



MONTHLY *C. AURIS* UPDATE #3

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH
3/30/21

CASE SUMMARY

Total cases in LAC: 430
(05/01/2020 to date)

Screening specimen*

HCF type	# (%) cases
General Acute Care Hospital	28 (7)
Long Term Acute Care Hospital	309 (82)
Skilled Nursing Facility	39 (11)
Other	1 (<1)
Total	377

Clinical specimen

HCF type	# (%) cases
General Acute Care Hospital	14 (26)
Long Term Acute Care Hospital	35 (66)
Skilled Nursing Facility	4 (8)
Other	0
Total	53

Note that if a person is positive from a clinical specimen, they are not included in screening counts. Cases are counted by facility location at time of collection.

* Swab collected for the purpose of screening for *C. auris* colonization.

KEY RESOURCES

- [LACDPH *C. auris* website](#)
- [CDC *C. auris* website](#)

HIGHLIGHTED IN THIS ISSUE:

***C. auris* Case Study from Los Angeles County (LAC)
The Antibiotic Resistance Laboratory Network**

SITUATIONAL SUMMARY

Multiple healthcare facilities (HCFs) in Southern California are experiencing *Candida auris* (*C. auris*) activity. We are providing this brief monthly update to inform you of 1) *C. auris* case counts and 2) tips to assist clinical laboratories in addressing *C. auris*.

Please note this information is meant for internal use only.

CURRENT GUIDANCE & RECOMMENDATIONS

Please click to access [issue #1](#) and [issue #2](#) of this update. Many suggestions below are related to clinical laboratory procedures that were covered in detail in prior issues.

As LAC continues to see transmission of *C. auris* across all types of HCFs, it is important for labs to have the following measures in place:

1. A reliable method to [identify *C. auris*](#). Species identification can be problematic, especially with phenotypic methods.
2. A strategy for increased species identification of *Candida* from all or at minimum, high risk patients. A relationship with Infection Preventionists (IPs) to identify high risk patients is essential. Note: Urine isolates may be of highest yield.
3. *C. auris* admission screening tests for high-risk patients in-house or as a send out. **Note:** California Department of Public Health has updated their criteria per a California Health Alert Network ([CAHAN](#)) released on 3/8/21.

Laboratories that serve high risk HCFs, such as long-term acute care hospitals (LTACHs) and subacute units of skilled nursing facilities (SNFs) should pay particular attention to these recommendations.

**QUESTIONS? CONTACT THE LACDPH HEALTHCARE OUTREACH UNIT AT
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CASE STUDY: A TEAM APPROACH TO CONTAINING *CANDIDA AURIS*

The following case encountered in LAC describes how clinical laboratories, public health laboratories, infection preventionists (IPs) and public health epidemiologists worked together to contain the spread of *C. auris* at a local hospital.

Patient:

Elderly patient at Hospital A
Chronic respiratory disease
No prior history of *C. auris*

Microbiology Laboratory Results:

- Vitek 2 for routine yeast identification and antifungal susceptibility testing (AFST)
- Yeast isolates from all sources identified to species level

Week #1 tracheal aspirate culture:

<u>Gram Stain</u>	<u>Culture</u>
2+ WBC	1+ MDR <i>P. aeruginosa</i>
1+ GNR	3+ <i>Candida glabrata</i>
Rare yeast	

Week #8 tracheal aspirate culture:

<u>Gram Stain</u>	<u>Culture</u>
3+ WBC	4+ Coag-neg staphylococci
3+ GPCC	4+ <i>Candida glabrata</i>
3+ yeast	

Week #12 pleural fluid culture:

<u>Gram Stain</u>	<u>Culture</u>	<u>AFST (MIC µg/ml)</u>	
0 WBC	Preliminary:	Caspofungin	≤0.25
rare yeast	2+ <i>Candida parapsilosis</i>	Fluconazole	≥64
		Voriconazole	1

Week #12 pleural fluid yeast isolate sent to reference laboratory for confirmation:

ID (MALDI-TOF)
*Candida auris**

* Submitting laboratory issued a corrected report following identification of *C. auris* at the reference laboratory

Infection Control Activities at Hospital A following report of *C. auris*:

