North Dakota Department of Health and Human Services (HHS) Candida Auris Toolkit- **Hospitals**

Disease Control and Forensic Pathology
Division of Public Health
Healthcare-Associated Infections/
Antimicrobial Resistance Program

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TABLE OF CONTENTS

WHAT IS CANDIDA AURIS (C. AURIS)?

Candida auris is an emerging fungus that presents a serious global health threat. *Candida auris* has been reported to cause severe illness in hospitalized patients in healthcare facilities in several countries. In the United States, most cases of *C. auris* result from local spread within and among healthcare facilities in the same city or state. However, healthcare facilities should be on the lookout for new introductions of *C. auris* from patients who received healthcare elsewhere in the United States or abroad in areas with *C. auris* transmission. Patients who have had prolonged admission in healthcare settings, particularly high-acuity care settings including long-term acute care hospitals (LTACH), ventilator-equipped SNF (vSNF), high-acuity Acute Care Hospital units (e.g., intensive care units (ICU)) are at highest risk of *C. auris* and other multidrug-resistant organism (MDRO) colonization and infection. There have been no cases of *C. auris* reported in North Dakota as of April 2023. For up-to-date case counts, see CDC's Tracking Candida Auris.

WHY IS *C. AURIS* A PROBLEM?

- **It causes serious infections**. *C. auris* can cause bloodstream and other types of invasive infections, particularly in patients in hospitals and nursing homes who have many medical problems. More than 1 in 3 patients die within a month of being diagnosed with an invasive *C. auris* infection.
- **It is often multidrug-resistant**. Antifungal medications commonly used to treat other Candida infections often don't work for *C. auris*. Some *C. auris* isolates are resistant to all three major classes of antifungal medications.
- **It is becoming more common**. Although *C. auris* was just discovered in 2009, the number of cases has grown quickly. Since 2009, it has been reported in dozens of countries, including the United States.
- **It is difficult to identify**. *C. auris* can be misidentified as other types of fungus unless specialized laboratory methods are used. Correctly identifying *C. auris* is critical for starting measures to stop its spread and prevent outbreaks.
- **It can spread and cause outbreaks in healthcare facilities**. Just like other multidrug-resistant organisms such as carbapenem-resistant *Enterobacteriaceae* (CRE) and methicillin-resistant *Staphylococcus aureus* (MRSA), *C. auris* can be transmitted in healthcare settings and cause outbreaks. It can colonize patients for many months, persist in the environment, and withstand some commonly used healthcare facility disinfectants.

Early detection and infection control can limit the spread of *C. auris*.

LABORATORIANS AND HEALTHCARE PROFESSIONALS

It is important to know how to identify, treat, and control the spread of this organism. The resources below are meant for laboratorians, clinicians, infection control practitioners, and public health professionals.

Healthcare facilities or laboratories that **suspect they have a patient with *C. auris* infection should contact HHS immediately for guidance**. All laboratories, especially laboratories serving healthcare facilities where cases of *C. auris* have been detected, should do the following:

- Review past microbiology records (as far back as 2015, if possible) to identify cases of confirmed or suspected *C. auris* (see When to suspect *C. auris* infections).
- Conduct prospective surveillance to identify and report *C. auris* cases in the future.

When to suspect *C. auris*

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.

An increase in infections due to unidentified *Candida* species in a patient care unit, including increases in isolation of *Candida* from urine specimens, should also prompt suspicion for *C. auris* since *C. auris* can be transmitted in healthcare settings.

C. auris Testing

North Dakota Department of Health and Human Services (HHS) Laboratory Services has the capacity to test suspected isolates for *C. auris*. Laboratories with capability to characterize isolates further when *C. auris* is suspected are encouraged to do so. Know the yeast identification method used by your laboratory and its limitations for *C. auris* identification. Suspected isolates can also be sent to CDC's AR Lab Network for identification and antifungal susceptibility testing. This testing is performed free of charge and may require coordination through the state public health division's Healthcare-Associated Infections Program.

For laboratories interested in performing *C. auris* colonization testing in-house, guidance on processing swabs to assess for *C. auris* colonization is available under Guidance for Detection of Colonization of *Candida auris*.

