** significantly increases risk of death:
  - 45% of people with blood stream infections die in 30 days
Patients can be colonized for a long time
Months or even indefinitely

But staff and family members are at minimal risk of colonization
**C. auris persists in the environment**

- Can survive over a month
- Some common disinfectants (quats) don’t work
Other places where *C. auris* has been cultured from:
Action steps
Infection control is key for stopping transmission of *C. auris*
Infection Prevention and Control for *Candida auris*

Considerations for specific settings

<table>
<thead>
<tr>
<th>Setting</th>
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<tbody>
<tr>
<td>Nursing homes</td>
<td>+</td>
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<tr>
<td>Dialysis clinics and infusion centers</td>
<td>+</td>
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<tr>
<td>Outpatient settings (e.g., primary care office, wound clinic, etc.)</td>
<td>+</td>
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<tr>
<td>Home healthcare settings</td>
<td>+</td>
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<tr>
<td>Home and family members</td>
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The mainstay of infection control measures for *C. auris* in acute care hospitals and high acuity post-acute care settings

- Placing the patient with *C. auris* in a single-patient room and using Standard and Contact Precautions.
- Emphasizing adherence to hand hygiene.
- Cleaning and disinfecting patient care environment and reusable equipment (daily and terminal cleaning) with recommended products.
- Inter-facility communication about patient’s *C. auris* status at transfer to another healthcare facility.
- Screening contacts of newly identified case patients to identify *C. auris* colonization.
- Conduct surveillance for new cases to detect ongoing transmission.
Transmission-based precautions

- Patients with *C. auris* should be placed in single rooms and managed using **Standard and Contact Precautions**. If a limited number of single rooms are available, they should be reserved for patients who may be at highest risk of transmitting *C. auris*, particularly patients requiring higher levels of care (e.g., bed-bound). 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 (MDROs) 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 MDROs.

- To the extent possible, minimize the number of staff who care for the *C. auris* patient. If multiple *C. auris* patients are present in a facility, consider cohorting staff who care for these patients.
Duration of contact precautions

• CDC currently recommends continuing Contact Precautions for as long as the person is colonized with *C. auris*. Information is limited on the duration of *C. auris* colonization; however, evidence suggests that patients remain colonized for many months, perhaps indefinitely.

• Periodic reassessments for presence of *C. auris* colonization (e.g., every 3 months) for a patient with known *C. auris* colonization could help inform duration of infection control measures. Assessments of colonization should involve testing of, at minimum, swabs of the axilla and groin and sites yielding *C. auris* on previous cultures (e.g., urine and sputum). The patient should not be on antifungal medications active against *C. auris* at the time of these assessments. The optimal time between last receipt of antifungal medications and testing for *C. auris* colonization has not been established, but it is reasonable to wait one week. Wait at least 48 hours after administration of topical antiseptic (e.g., chlorhexidine), if such products are being used, before performing any testing for *C. auris* colonization.
  
  – If a patient’s swab is positive, there is no need to repeat sampling for at least another three months.
  
  – If a patient’s swab is negative, then at least one more assessment at least one week later is needed before discontinuing *C. auris* specific-infection control precautions.

• Note that decisions to discharge the patient from one level of care to another should be based on clinical criteria and the ability of the accepting facility to provide care, and not on the presence or absence of colonization.
Hand hygiene

- Increased emphasis on hand hygiene is needed on the unit where a patient with *C. auris* resides.
- When caring for patients for *C. auris*, healthcare personnel should follow standard hand hygiene practices, which include alcohol-based hand sanitizer use or, if hands are visibly soiled, washing with soap and water. Wearing gloves is not a substitute for hand hygiene.
- As part of Contact Precautions, healthcare personnel should:
  - Always wear gloves to reduce hand contamination.
  - Avoid touching surfaces outside the immediate patient care environment while wearing gloves.
  - Perform hand hygiene before donning gloves and following glove removal.
Environmental disinfection

- *C. auris* can persist on surfaces in healthcare environments. Meticulous cleaning and disinfection of both patient rooms and mobile equipment is necessary to reduce the risk of transmission.

