

IN THIS ISSUE: **CANDIDA AURIS**

Candida auris

Introduction

First identified in 2009, *Candida auris* (*C. auris*) is a fungal organism which has become an emerging public health priority.^{1,2} *C. auris* is associated with healthcare acquired infections as it spreads easily among those already experiencing health issues.^{1,3} This fungus is capable of causing serious infections and is resistant to multiple antifungals, making it challenging to treat.¹ It is estimated 1 out of 3 patients with invasive *C. auris* infection will die.¹ A recent study published characterizes the transmission in the United States (U.S.) as increasing between 2019 and 2021, with clinical cases rising 95% in 2021.⁴

Epidemiology

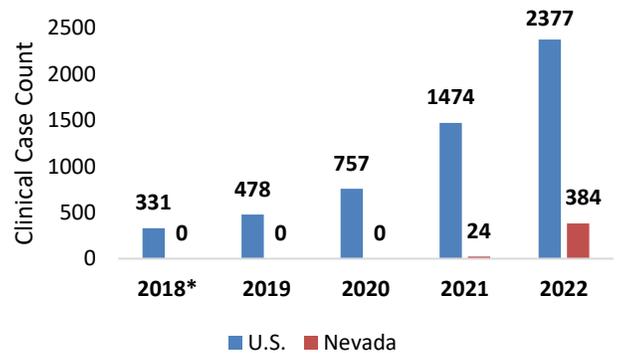
C. auris cases may be classified as clinical or colonized.³ A clinical case shows evidence of an active infection and specimens tested are taken from clinical sources (e.g. urine, wound).³ Colonized (also known as screening) cases do not show signs of infection but have the fungus on their body.^{3,5} Individuals are screened for *C. auris* if health history indicates possible exposure to the pathogen (e.g. roommate to an infected person, transfer from hospital with outbreak, travel to area where *C. auris* is endemic).⁶

C. auris can spread from person to person with both clinical and colonized cases capable of transmitting the disease.^{1,7} Additional propagation can occur through contact with surfaces contaminated with the pathogen as the multidrug-resistant organism can persist on surfaces for weeks.^{1,7}

Since first becoming nationally notifiable in 2018, reports of *C. auris* have continued to increase.² Nationally, clinical cases rose from 331 to 2,377 in a five-year time span [Fig. 1].² By the end of 2022, more than half of U.S. states reported *C. auris* cases [Fig. 2].² Nevada (NV) also saw a rise in reports

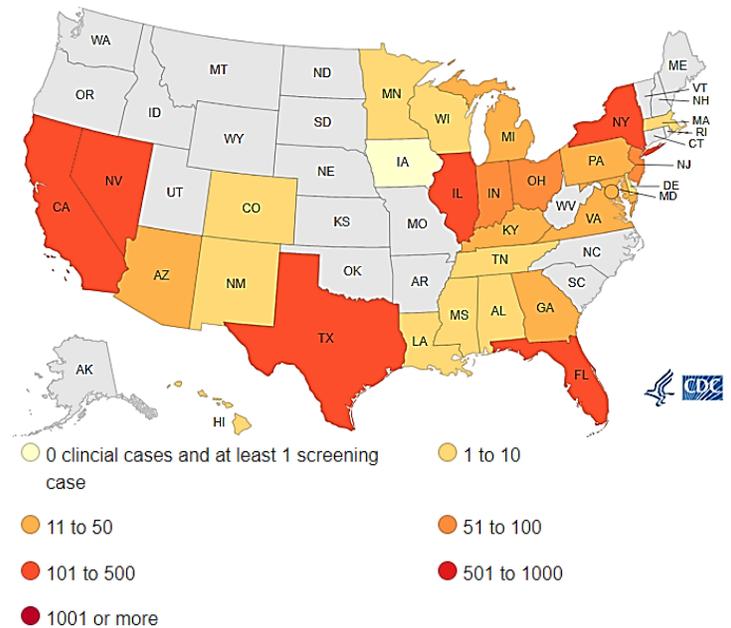
between 2018 and 2022, going from no cases to 384 [Fig. 1].² In Washoe County, NV, less than 5 *C. auris* cases were reported between 2018-2022 (not shown in figure due to low case counts).⁸

Figure 1: Number of clinical *C. auris* cases in United State and Nevada, 2018-2022



* *Candida auris* became nationally reportable
Source: <https://www.cdc.gov/fungal/candida-auris/tracking-c-auris.html>

Figure 2: Distribution of clinical *C. auris* cases in the United States, 2022



Source: <https://www.cdc.gov/fungal/candida-auris/tracking-c-auris.html>

Signs & Symptoms

Symptoms of *C. auris* may vary depending on the site of infection and can be difficult to distinguish from preexisting conditions the patient may already

have.¹⁵ Those who are colonized may not exhibit any symptoms.

