An Active Screening Strategy for identification of *Candida auris* Colonization in Patients from High-Risk Settings

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Background

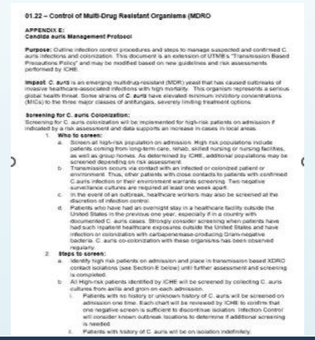
- *Candida auris* was first discovered in 2009 in Japan. Since then, infections have steadily increased, evolving into an emerging global infectious disease with significant clinical impact due to its inherent antifungal resistance and high associated mortality. Affected patients most commonly have comorbidities that require complex medical care in long term care facilities.[1]
- In 2021, *C. auris* became a notifiable condition in Texas with 54 new cases identified, increasing to 160 in 2022.[2]
- In response to local facility outbreaks, our acute care facility instituted an active surveillance program for early detection and isolation of high-risk patients to prevent environmental contamination and potential healthcare-associated outbreaks.

Methods

- The *C. auris* screening program was implemented in February 2022 throughout our 4-campus hospital system.
- Patients currently residing in or within the last 90 days of admission in nursing homes (NH), skilled nursing facilities (SNF), long term acute care facilities (LTAC), and inpatient rehabilitation centers (rehab) are recognized as high-risk.
- High-risk patients are identified at the time of admission through registration documentation.
- The patients are flagged in the electronic medical record (EMR) which cascaded to automatically place them in isolation and order *C.auris* screening through the admission order sets.
- Screening is performed using a PCR-based assay. Screening swabs are collected by vigorously swabbing the patient's bilateral axilla and groin locations.
- Each flagged chart is reviewed by an infection preventionist to ensure the patient is screened and results are followed up.
- When screening is positive, the patient's EMR flag is changed to a *C. auris* CONFIRMED status. Isolation is discontinued with negative results.
- Isolation is indefinite with screen positive patients.

References
1. Arendrup, M. C. & Patterson, T. F. Multidrug-resistant candida: Epidemiology, molecular mechanisms, and treatment. *Journal of Infectious Diseases* **216**, S445–S451 (2017).
2. Health Advisory: Pan-Resistant Candida auris Identified in Texas. March 16, 2021. www.dshs.Texas.gov/news-alerts/health-advisory-pan-resistant-candida-auris-identified-texas

Policy Development and Workflow


01.22 – Control of Multi-Drug Resistant Organisms (MDRO

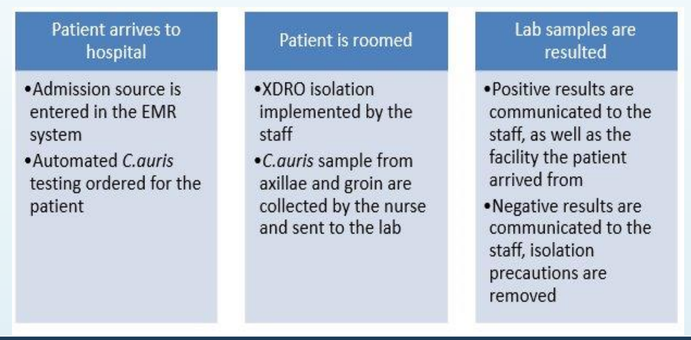
APPENDIX E:
Candida auris Management Protocol

Purpose: Outline infection control procedures and steps to manage suspected and confirmed C. auris infections and colonization. This document is an extension of UTMB's "Transmission Based Precautions Policy" and may be modified based on new guidelines and risk assessments performed by ICHE.

Impact *C. auris* is an emerging multidrug-resistant (MDR) yeast that has caused outbreaks of invasive healthcare-associated infections with high mortality. This organism represents a serious global health threat. Some strains of *C. auris* have elevated minimum inhibitory concentrations (MICs) to the three major classes of antifungals, severely limiting treatment options.