- Quaternary ammonium compounds that are routinely used for disinfection may not be effective against *C. auris*. 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*. **Until further information is available for *C. auris*, CDC recommends use of an Environmental Protection Agency (EPA)-registered hospital-grade disinfectant effective against *Clostridioides difficile* spores (List K).**

- Contact time is very important

- Thorough daily and terminal cleaning and disinfection of patients’ rooms and cleaning and disinfection of areas outside of their rooms where they receive care (e.g., radiology, physical therapy) is necessary. Shared equipment (e.g., ventilators, physical therapy equipment) should also be cleaned and disinfected before being used by another patient.
Patient transfer between healthcare facilities

• When patients are transferred to other healthcare facilities, receiving facilities should be notified of patient’s *C. auris* infection or colonization status as well as other
• Use of a transfer form is recommended
• For *C. auris*, notify LBHD as well
Facilitating adherence to infection control measures

• Preventing *C. auris* transmission requires diligent adherence to infection control recommendations by all healthcare personnel who care for the patient. In order to enhance adherence to infection control measures, consider the following steps:
  – **Educate all healthcare personnel, including staff who work with environmental cleaning services about *C. auris* and need for appropriate precautions.**
  – Ensure adequate supplies are available to implement infection control measures.
  – Monitor adherence to infection control practices and implement supervised cleaning of the patient care areas.
  – “Flag” the patient’s record to institute recommended infection control measures in case of re-admission.
Special Considerations in Nursing Homes

• Nursing homes should follow all of the same recommendations listed for general acute care hospitals and high acuity post-acute care settings. Additional considerations are as follows:
• In general, nursing home residents should be placed on Standard and Contact Precautions.
• Functional nursing home residents without wounds or indwelling medical devices (e.g., urinary and intravenous catheters and gastrostomy tubes) who can perform hand hygiene might be at lower risk of transmitting *C. auris*. Facilities could consider relaxing the requirement for Contact Precautions for these residents. However, in these instances, healthcare personnel should still use gowns and gloves when performing tasks that put them at higher risk of contaminating their hands or clothing. These tasks include changing wound dressings and linens and assisting with bathing, toileting, and dressing in the morning and evening.
• Nursing home residents with *C. auris* can leave their rooms as long as secretions and bodily fluids can be contained and the patient can perform hand hygiene prior to leaving their room.
• If residents with *C. auris* receive physical therapy or other shared services (e.g., physical therapy equipment, recreational resources), staff should not work with other patients while working with the affected patient. They should use a gown and gloves when they anticipate touching the patient or potentially contaminated equipment. Ideally, affected patients should be the last to receive therapy on a given day. Shared equipment should be thoroughly cleaned and disinfected after use.
What Have We Learned about Multidrug-Resistant Organisms (MDRO) in SNF since 2010?

• Prevalence of MDRO is increasing in California

• SNF are important reservoirs for MDRO colonization that is often unknown to the facility

• SNF residents at increased risk of MDRO colonization and transmission are readily identified by certain characteristics

• Some SNF are hesitant to accept transfers of residents known to be colonized with MDRO
It is impractical to place all residents known to be MDRO-colonized on Contact precautions **in the absence of ongoing transmission** within a facility

- There are few single occupancy rooms in SNF
- Asymptomatic colonization with MDRO can be prolonged
- There is no defined method to determine when Contact precautions can be discontinued for MDRO colonization

SNF need to provide **resident-centered, activity-based care** in a clean, comfortable, safe, and **home-like** environment

SNF need user-friendly, practical guidance
What are Enhanced Standard Precautions?

• A resident-centered, risk factor-based approach to prevent MDRO transmission in SNF

• For residents at high risk of MDRO colonization and transmission:
  – Gloves and gowns are used during specific care activities with greatest risk for MDRO contamination of HCP hands, clothes and environment

• Does not rely on knowledge of resident MDRO colonization status

• Allows residents with adequate hygiene and containment of body fluids to leave room and participate in group activities
Who Needs Enhanced Standard Precautions?

- Residents who have **one or more characteristics associated with increased risk for MDRO colonization and transmission**
  - Risk factors for MDRO colonization and transmission are included in the CMS resident assessment inventory (RAI) performed on admission
  - Risk factors should be re-assessed periodically when there is a change in resident condition
Use Enhanced Standard Precautions if a Resident has 1 or more of these Characteristics that are Associated with Increased Risk for MDRO Colonization and Transmission

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Section of CMS RAI*</th>
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<tbody>
<tr>
<td><strong>Functional Disability:</strong></td>
<td>G, GG, H</td>
</tr>
<tr>
<td>Totally dependent on others for assistance with activities of daily living (ADLs), for example, ambulation, bathing, dressing, grooming, eating, toileting</td>
<td></td>
</tr>
<tr>
<td><strong>Incontinence:</strong></td>
<td>H</td>
</tr>
<tr>
<td>Habitual soiling with stool and/or wetting with urine</td>
<td></td>
</tr>
<tr>
<td><strong>Presence of indwelling devices:</strong></td>
<td>H, K, O</td>
</tr>
<tr>
<td>Urinary catheter, feeding tube, tracheostomy tube, vascular catheters</td>
<td></td>
</tr>
<tr>
<td><strong>Ventilator-dependence</strong></td>
<td>O</td>
</tr>
<tr>
<td><strong>Wounds or presence of pressure ulcer (unhealed)</strong></td>
<td>M</td>
</tr>
</tbody>
</table>

*CMS Resident Assessment Inventory (RAI):  
Enhanced Standard Precautions is a shift from bacteria-centered care...

