EMERGING PATHOGEN: *CANDIDA AURIS*

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DRUG-RESISTANT **CANDIDA AURIS**

THREAT LEVEL **URGENT**

- Research has identified it as environmental fungus from wetlands that is now identified as a human pathogen and has progressively increasing resistance to the currently available antifungals.
- 1st identified in 2009
- Appeared in US in 2016, sharp increase in incidence began, increasing pan-resistance.
- Fungus that has evolved to become drug resistant:
  - 30% resistant to at least 2 antifungals
  - 90% resistant to at least 1 antifungal

Who is high-risk

- Patients who stayed/live in nursing homes
- Patients with invasive devices (CL, IUC, etc.)
- Diabetes
- Recent surgery

Transmission

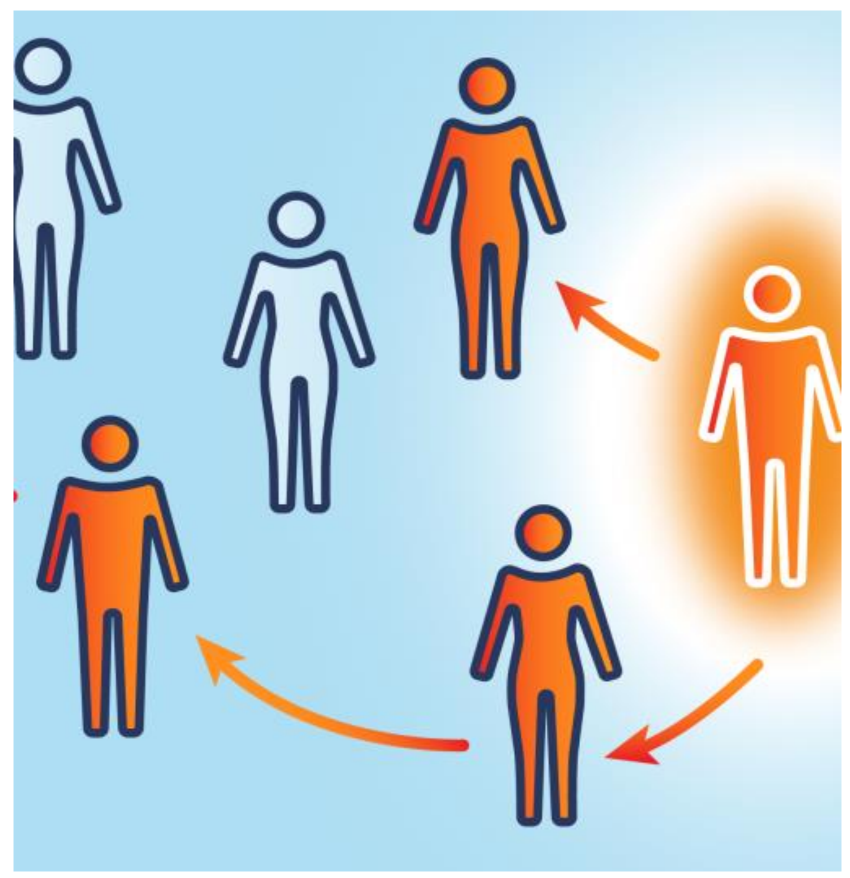
- Contact transmission, spreads on hand and surfaces
- Known or suspected patients shouldn't share a room. We can not screen for infection internally

Is it difficult to remove from surfaces

- Some disinfectants do not kill C.auris.
- Sani-Cloth Plus DOES NOT kill it.
- AF3 DOES NOT kill it.

