

Candida auris



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- Conflicts of interest?

Learning Objectives

- Following the presentation, participants will be able to..
- Identify what is a *Candida auris*
- Learn the Current Epidemiology of *Candida auris*
- *Candida auris* Identification and Testing
- Identify *Candida auris* risk factors
- *Candida auris* Transmission
- *Candida auris* Mitigation

What is a *Candida auris*?

- *Candida auris* (*C. auris*) is an emerging multidrug-resistant yeast (a type of fungus). It can cause severe infections and spreads easily between hospitalized patients and nursing home residents.
- First identified in 2009 in Asia
- More than 1 in 3 patients with invasive *C. auris* infection (for example, an infection that affects the blood, heart, or brain) die

DRUG-RESISTANT **CANDIDA AURIS**

THREAT LEVEL **URGENT**



323
Clinical cases
in 2018



90% Isolates resistant to at least **one** antifungal
30% Isolates resistant to at least **two** antifungals

Candida auris (*C. auris*) is an emerging multidrug-resistant yeast (a type of fungus). It can cause severe infections and spreads easily between hospitalized patients and nursing home residents.

Why are *C.auris* Considered Epidemiologically Important?

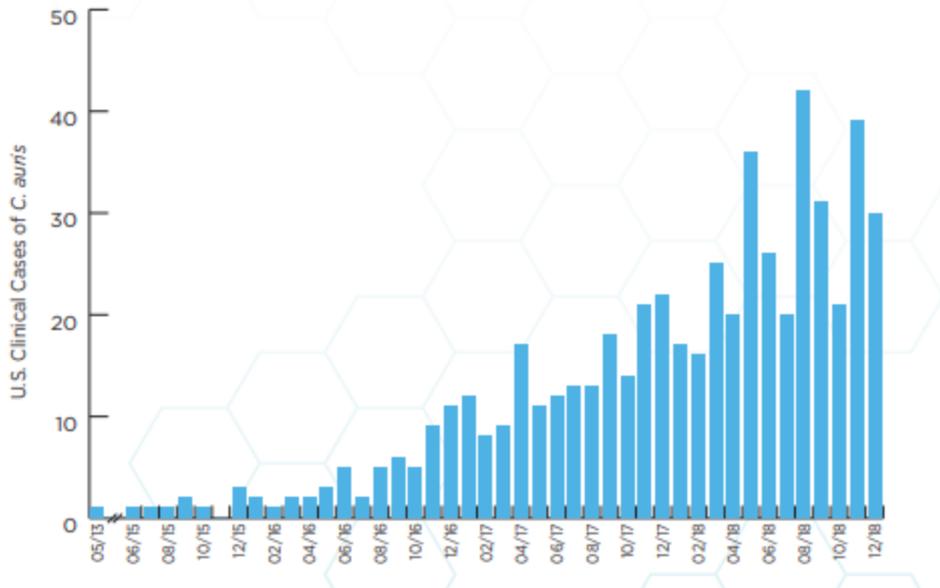
CDC is concerned about *C. auris* for three main reasons:

- It is often multidrug-resistant, meaning that it is resistant to multiple antifungal drugs commonly used to treat *Candida* infections.
- 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.
- 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.

Current CDC *C.auris* Statistics

CASES OVER TIME

C. auris began spreading in the United States in 2015. Reported cases increased 318% in 2018 when compared to the average number of cases reported in 2015 to 2017.



- In 2021, cases reached a count of 3,270 with an active infection and 7,413 that showed the fungus was present but hadn't caused an infection. Infection counts were up 95% over the previous year, and the fungus showed up on screenings three times as often. The number of cases resistant to medication also tripled

C.auris Identification

It is difficult to identify.

- *C. auris* can be misidentified as a number of different organisms when using traditional phenotypic methods for yeast identification such as VITEK 2 YST, API 20C, BD Phoenix yeast identification system, and MicroScan

When to suspect *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>
API ID 32C	<i>Candida intermedia</i> <i>Candida sake</i> <i>Saccharomyces kluyveri</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> **

How to Test for *C. auris*

- Diagnostic devices based on matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) can differentiate *C. auris* from other *Candida* species, but not all the reference databases included in MALDI-TOF devices allow for detection
- Molecular methods based on sequencing the D1-D2 region of the 28s rDNA or the Internal Transcribed Region (ITS) of rDNA also can identify *C. auris*
- The GenMark ePlex Blood Culture Identification Fungal Pathogen (BCID-FP) Panel and BioFire FilmArray BCID2 have been FDA approved as molecular tests for *C. auris* identification in positive blood cultures
- AR Lab Network

How Common are *C. auris* Infections?

- In 2019 CDC reported 476 clinical cases
- 2015 to 2017 saw a 318% increase in reported cases
- 754 estimated cases in 2020
- 3270 estimated cases in 2021

Case counts continue to rise quickly, along with colonization screening cases.

While not as common as an ESBL, or CRE, *C. auris* is rising the fastest among the CDC urgent threats

Who is Most Likely to get a *C. auris* Infection?

- People who are very sick with invasive medical devices
- Long or frequent stays in Hospitals and Long-term-care facilities and nursing homes
- Long term antibiotic use or antifungals
- People who weakened immune systems
- Patients who received medical care in foreign countries

How are *C. auris* Spread or Transmitted?

- *C. auris* can spread in healthcare settings through contact with contaminated environmental surfaces or equipment, or from person to person.
- *C. auris* can be transmitted in healthcare settings and cause outbreaks
- It can colonize patients for many months
- It can persist in the environment and on surfaces
- Withstands some commonly used healthcare facility disinfectants

What Can Clinicians do to Prevent *C. auris* Transmission?

- Quickly identify any patient with colonization or active infection based on their risk factors, and implement precautions
- Adherence to hand hygiene
- Appropriate use of Transmission-Based Precautions based on setting
- Cleaning and disinfecting the patient care environment, daily and terminal cleaning using Products with EPA-registered claims for *C. auris* (List P)
- Use disposable equipment, or dedicated equipment
- Communicate patient *C. auris* status when patient transferred
- Screening for high-risk patients

Public Health Departments and *C. auris*

Take Steps Now! Public health departments should lead coordination.



- Identify the health care facilities in the area and how they are connected.
- Dedicate staff to improve connections and coordination with health care facilities in the area.
- Work with CDC to use data for action to better prevent infections and improve antibiotic use in health care settings.
- Know the antibiotic resistance threats in the area and state.

SOURCE: CDC Vital Signs, August 2015.

Health Departments Should

- Understand the prevalence or incidence of *C. auris* in their jurisdiction by performing some form of regional surveillance for these organisms.
- Increase awareness among healthcare facilities of the regional prevalence of *C. auris* and prevention strategies and initiatives.
- Provide a standardized form for facilities to use during patient transfers, especially between hospitals and long-term care facilities.
- Consider including *C. auris* infections on your state's Notifiable Diseases List.
- Include a range of facility types when developing regional *C. auris* prevention projects.
- Be a resource for healthcare facilities on appropriate infection prevention measures and antimicrobial stewardship



Questions?

Resources

- [Infection Preventionists Fact Sheet](#)
- [Laboratory Staff Fact Sheet](#)
- [Identification of *C. auris*](#)
- [Screening for *C. auris*](#)
- <https://www.cdc.gov/fungal/candida-auris/fact-sheets/c-auris-testing.html>
- <https://www.cdc.gov/fungal/candida-auris/c-auris-drug-resistant.html>
- <https://www.cdc.gov/fungal/candida-auris/index.html>