...to resident-centered care
## Comparing Standard, Enhanced Standard, Transmission-based Precautions

<table>
<thead>
<tr>
<th>Precautions</th>
<th>Principle</th>
<th>Implementation</th>
</tr>
</thead>
</table>
| **STANDARD**              | Use of hand hygiene, gowns, gloves, face protection when anticipate exposure to BBF prevents transmission | • Hand hygiene, don and doff personal protective equipment (PPE) within room, before and after care activity  
• All residents, everywhere |
| **Focus:** Unsuspected infectious agents in all blood and moist body fluids (BBF) |                                                                            |                                                                                  |
| **ENHANCED STANDARD**     | SNF residents with certain characteristics have increased risk of MDRO colonization and transmission; MDRO status is often unknown | • Perform resident assessment for risk of MDRO colonization and transmission  
• Hand hygiene, don and doff PPE within room, before and after specified care activities  
• Some residents may leave room |
| **Focus:** Resident risk factors for MDRO colonization or transmission in a homelike environment |                                                                            |                                                                                  |
| **TRANSMISSION-BASED**    | Infection or colonization with certain infectious agents require additional precautions: Droplet, Contact (MDRO), Airborne | • Hand hygiene, don and doff PPE upon room entry and exit  
• Confine resident to room  
• Single bed room or cohort residents with same infection |
| **Focus:** suspected or confirmed infectious agents, specific modes of transmission, ongoing MDRO transmission in a facility |                                                                            |                                                                                  |
What are the “Tools” of Enhanced Standard Precautions?

• Hand hygiene (hand sanitizer or soap and water)

• Personal protective equipment (PPE): gloves, gowns
  
  – If splash anticipated, add face protection:

• Environmental cleaning
**When: 6 Moments of Enhanced Standard Precautions**

- Use hand hygiene, gowns and gloves during each of the 6 moments
- Perform hand hygiene, don PPE within room, before engaging in activity
- Remove PPE, perform hand hygiene in room when activity is complete
Candida auris

Candida auris is an emerging fungus that presents a serious global health threat. CDC is concerned about C. auris for three main reasons:

1. It is often multidrug-resistant, meaning that it is resistant to multiple antifungal drugs commonly used to treat Candida infections.
2. It is difficult to identify with standard laboratory methods, and it can be misidentified in labs without specific technology. Misidentification may lead to inappropriate management.
3. It has caused outbreaks in healthcare settings. For this reason, it is important to quickly identify C. auris in a hospitalized patient so that healthcare facilities can take special precautions to stop its spread.

www.cdc.gov/fungal/candida-auris
Fact Sheets

General Information

*Candida auris: A Drug-resistant Germ That Spreads in Healthcare Facilities, Print version* [PDF – 2 pages]

Information for Patients

*Candida auris Colonization, Print only version* [PDF – 1 page]

*Candida auris Testing, Print only version* [PDF – 1 page]
**Candida auris** Information for Patients and Family Members

*Candida auris* (*C. auris*) is a type of fungus that can cause serious illness in hospitalized patients. Infections with this fungus can be difficult to treat. *C. auris* only recently appeared in the United States, and public health officials are researching more about how it is spread. Here's what you need to know if you or a family member have a *C. auris* infection.

**Answers questions like:**

Can a nursing home patient with *C. auris* participate in activities with others, such as meals or social gatherings, if they are on these special precautions?

Can family members get sick?

[www.cdc.gov/fungal/candida-auris/patients-qa.html](http://www.cdc.gov/fungal/candida-auris/patients-qa.html)
Quiz

What’s the best way to clean your hands most of the time?
“When hands are not visibly dirty, alcohol-based hand sanitizers are the preferred method for cleaning your hands in the healthcare setting.”

http://www.cdc.gov/handhygiene/providers/
It’s new bug using old tricks

- Drug resistant, makes people sick, and spreads
- Similar to CRE, VRE, MRSA, and other drug resistant bugs
- We are still learning a lot about *C. auris*, but we also know how to control the spread of other similar germs
  - Many of the same principles can be applied to *C. auris*
In summary

Bolster infection control
Staff refresher on Infection Control
Hand hygiene audits
PPE audits
Environmental markings to ensure cleaning is done appropriately
Assign staff responsible for cleaning and disinfecting mobile equipment

Stop regional transmission
Notify receiving facility on transfer of patients with *C. auris*
Continue point prevalence surveys (swabbing)
Questions?

For more information, please contact any HAI Liaison IP Team member

Or email HAIProgram@cdph.ca.gov
Laboratory Testing Protocol
Long Beach *Candida auris* Information Session
August 7th, 2019
Nicholas Lefranc, Biosurveillance Specialist
Objectives

• Provide guidance on when testing needed.
• Go over how the testing process works.
• Summarize the specimen collection process.
• Outline steps to take if a patient tests positive.
When is testing required?