Screening for C. auris Colonization:
Screening for C. auris colonization will be implemented for high-risk patients on admission if indicated by a risk assessment and data supports an increase in cases in local areas.

1. **Who to screen:**
   a. Screen all high-risk population on admission. High risk populations include patients coming from long-term care, rehab, skilled nursing or nursing facilities, as well as group homes. As determined by ICHE, additional populations may be screened depending on risk assessment.
   b. Transmission occurs via contact with an infected or colonized patient or environment. Thus, other patients with close contacts to patients with confirmed C. auris infection or their environment warrants screening. Two negative surveillance cultures are required at least one week apart.
   c. In the event of an outbreak, healthcare workers may also be screened at the discretion of infection control.
   d. Patients who have had an overnight stay in a healthcare facility outside the United States in the previous one year, especially if in a country with documented C. auris cases. Patients who are currently receiving or recently have had such inpatient healthcare exposures outside 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.
2. **Steps to screen:**
   a. Identify high risk patients on admission and place in transmission based XDRO contact isolations (see Section II below) until further assessment and screening is completed.
   b. All High-risk patients identified by ICHE will be screened by collecting C. auris cultures from axilla and groin on each admission.
      i. Patients with no history or unknown history of C. auris will be screened on admission one time. Each chart will be reviewed by ICHE to confirm that one negative screen is sufficient to discontinue isolation. Infection Control will consider known outbreak locations to determine if additional screening is needed
      ii. Patients with history of C. auris will be on isolation indefinitely



Data Outcomes

Fig.1 Distribution of Tests by Facility Type

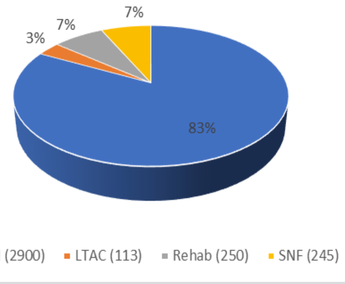


Fig.2 Test Positivity Rate by Facility Type

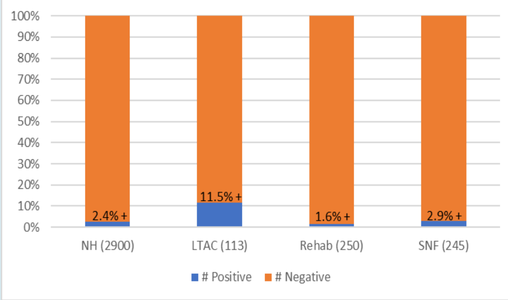
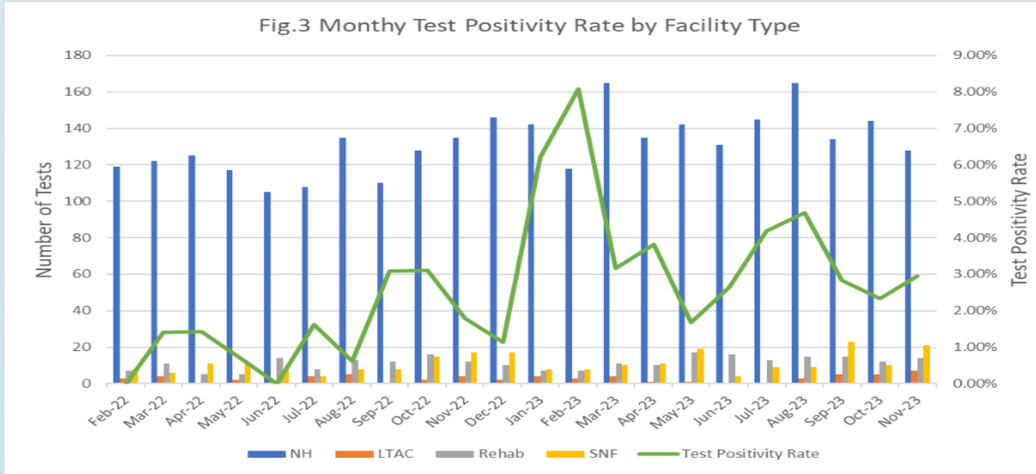
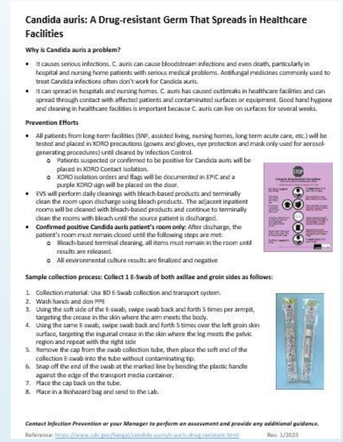