Diagnosis & Testing

Identifying *C. auris* can be difficult as its often misidentified as a different *Candida* or yeast species.⁹ The Centers for Disease Control and Prevention (CDC) recommends the following:⁹

- Matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS). Considered the most reliable method.
- Sequencing the D1-D2 region or internal transcribers spacer of the 28s ribosomal DNA.

Different specimen collection methods are used for colonization screening and clinical specimen testing.¹⁰

- Colonization screening involves swabbing the axilla and groin of the individual to see if someone may have *C. auris*.
- Clinical specimen taken to determine the cause of an infection (e.g. blood, urine).

Providers should consult with Nevada State Public Health Laboratory for appropriate specimen collection parameters.

Treatment

Clinicians should refer to the [CDC's Treatment and Management of *C. auris* Infections and Colonization](https://www.cdc.gov/fungal/candida-auris/c-auris-treatment.html) (<https://www.cdc.gov/fungal/candida-auris/c-auris-treatment.html>) for detailed and latest treatment recommendations. Treatment is not recommended for asymptomatic *C. auris* cases detected from a noninvasive specimen site.¹¹

For adults and children ≥ 2 months of age, echinocandin drugs are the recommended choice (Table 1).¹¹

Table 1: Echinocandin dosing for adults and children ≥ 2 months of age

Echinocandin Drug	Adult Dosing	Pediatric Dosing
Anidulafungin	loading dose 200 mg IV, then 100 mg IV daily	not approved for use in children
Caspofungin	loading dose 70 mg IV, then 50 mg IV daily	loading dose 70mg/m ² /day IV, then 50mg/m ² /day IV
Micafungin	100 mg IV daily	2mg/kg/day IV with option to increase to 4mg/kg/day IV in children at least 40 kg

Patients (≥ 2 months of age) prescribed treatment should be monitored for improvements in health. Repeat testing, including cultures and antibiotic susceptibility, is recommended as *C. auris* has been known to become resistant to treatment.

For infants and neonates < 2 months of age, amphotericin B deoxycholate, 1 mg/kg daily is advised.¹¹ Echinocandin can cautiously be recommended in rare situations where the central nervous system involvement has been ruled out (Table 2).¹¹

Table 2: Echinocandin dosing for neonates < 2 months of age

Echinocandin Drug	Neonatal Dosing
Caspofungin	25 mg/m ² /day IV (based on body surface area)
Micafungin	10mg/kg/day IV

Risk Factors and Prevention

Patients with preexisting health issues and those who require higher level of care are at risk of contracting *C. auris*.¹⁵ The fungus poses a threat to patients needing invasive medical equipment, such as tubes and catheters.⁵ *C. auris* is not an issue for the general public that are healthy with no serious health concerns.¹⁵

To prevent the spread of *C. auris*, friends and family are encouraged to wash their hands with soap and water or use an alcohol-based hand sanitizer when coming into contact with an infected patient or their medical equipment.⁵

In a healthcare setting, staff should refer to the [CDC's Infection Prevention and Control for *Candida auris*](https://www.cdc.gov/fungal/candida-auris/c-auris-treatment.html) (<https://www.cdc.gov/fungal/candida-auris/c-auris-treatment.html>) guidelines, which provides control measures such as: hand hygiene, transmission-based precautions, cleaning and disinfecting, communication, and setting-specific recommendations.¹²

Reporting

The list of reportable communicable diseases and reporting forms can be found at:

<http://tinyurl.com/WashoeDiseaseReporting>

Report communicable diseases to Northern Nevada Public Health. To report a communicable disease, please call 775-328-2447 or fax your report to the NNPH at 775-328-3764.

Acknowledgement

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