Antifungal Susceptibility Testing and Interpretation

All *Candida auris* isolates should undergo antifungal susceptibility testing according to CLSI guidelines. Although *C. auris* is commonly multidrug resistant, levels of antifungal resistance can vary widely across isolates.

Surveillance for Clinical Cases

Establish a protocol with your laboratory so that your department is promptly informed when *C. auris* is suspected. If your laboratory is not equipped to identify *C. auris*, begin surveillance for the organisms that commonly represent a *C. auris* misidentification. See Identification of Candida auris | Candida auris | Fungal Diseases | CDC for common misidentifications by different yeast identification methods.

CDC recommends that all yeast isolates obtained from a normally sterile site (e.g., bloodstream, cerebrospinal fluid) be identified to the species level so that appropriate initial treatment can be administered based on the typical, species-specific susceptibility patterns. Many clinical laboratories do not typically determine the species of isolates from non-sterile sites since presence of *Candida* in these sites may represent colonization rather than infection and would not require treatment. However, *C. auris* is important to identify even from a non-sterile body site because presence of *C. auris* in any body site can represent wider colonization, posing a risk for transmission and requiring implementation of infection control precautions.

When *Candida* is isolated from non-sterile sites, species-level identification should be considered in certain circumstances, including:

- When clinically indicated in the care of a patient.
- When a case of *C. auris* infection or colonization has been detected in a facility or unit, in order to detect additional patients colonized. Species identification when *Candida* is found in non-sterile sites can be implemented for at least one month until no evidence exists of *C. auris* transmission.
- When a patient has had an overnight stay in a healthcare facility outside of North Dakota or the United States in the previous year, especially if in a state/country with documented *C. auris* transmission.

Colonization for longer than a year has been identified among some *C. auris* patients; therefore, hospitals might also consider determining the species for *Candida* isolated from patients with more remote exposure to healthcare abroad.

Screening for Colonization

Patients may be asymptomatically colonized with *C. auris* on skin, nares, oropharynx, rectum, and other body sites. Patients colonized with *C. auris* can transmit *C. auris* to other patients within healthcare facilities and may be at risk for invasive *C. auris* infections. Screening patients for *C. auris* colonization allows facilities to identify those with *C. auris* colonization and implement infection prevention and control measures.

Consider screening patients who are at high risk for *C. auris*, including:

- Close healthcare contacts of patients with newly identified *C. auris* infection or colonization.
- Patients who have had an overnight stay in a healthcare facility outside of North Dakota or the United States in the previous one year, especially if in a state/country with documented *C. auris* cases. Strongly consider screening when patients have had such inpatient healthcare exposures outside of North Dakota or the United States and have infection or colonization with carbapenemase-producing Gram-negative bacteria. *C. auris* co-colonization with these organisms has been observed regularly.

Lab Safety

1. Follow your institution's policy on use of personal protective equipment (PPE), but use at least lab coat and gloves, and eye protection if spatter or splash may occur.
2. Use a biological safety cabinet (BSL2) when manipulating known or suspected *C. auris* isolates. *C. auris* can contaminate surfaces extensively, and it is difficult to eradicate. We do not know if *C. auris* can colonize the skin of otherwise healthy people.
3. To disinfect surfaces contaminated with *C. auris*, use a product with Environmental Protection Agency (EPA) approval specifically for *C. auris*. Note that the list of products approved by EPA is being updated as more is learned about this emergent pathogen. The most recent list of approved products can be found in CDC's environmental disinfection guidance. It is important to note that products with *C. albicans* or fungicidal claims may not be effective against *C. auris*, and accumulating data indicate products solely dependent on quaternary ammonium compounds are **NOT** effective.
4. Remove PPE and clean hands before leaving the laboratory, according to your institution's policy and methods.
5. Dispose of contaminated materials as infectious waste following your institution's standard guidelines.

Infection Control Recommendations

The most effective method to prevent the spread of *C. auris in* healthcare settings is strict adherence to infection control activities. Appropriate environmental cleaning and disinfection is important to eliminate transmission and exposure risk. Some disinfectants commonly used in healthcare settings are not effective against *C. auris*. CDC's primary infection control measures for prevention of *C. auris* transmission in healthcare settings are:

- Adherence to hand hygiene.
    - When caring for patients with *C. auris*, healthcare personnel should follow standard hand hygiene practices. Alcohol-based hand sanitizer (ABHS) is the preferred hand hygiene method for *C. auris* when hands are not visibly soiled.
- Appropriate use of Transmission-Based Precautions based on setting.