- LAC Department of Public Health (DPH) conducted a point prevalence study (PPS) to determine if other patients in Hospital A were colonized with *C. auris*
 - Axilla/groin swabs were obtained and sent to AR Laboratory Network for PCR testing for *C. auris*
 - Results:
 - 35 patients screened
 - 9/35 (26%) colonized with *C. auris*
- Follow up investigation of outbreak / action at Hospital A
 - DPH performed on-site visit to identify infection control gaps and provide feedback; noted deficiencies in environmental cleaning, adherence to hand hygiene and donning/doffing of PPE which likely resulted in spread of *C. auris*. Identified gaps included:
 - Use of reusable gowns for patients believed to be negative for *C. auris*, COVID, other MDROs etc.
 - Use of hydrogen-based product (a brand that is not effective against *C. auris*) as routine disinfectant; bleach wipes only used for *Clostridium difficile* and known *C. auris* rooms
 - Routine Infection control auditing and education had lapsed recently due to COVID-19
 - IP conducted staff education; implemented enhanced environmental cleaning
 - Increased clinical surveillance for *C. auris*

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- Cohorted all *C. auris* patients; provided dedicated staff and equipment, when possible; increased hand hygiene; PPE audits on the *C. auris* unit
- IP noted many positives were on dialysis; DPH performed additional screening and case-control study; no additional cases nor significant associations found
- Repeat PPS conducted every 2 weeks; 3 weeks later, no additional cases; outbreak closed
- 3 months later, 2 new cases identified via a follow-up PPS; the 2 patients were recently admitted to the facility, but their prior facilities had no known suspect nor confirmed *C. auris* cases that would suggest the 2 new cases acquired *C. auris* prior to admission
- DPH associated the 2 new cases to transmission within Hospital A and reopened investigation
- Repeat PPS did not identify new cases; outbreak again closed

Subsequent Actions:

- Patient's deteriorating condition led to transfer of patient to a tertiary care facility (Hospital B)
- IP at transferring facility and LAC DPH informed Hospital B of patient's *C. auris* status
- Patient was placed in contact precautions upon admission to Hospital B.

Lessons Learned – Laboratory

- Vitek 2 and other phenotypic methods can misidentify *C. auris* as some other *Candida* species; MALDI-TOF using a verified method is reliable. See tips for identification of *C. auris* [here](#).
Note: although CDC does not include an identification of *C. parapsilosis* as a problem for Vitek 2, some *C. auris* have been erroneously reported as *C. parapsilosis* with other phenotypic methods. An astute physician at Hospital A requested the isolate be sent for species confirmation due to knowledge of *C. auris* outbreaks in LAC. Also, the isolate was fluconazole resistant, which is common for *C. auris* but not for *C. parapsilosis*. The *C. glabrata* isolate was unavailable for further testing.
- Admission screening and/or species level identification of all yeast isolates using a reliable method can detect otherwise silent introduction of *C. auris* into high-risk facilities/units
- Accurate identification of *C. auris* can inform appropriate treatment options and improve patient outcomes

Lessons Learned –Infection Preventionists

- Strict infection control measures are needed to contain *C. auris*, which can spread rapidly
- Screening of patients in a facility, especially those that are at high-risk for MDROs or those that may have been in contact with patient known to harbor *C. auris* is essential in preventing silent transmission of *C. auris*
- Use of a disinfectant effective against *C. auris*, even in facilities where *C. auris* has not been detected, may prevent transmission – see [here](#) for lists of effective disinfectants
- Support from local public health professionals can be highly beneficial to contain spread of pathogens within a facility and a community. Collaboration between IP, laboratory, and medical staff are key in formulating plans to detect and contain emerging drug resistant pathogens!

WHAT IS THE ANTIMICROBIAL RESISTANCE (AR) LABORATORY NETWORK AND HOW CAN THE AR LAB NETWORK HELP LAC CLINICAL LABS WITH *C. AURIS*?

The [AR Lab Network](#) was established by CDC in 2016 to support laboratory capacity to rapidly detect antimicrobial resistance and inform local responses to prevent spread and protect people in the United States.