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Action</th>
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<tbody>
<tr>
<td>Patient is transferred to your facility from an Orange County facility and they are on a ventilator or have a tracheostomy in place. Even if they have previous negative C. auris result.</td>
<td>Patient <strong>needs testing</strong>, please call the Long Beach Health Department.</td>
</tr>
<tr>
<td>Patient is transferred to your facility from an Orange County Long Term Acute Care facility. Even if they have previous negative C. auris result.</td>
<td>Patient <strong>does not need to be tested</strong>, but should be placed on contact precautions. Please call the Long Beach Health Department to let us know as well.</td>
</tr>
<tr>
<td>Patient has a positive lab result of Candida auris and is being transferred to your facility.</td>
<td></td>
</tr>
</tbody>
</table>

If you are unsure feel free to reach out to us. We are always happy to answer questions.
Testing Protocol

Acute Care Hospital

• Immediately place patient on empiric standard and contact precautions.
• Work with public health to arrange having testing kits sent directly to your laboratory.
• Inside the testing kits it includes all of the materials and instructions needed to collect the specimen and ship it back to the CDC Antibiotic Resistance Laboratory Network (ARLN) in Washington.
Testing Protocol

Skilled Nursing Facility

• Immediately place patient on contact precautions or enhanced standard precautions depending on clinical signs of the patient and epidemiology at the facility.

• Work with public health to schedule a time where public health staff can go to your facility and help with the specimen collection.

• Public health will package the specimens and get them shipped to the CDC ARLN in Washington.
Testing Process Overview

SNF notify PH

ACH notify PH

LB Health requests swabs

Swabs sent to LB Health

LB Health staff assist with collection

LB Health sends to CDC lab

ACH sends directly to CDC lab

ACH does collection

Results received within 7-21 days

Laboratory Testing Protocol
Sample Collection Process

• Specimens will be collected from the axilla (arm pit) and the groin.
  ❖ Swab both armpits swiping back and forth approximately 5 times on each one.
  ❖ Using the same swab used on the axilla swab the skin of both hip creases, swiping back and forth.

• Put at least two patient identifiers on the tube and make sure that it is sealed using the provided parafilm wax paper.

• Fill out the lab requisition form.

• Specimens must arrive at the CDC ARLN Monday-Friday and within 96 hours of collection.

• If a delay in shipment cannot be prevented then store the swabs at 4°C until shipment.

• Results take about 7-21 days to process.
Common Sample Collection Errors

Specimen tube cap is loose and not sealed properly.
Common Sample Collection Errors

Patient identifiers on the specimen tube are not legible.
Common Sample Collection Errors

Patient identifiers on the specimen tube and requisition form do not match.

[Image of a specimen tube and requisition form with mismatched identifiers]
What happens if a positive patient is identified at your facility?

• A point prevalence survey (PPS) will be conducted at your facility to see if there are any other additional cases.
• Multiple PPS may be required because we want to see at least 2 rounds of PPS with no new transmission.
• An in-service on C. auris will be given to healthcare workers at your facility.
• Patients that are positive must be placed on contact precautions or enhanced standard precautions indefinitely.
• If the positive patients had any roommates they need to be placed on empiric contact precautions pending the lab results.
What is a Point Prevalence Survey (PPS)

• A PPS is a data collection tool used to identify the number of people with a disease or condition at a specific point in time.

• The whole facility or only certain units, such as the subacute could be tested.

• Your facility may be asked to perform a PPS even if you have do not have any positive patients.
Benefits of a Point Prevalence Survey

• Helps to identify if there are any additional cases that you may not have been aware of otherwise.

• The patients that are identified as colonized can be put on contact or enhanced standard precautions to prevent further spread or outbreaks at your facility.

• If patients that are colonized become infected it helps you provide the proper treatment.
Point Prevalence Survey Process

**Skilled Nursing Facility**

- Public health will work with your facility to schedule a time for health staff to come to your facility to help with collection of the specimens.
- PPS may be conducted in the entire facility or a specific unit such as subacute.
- The public health lab will process all the paperwork and prepare the specimens for shipment to the CDC ARLN lab.
- Results take about 7-21 days to process.
Point Prevalence Survey Process

**Acute Care Hospital**

- Work with public health to arrange having testing kits sent directly to your laboratory.
- Public health will work with IPs to determine which units to test.
- Your hospital will process all the paperwork and prepare the specimens for shipment to the CDC ARLN lab.
- Results take about 7-21 days to process.
Review

• If you are not sure if testing is required call us.
• The testing process is straightforward and we are here to help guide you if you need any help.
• If a positive patient is identified at your facility a PPS will be conducted.
Thank you! Questions?

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