    - Healthcare providers should use Contact Precautions to manage patients with *C. auris* in acute care hospitals and long-term acute care hospitals.
    - Patients on Contact Precautions should be placed in a single-patient room whenever possible.
- Cleaning and disinfecting the patient care environment (daily and terminal cleaning) and reusable equipment with recommended products, including focus on shared mobile equipment (e.g., glucometers, blood pressure cuffs). See EPA's List P: Antimicrobial Products Registered with EPA for Claims Against Candida Auris
    - Perform thorough routine (at least daily) and terminal cleaning and disinfection of patients' rooms and other areas where patients receive care (e.g., radiology, physical therapy) using an appropriate disinfectant.
- Monitoring Adherence
    - Use auditing tools to assess and track healthcare personnel adherence to infection control measures. Monitoring adherence and providing feedback to staff are critical to sustained implementation of infection prevention measures.
- Educate all healthcare personnel, including healthcare personnel who work with environmental cleaning services, about *C. auris* and the need for appropriate precautions. Follow-up education may be needed to reinforce concepts and to account for healthcare personnel turnover and guidance updates.
- Communication about patient's *C. auris* status when patient is transferred.
    - When transferring a patient with *C. auris* colonization or infection to another healthcare facility or to another unit within a facility, notify the receiving facility or unit of the patient's *C. auris* infection or colonization status, including recommended Transmission-Based Precautions. Use the HAI Program interfacility transfer form during all patient or resident transfers available via North Dakota link here.
- Screening contacts of newly identified case patients to identify *C. auris* colonization.
    - Screening patients to identify *C. auris* colonization is another important component for preventing spread of *C. auris*. Infection control measures described above also apply to patients found to be colonized through screening.
- Practice antimicrobial stewardship by assessing the appropriateness of antibiotics, especially antifungals, and discontinue them when not needed as this practice may help prevent *C. auris* colonization and infection.
- Laboratory surveillance of clinical specimens to detect additional cases.

The principles of *C. auris* infection control is similar across settings. See considerations for specific settings like Dialysis facilities, Outpatient settings, Home healthcare settings, and home and family members here.

REPORTING

Candida auris is a nationally notifiable condition and is a reportable condition in North Dakota. Suspected cases should also be reported to Disease Control by calling 701-328-8660 or by emailing Faye Salzer (fsalzer@nd.gov) and Nicole Droll (ndroll@nd.gov).

ADDITIONAL RESOURCES FOR *CANDIDA AURIS*

Information for Laboratorians and Health Professionals

Procedure for collection of patient swabs for Candida auris (cdc.gov)

Information for Laboratory Staff

Screening for *Candida auris* Colonization

Frequently asked Questions about Screening for *Candida auris*

Identification of *Candida auris*

Guidance for Detection of Colonization of *Candida auris*

Surveillance for *Candida auris*

Antifungal Susceptibility Testing and Interpretation

Infection Prevention and Control for *Candida auris*

Candida auris: A Drug-resistant Germ That Spreads in Healthcare Facilities

Treatment and Management of *C. Auris* Infections and Colonization

CDC RESOURCES

Hand Hygiene

Break the Chain of Infection

Infection Prevention and You- Long Term Care

Infection Prevention and You- Keep the Patient's Room Clean

Multidrug-resistant Candida auris: Update on Current U.S. Epidemiology, Clinical Profile, Management, and Control Strategies

- Candida auris infection control challenges (cdc.gov) (slides)
- CDC COCA Call: Multidrug-resistant Candida auris – (recording)

CDC/CDPH C. auris in Long-Term Care Facilities Webinar:

- C auris and other novel MDRO prevention in LTCFs webinar slides
- Prevention of Candida auris and other novel MDROs in healthcare facilities webinar FINAL -

NORTH DAKOTA RESOURCES

North Dakota Inter-facility Infection Control Transfer Form