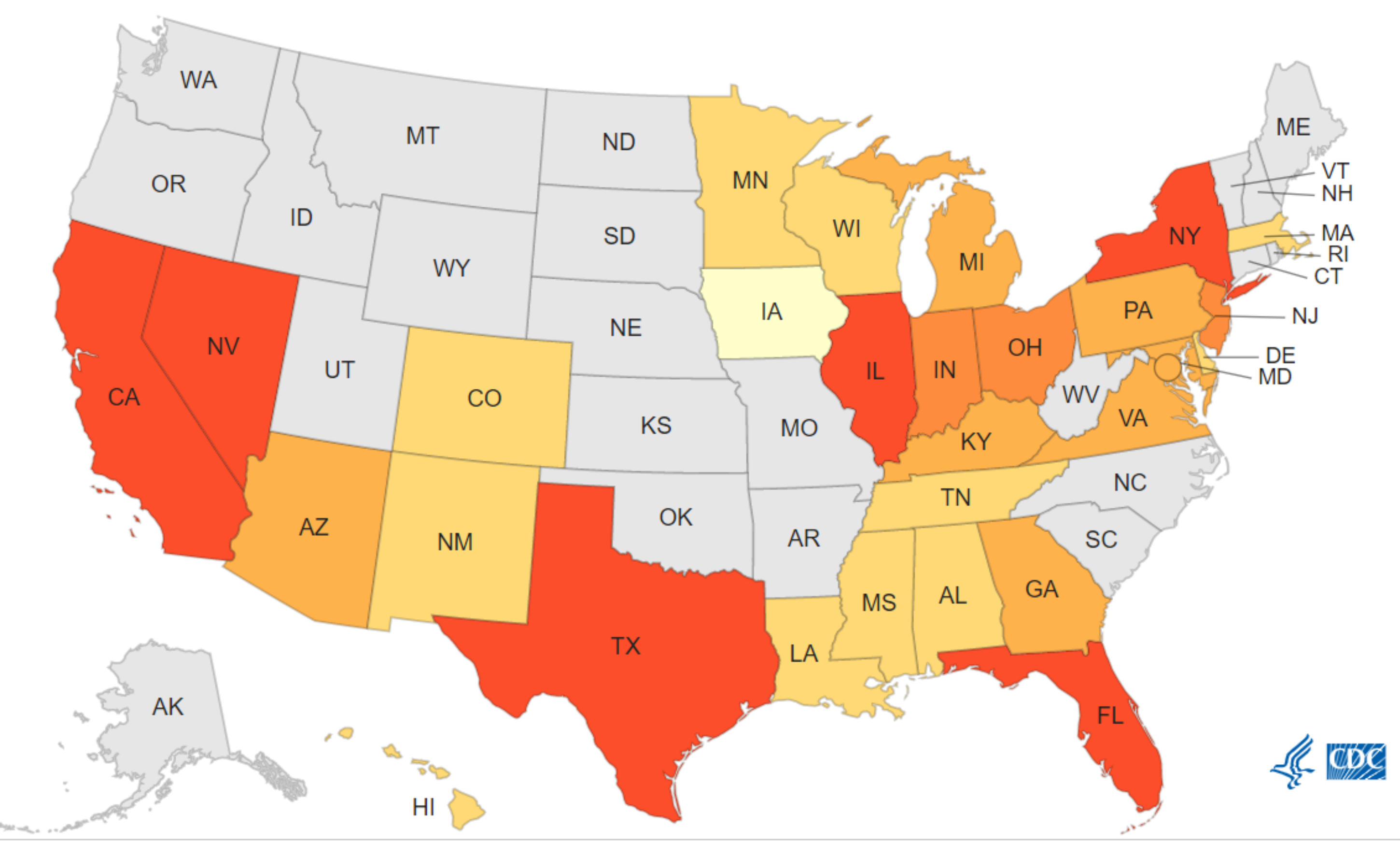
These can kill C.auris IF the contact/exposure time is followed!

THE CONCERN FOR C. AURIS



- It is a MDRO – it is resistant to many anti-fungal drugs
  - There are 3 anti-fungal drug classes, and it can resist one or **all.**
- Difficult to identify - it could be misidentified leading to inappropriate treatment and exposures
- Patients remain colonized with C. Auris for many months and can be indefinitely.
  - No options for decolonization and pathogen reduction strategies
- #2 and #3 leads to outbreaks that are difficult to track and contain.
- Patient placement may be difficult for level of care in both acute and long-term care settings and increases the C. Auris transmission
- 30-60% of people with invasive C. Auris infections have died
  - Individuals could have had other serious illnesses increasing their risk of death
  - More than 1 in 3 patients die within a month of being diagnosed with an invasive *C. auris* infection.

Source: Center for Disease Control and Prevention. General information about candida auris. *Center for Disease Control and Prevention.* 2019



Number of *C. auris* clinical cases through December 31, 2022

In the most recent 12 months, there were 2,377 clinical cases and 5,754 screening cases (January 2022 - December 2022).