Fig.3 Monthy Test Positivity Rate by Facility Type



Education Tool


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

Why is Candida auris a problem?

- It causes serious infections. C. auris can cause bloodstream infections and even death, particularly in hospital and nursing home patients with serious medical problems. Antifungal medicines commonly used to treat Candida infections often don't work for Candida auris.
- It can spread in hospitals and nursing homes. C. auris has caused outbreaks in healthcare facilities and can spread through contact with affected patients and contaminated surfaces or equipment. Good hand hygiene and cleaning in healthcare facilities is important because C. auris can live on surfaces for several weeks.

Prevention Efforts

- All patients from long-term facilities (SNF, assisted living, nursing homes, long term acute care, etc.) will be tested and placed in XDRO precautions (gowns and gloves, eye protection and mask only used for aerosol-generating procedures) until cleared by Infection Control.
  - Patients suspected or confirmed to be positive for Candida auris will be placed in XDRO Contact isolation.
  - XDRO isolation orders and flags will be documented in EPIC and a purple XDRO sign will be placed on the door.
- EVS will perform daily cleanings with bleach-based products and terminally clean the room upon discharge using bleach products. The adjacent inpatient rooms will be cleaned with bleach-based products and continue to terminally clean the rooms with bleach until the source patient is discharged.
- **Confirmed positive Candida auris patient's room only:** After discharge, the patient's room must remain closed until the following steps are met:
  - Bleach-based terminal cleaning, all items must remain in the room until results are released.
  - All environmental culture results are finalized and negative

Sample collection process: Collect 1 E-Swab of both axillae and groin sides as follows:

1. Collection material: Use BD E-Swab collection and transport system.
2. Wash hands and don PPE
3. Using the soft side of the E-swab, swipe swab back and forth 5 times per armpit, targeting the crease in the skin where the arm meets the body.
4. Using the same E-swab, swipe swab back and forth 5 times over the left groin skin surface, targeting the inguinal crease in the skin where the leg meets the pelvic region and repeat with the right side
5. Remove the cap from the swab collection tube, then place the soft end of the collection E-swab into the tube without contaminating tip.
6. Snap off the end of the swab at the marked line by bending the plastic handle against the edge of the transport media container.
7. Place the cap back on the tube.
8. Place in a Biohazard bag and send to the Lab.

Contact Infection Prevention or your Manager to perform an assessment and provide any additional guidance.

Reference: https://www.cdc.gov/fungal/candida-auris/c-auris-drug-resistant.html Rev. 1/2023

Results

- Over a 21-month span, 3508 high risk patients were tested; the number of patients tested gradually increased across the health system.
- Overall, 2.7% persons tested positive during this time
- The rates fluctuated every month, with the highest rate being 8% in February 2023.
- Patients from NH contributed to the largest number of patients being tested (83%), followed by SNF, Rehab and LTAC.
- However, the highest test positive rate was from LTAC (11.5%), followed by SNF, NH and Rehab.
- Only 2 patients with clinical infection were identified that were considered internal transmission events. One of the 2 patients had a direct link to a confirmed C.auris patient.

Conclusion

- The active screening strategy to rapidly identify and isolate high-risk patients with *C. auris* colonization has led to significant benefit in reducing transmission to other patients within the healthcare facility.

Acknowledgement

System stakeholders in nursing and infection control leadership, system educators and laboratory personnel contributed to the success of this process