Some key facts about the AR Lab Network:

- Funded through Congress' appropriation to fight antimicrobial resistance through the CDC AR solutions initiative

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- Includes public health laboratories in 50 states, four cities, and Puerto Rico, including **seven regional labs** and the National Tuberculosis Molecular Surveillance Center (National TB Center)
- The **seven regional labs** coordinate and complement public health activities and are located in the following state health departments: Maryland, Minnesota, New York, Tennessee, Utah, **Washington**, and Wisconsin
- AR Lab Network Labs:
 - Collect specific isolates, such as carbapenem-resistant Enterobacteriales (CRE) and *Candida* species (except *C. albicans*) from local laboratories to help monitor MDRO throughout the USA
 - Offer specific tests to supplement testing done in clinical labs to detect/confirm noteworthy antimicrobial resistance in 1) isolates from diagnostic specimens and 2) screening/surveillance swabs
 - Works with CDC to resolve unusual or novel antimicrobial resistance findings (and organism identifications related to the resistance) using the latest technology
 - Provide guidance for managing antimicrobial resistance from lab and epidemiological perspectives
- The **Washington State AR Lab Network regional lab** (WA ARLN) is CLIA certified, serves California and offers testing (free) to clinical labs to help local public health departments investigate MDROs from laboratory and epidemiological perspectives. The test menu for WA ARLN is [here](#).
- Laboratorians and epidemiologists at **Los Angeles County Public Health** and **California State Public Health Departments** work closely with the AR Lab Network. They perform limited testing, initiate containment efforts to prevent spread of MDROs and interact with WA AR Lab Network to address MDRO in LAC

Ways in which the AR Lab Network can help clinical laboratories in LAC with *C. auris*.

Please note that all testing at the AR Lab Network **must be coordinated via the LACDPH Healthcare Outreach Unit at HAI@PH.LACOUNTY.GOV OR 213-240-7941.**

Local Clinical Laboratory		AR Lab Network Support
Scenario	Questions/Observations	
Wants to ensure current yeast identification methods can identify <i>C. auris</i> .	Where can I find guidance?	CDC provides guidance here .
MALDI TOF needs to be verified for identification of <i>C. auris</i> .	Where can isolates be obtained for verification?	FDA AR Isolate bank and CDC provide isolates free of charge. See guidance in previous edition of this newsletter here .
The lab's first <i>C. auris</i> isolate is identified.	How can I confirm identification is accurate, as a supplemental QA check?	Confirm identification of <i>C. auris</i> by MALDI-TOF. Note: AR Lab Network can accept isolates for confirmation/rule-out <i>C. auris</i> via LAC PHL
The clinician wants antifungal susceptibility testing results on a <i>C. auris</i> isolate.	Where can antifungal susceptibility testing be performed since our laboratory cannot do this?	Performs antifungal susceptibility testing (on <i>Candida</i> spp. other than <i>C. albicans</i>). See additional guidance in previous edition of this newsletter here .
The Infection Preventionist approaches the lab about screening a patient for <i>C. auris</i> that is being transferred from a LTCF in which several <i>C. auris</i> patients were identified.	What screening approaches are appropriate? Where can screening specimens be tested?	Performs screening of axilla / groin swabs to identify patients colonized with <i>C. auris</i> . (The Healthcare Outreach Unit will inform local clinical lab if AR Lab Network can accommodate the request based on circumstances surrounding the case).

*WA AR Laboratory Network laboratory is CLIA-certified; results from testing here can be reported at the local laboratory. ARLN@doh.wa.gov

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Please remember:

- Clinical laboratories that serve LAC HCFs must:
 - report confirmed *C. auris* to LAC DPH within 1 working day [here](#)
 - notify providers of both presumptive and confirmed *C. auris* isolates
- Provider (e.g., infection preventionist) must report presumptive and confirmed *C. auris* to LACDPH within 1 working day as instructed [here](#).

FREQUENTLY ASKED QUESTIONS

How can we test for *C. auris* colonization?

Patients are typically screened for *C. auris* colonization using a composite swab of the bilateral axilla and groin using a nylon-flocked or rayon tip swab. You can find more lab-related information regarding *C. auris* on our [FAQs to Aid Clinical Laboratorians at the Bench](#) or the [CDC Guidance for Detection of Colonization of *C. auris*](#).