- 0 clincial cases and at least 1 screening case
- 1 to 10
- 11 to 50
- 51 to 100
- 101 to 500
- 501 to 1000
- 1001 or more

CANDIDA AURIS (C.AURIS) TIMELINE

2009

First identified in Japan

Candida strain collection early identified in South Korea in 1996

2016

CDC starts to collect data on the emerging pathogen

2017

Spread into 17 countries over 5 continents

- In the US, spread within 10 states (153 Active & 143 Colonized)

2018–2019

In 2018, it become a national reportable and notifiable MDRO

In 2019, there was 3 pan resistant reported in the US.

2020–2021

Spread to 41 countries

- >1400 clinical cases reported in the US.

2020–2021

In Maricopa County the first identified was in 2020 which was imported, following 2021 which was also imported.

2022

U.S. had between 2,377 clinical cases & 5,754 colonized.

Arizona had 29 clinical cases & 155 colonized

JCL had first C.Auris Exposure in Sep 2022.

2023

JCL had two exposures, one in February, one in March and one confirmed transmission.

AZ has 20 clinical cases & 15 colonized so far.

JCL CASE REVIEW

Second case in March linked to first case – confirmed transmission.

September 2022

- 56 y.o. male
- Hx: parapalegia, DVT, respiratory failure, hx of VRE and diabetes.
- Patient had Hartman Procedure with intra-abdominal abscess per ID
- Complicated UTI with CRE Klebsiella present on admission
- Pt was at North Mountain LTAC prior to JCL admission
- C. Auris detected in urine on 09/27/22 (date of d/c)
  - Previous Urine Culture on 09/13only grew CRE Klebsiella pneumoniae
- Presumed HO
- Pt was not admitted with Interfacility Transfer Tool
- Pt was not discharged with Interfacility Transfer Tool
- Pt was in ICU for all of stay

February 2023

- 59 y.o. male
- Hx: osteogenesis imperfecta, asthma, hypertensive heart failure
- Pt admitted for right wrist arthritis
- Pt had C. Auris from transfer facility and was placed on the Interfacility Transfer Sheet, it was not acknowledged from admission and was not identified until ID physician Dr. Mafi Notified IP.
- Pt not on isolation from 01/26-02/01
- Came from Montecito SNF
- Unknown where C. Auris Detected
- Pt transferred back to Montecito SNF
  - Interfacility Transfer Tool Used
- Patient was in SSC > OR 8 > SSC > PCCU
- Community Onset C. Auris

March 2023 – 1st Case

- 38 y.o. male
- Hx: morbid obesity and asthma
- Admitted for R leg pain
- Pt had 6 I&D on R leg for wound
  - 3 times in OR 8
- Grew Strep Pyogenes & Staph Aureus on 02/22
- Grew C. Auris on 03/13 from wound cultures
- Pt not on isolation from 02/22-03/13
  - Pt had HO Covid on 03/13
- Pt was in PCCU > OR > PCCU during stay
- Pt admitted from Home
- Pt discharged Home
- Presumed HO C. Auris

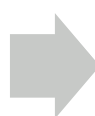
March 2023 – 2nd Case

- 50 y.o male
- Hx: CRPA, VRE
- Pt previously admitted to JCL 11/22 – 12/22
- No trips to OR
- On contact isolation due to CRPA from 02/08-02/24
- Discharged to SNF
  - Interfacility Transfer Tool not utilized
- C. Auris detected by PCR on 03/28 at SNF
- Patient was in 4W > ICU > PCCU
  - Was in RM 231 next to first C. Auris case in March
- Confirmed 1st Transmission C. Auris

RESPONDING TO C. AURIS

Infection Preventionist will be notified by Microbiology Lab, during surveillance, admission from another location or from Maricopa County of Public Health if C. Auris is detected/suspected.

MCDPH will be notified (if not already) and determine response action for hospital



If an exposure is suspected, MCDPH will require close contact screening& isolation for exposed patients.

- Exposed patients are those with a stay of three days or more on the same unit where C.Auris is suspected or known.

The IP will coordinate next steps with C-Suite, Clinical Directors, EVS, and all appropriate parties regarding C. Auris Response and MCDPH determination.