What if we need to do a rule-out test for *C. auris* (clinical isolate)?

If you identify a [confirmed or presumptive *C. auris* organism](#), you may send the isolate to the LACDPH Public Health Lab for rule-out testing only. Please do not send isolates nor swabs to the LAC PHL without contacting the Healthcare Outreach unit first.

What can we do to prepare for *C. auris* in our facility?

LAC has found that early detection is key to stopping spread of *C. auris* – we highly recommend you work with your infection control department and facility leadership to set up *C. auris* colonization screening at your earliest convenience. In addition, species identification of all yeast isolates from high-risk patients should be considered.

I cannot test for *C. auris* on-site. What labs are currently testing for *C. auris*?

As of November 2020, all major reference laboratories have validated MALDI procedures to identify *C. auris* isolates. However, most have not yet implemented molecular assays for screening / surveillance swabs but will perform fungal culture on these specimens. As of March 2021, new laboratories are starting to offer PCR-based screening services.

Reference Lab	Screening Method*	Test (Order Code)
ARUP	Fungal culture	<ul style="list-style-type: none">• Fungal culture, yeast (0060149)• Yeast ID - MALDI Bruker; sequencing if no ID (0060163)
LabCorp	Fungal culture	<ul style="list-style-type: none">• Fungal culture, yeast (182776)• Yeast ID – MALDI Vitek MS; sequencing if no ID (182212)
Mayo	PCR	<ul style="list-style-type: none">• <i>Candida auris</i> surveillance (PCR) (CAURS 607883)• Yeast ID – MALDI Bruker; sequencing if no ID (FUNID 8223)
Premier Lab Solutions	PCR	<ul style="list-style-type: none">• <i>Candida auris</i> surveillance (PCR) (6146)
Quest	Fungal culture	<ul style="list-style-type: none">• Fungal culture, yeast (20541)• Yeast ID - MALDI Vitek MS or Bruker; sequencing if no ID (39507)

*for fungal culture, indicate “rule out *Candida auris*”

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When should I suspect a patient may have *C. auris*?

There are several risk factors for *C. auris* colonization, including:

- Patients/residents being admitted from a facility with transmission of *C. auris* (ask your IP)
- Patients being admitted from any long-term acute care hospital (LTACH) (per [3/18/21 CAHAN](#))
- High-risk contacts of *C. auris* confirmed cases (i.e., roommates)
- Patients/residents on a mechanical ventilator or with presence of tracheostomy being admitted from a skilled nursing facility (SNF)
- Patients/residents who are colonized with rare [carbapenemase-producing organisms](#)
- Patients/residents who have had an overnight stay in a healthcare facility in a [country with widespread transmission or multiple cases of *C. auris*](#) in the past 12 months
- Patients/residents who have had an overnight stay in a healthcare facility in a [state with widespread transmission *C. auris*](#) in the past 12 months

Do colonized patients require treatment?

Colonized individuals do not require treatment. If a patient develops a clinical infection, more guidance can be found on the [CDC website](#).

How often should patients be re-screened for *C. auris*?

Once a patient has tested positive for *C. auris*, transmission-based precautions should be continued on all subsequent admissions. There is no indication for repeat screening for *C. auris* since there are no criteria for clearance at this time.

Can patients be cleared of *C. auris*?

Studies have shown that patients colonized with *C. auris* rarely clear the organism. Thus, until further guidance from the CDC is received, patients will be considered to be positive for the duration of their admission. Swabs to test for clearance should not be collected. If a patient is accidentally re-swabbed and the result is negative, please disregard the result.

What is LACDPH doing to prevent further transmission of *C. auris*?

Since *C. auris* is a rare, emerging organism in LAC, LACDPH is taking many steps to prevent transmission of *C. auris*, including pre-emptive point prevalence surveys (PPS) of high-risk facilities, education, and on-site infection control assessments. We are working closely with Orange County Healthcare Agency (OCHCA), the California Department of Public Health (CDPH) and Centers for Disease Control and Prevention (CDC) to protect our patients and residents.