C. AURIS RESPONSE: EACH MUST BE COMPLETED TO ERADICATE C. AURIS ENVIRONMENTAL EXPOSURE

- ❑ IP is notified from PH or transfer facility of known or suspected C. Auris patient
- ❑ IP will coordinate a safety huddle with C-Suite, Clinical Directors, and EVS of Exposure
    - ❑ IP will request CMO to notify providers of exposure and process.
- ❑ IP will conduct line list on exposed patients and place them on Contact Isolation Precautions
    - ❑ Patients are required to stay in isolation until C. Auris screening results are received.
        - ❑ IP or Admin Reps will remove isolation from patients' chart.
    - ❑ Line list will be provided to MCDPH, C-Suite, EVS and Clinical Directors
- ❑ Swabs will be provided to Campus for screening
    - ❑ IP will coordinate with Clinical Directors and facilitate the screening process, ensure education is provided and isolation is in place.
    - ❑ Results can take 2-7 business days
- ❑ If patients are discharged prior to being screened, Nursing & Case Management will need to utilize Interfacility Transfer Tool and advise transfer facility of known or suspected case.
    - ❑ Rooms where patients were discharged require C. Auris Cycle (x3 15-minute cycles on Xenex)
    - ❑ MCDPH will follow up with these discharged patients.
- ❑ IP will notify C-Suite, Clinical Directors, and caring nurses of results
    - ❑ If any results are positive, MCDPH will be notified, and another response will need to be taken.
    - ❑ Point Prevalence Study will be requested for Unit of Exposure
- ❑ Once results are received, isolation will be removed appropriately
    - ❑ Rooms where patients were discharged require C. Auris Cycle (x3 15-minute cycles on Xenex)
    - ❑ Recommendation is to give patient bath before they can exit the room

TARGET AUDIENCE: CLINICAL TEAM HOW CAN I REDUCE THE SPREAD OF C.AURIS?

- Adhere to hand hygiene.
  - Alcohol-based hand sanitizer (ABHS) is the preferred hand hygiene method for C. auris when hands are not visibly soiled. If hands are visibly soiled, wash with soap and water. Wearing gloves is not a substitute for hand hygiene.
- Use the appropriate Transmission-Based Precautions for Isolation and Discharge.
  - Use the interfacility notification tool when transferring patients to other facilities
- Clean and Disinfect - Deep terminal cleaning of the affected units with List P disinfectants and Xenex (x3 15-minute cycles, a total of 45 minutes) for the rooms
- Ensure high level areas are disinfected with appropriate Disinfectant (PDI Prime Wipes) (nurses' station, equipment, computers etc.)
- Feel empowered by this knowledge. Peer Check and ensure everyone is informed & educated
  - Physicians, Chaplains, Case Management, PT/OT, Dietary, EVS, Radiology.

As of 3-31-2023

VULNERABILITIES

ACTIVE IMPROVEMENT WORK WITH STAKEHOLDERS IS OCCURRING FOR EACH OPPORTUNITY

Education

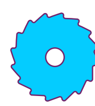
Admission Team

Residents

Attending Physician/Medical Section Chiefs

Peri-OP – Senior Peri-Op Leadership & Surgery Chiefs

- One Pager, MMR & Case Reviews



Patient Transfer Interfacility Tool

Ensure there is a clear process for who completes the form and who ensures it is provided to the receiving facility

Xenex

Each Xenex operator needs re-education and to demonstrate competency

Optimize identification of these patients in EPIC and on BedBoard

Patient Script

Have a ready-to-go patient communication script when swabs are required due to possible exposure

Result delivery

Developing a negative result delivery process

For delivery of positive results – Coordinate with CMO, CNO & IP to share results with the patient

Notification of non-screened patients readmitted

Exposed patients that were not able to be screened before discharged and that are not sent to another healthcare facility may be readmitted without having infection ruled out. These patients are currently not flagged in the EMR.

ADDITIONAL INFORMATION

- March 2023: CDC Press Release: Increasing Threat of Spread of Antimicrobial-resistant Fungus in Healthcare Facilities LINK
- CDC Information for Lab and Health Professionals – LINK
  - Testing and Treatment Recommendations
  - Surveillance
- CDC: Tracking Candida auris LINK
- Article: Strategies to Prevent Transmission of *Candida auris* in Healthcare Settings LINK
- Article: Environmental Isolation of *Candida auris* from the Coastal Wetlands of Andaman Islands, India LINK
- January 2020 MMWR: *Candida auris* Isolates Resistant to Three Classes of Antifungal Medications — New York, 2019 LINK

QUESTIONS RELATED TO JCL IP PROGRAM?

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