

# **CANDIDA AURIS AND CARBAPENAMASE-PRODUCING ORGANISMS SCREENING SOP**

**SOP IP-04**

Minneapolis VA Healthcare System  
Minneapolis, MN, 55417

**Service Line(s):**  
All Service Lines

**Signatory Authority:**  
Chief of Staff

**Effective Date:**  
December 12, 2023

**Responsible Owner:**  
Hospital Epidemiologist

**Recertification Date:**  
December 12, 2028

## **1. PURPOSE AND AUTHORITY**

a. The purpose of this standard operating procedure (SOP) is to establish procedures to minimize the risk of transmission of highly resistant and difficult to treat organisms, including Carbapenemase-Producing Organisms (CPO) and *Candida auris*. Screening programs and proactive isolation have been successful at preventing transmission within healthcare settings. Screening programs are recommended by the Centers for Disease Control and Prevention (CDC), the Veterans Health Administration (VHA), and the Minnesota Department of Health (MDH). Screening testing for these organisms is available.

b. This SOP sets forth mandatory procedures and processes to ensure compliance with VHA Directive 1131 Management of Infectious Diseases and Infection Prevention and Control Program, The Joint Commission Standards (IC.02.01.01), the VHA [CPO Toolkit](#), and CDC Guideline for Isolation Precautions: Prevention Transmission of Infectious Agents in Healthcare Settings.

## **2. BACKGROUND**

A. Infectious microorganisms can be spread via direct contact (e.g. touching blood/body fluids/excretions/secretions, mucous membranes or non-intact skin that contains infectious microorganisms) or indirect contact (e.g. touching objects or surfaces that are contaminated with infectious microorganisms). Use of personal protective equipment (PPE) (e.g. gown, gloves, mask, eye protection) can prevent or minimize exposure to these infectious microorganisms.

B. Contact Precautions are required for infectious microorganisms that are resistant to multiple drugs (i.e. antibiotics). These microorganisms are called multidrug-resistant organisms (MDRO). MDRO include organisms such as Gram-Negative Bacilli (MDR-GNB) and Carbapenem-resistant Enterobacterales (CRE). Contact Precautions are to be implemented in addition to Standard Precautions.

## **3. PROCEDURES**

### **A. Patients to assess for risk criteria.**

- 1) All patients admitted or transferred into the hospital will be assessed for the risk criteria below.

**B. Summary of Risk Categories and Actions**

Risk Category	Risk Criteria	Collect screening swab for CPO and <i>C. auris</i>	Private room while waiting for test results	Place in contact precautions while waiting for test results
<b>High Risk</b>	<ul style="list-style-type: none"> <li>Hospitalized, received surgery, or hemodialysis outside of the US and Canada within the last 12 months, OR</li> <li>Inpatient or skilled nursing facility stay in the last 12 months in any of the following areas<sup>1</sup></li> </ul>	Yes <sup>2,3</sup>	Required	Yes <sup>4</sup>
<b>Low Risk</b>	Does not meet High risk category	No <sup>5</sup>	Per routine	N/A
<sup>1</sup> Areas with evidence of substantial transmission of <i>Candida auris</i> : Arizona, California, Florida, Illinois, Indiana, Nevada, New Jersey, New York, Ohio, Texas, and Washington D.C.				
<sup>2</sup> Admitting clinician places orders within the admission order set; Click on “high risk for C. auris/CPO” and place the following orders (see Appendix): <ul style="list-style-type: none"> <li>“Obtain oral consent for CPO and C. auris testing”,</li> <li>CPO and C. auris swab orders, “educational materials provided”.</li> <li>Enter a nursing text order that reads: “Place patient in private room and in contact precautions while awaiting results of the CPO/Candida auris Screening”</li> </ul>				
<sup>3</sup> If a patient with High Risk criteria refuses testing, they should be placed in a private room and in contact precautions for the remainder of their hospitalization.				
<sup>4</sup> Patient is placed in Contact Precautions. If testing for CPO and C. auris returns negative, precautions can be discontinued. See <a href="#">SOP IP-06 Contact Precautions MVAHCS 09122023 - signed.pdf</a>				
<sup>5</sup> For low risk patients, click on “low risk for C. auris/CPO”.				

**C. Screening and actions based on patient's current location, where the patient is being admitted, and the time of day.**

Patient's Current Location	Where Patient is going to be admitted	Who asks the High Risk screening questions?	Action
Emergency Department	Acute Care, SCI, 4J	Emergency Department clinician asks the patient or designated healthcare decision maker	Emergency department clinician will alert bed control regarding high vs low risk status; and if high risk, the need for screening and placement in private room with contact precautions (See Summary of Risk Categories and Actions above).
Direct Admission from MVAHCS clinic	Acute Care, SCI, 4J	The clinic clinician or nurse asks the patient or designated healthcare decision maker.	Clinic clinician/nurse will alert Bed Control regarding the patient's high vs low risk status; and if high risk, the need for screening and placement in private room with contact precautions (See Summary of Risk Categories and Actions above).
Direct Admission from the Community	Acute Care	<b>During Business Hours</b> Community care transition nurse asks the referring facility	<b>During Business Hours</b> Community care transition nurse alerts bed control regarding high vs low risk status; and if high risk, the need for screening and placement in private room with contact precautions (See Summary of Risk Categories and Actions above).
		<b>Outside of Business Hours</b> the Administrative Officer of the Day (AOD) asks the referring facility	<b>Outside of Business Hours</b> The AOD alerts bed control regarding high vs low risk status; and if high risk, the need for screening and placement in private room with contact precautions (See Summary of Risk Categories and Actions above).
	4J	<b>During Business Hours</b> Assistant Nurse Manager asks the referring facility	<b>During Business Hours</b> The Assistant Nurse Manager alerts accepting Rehabilitation physician regarding high vs low risk status; and if high risk, the need for screening and placement in private room with contact precautions (See Summary of Risk Categories and Actions above).
	SCI	<b>During Business Hours</b> RN case manager/social worker asks the patient, designated healthcare decision maker, or referring facility	<b>During Business Hours</b> RN case manager/social worker alerts accepting SCI clinician regarding high vs low risk status; and if high risk, the need for screening and placement in private room with contact precautions (See Summary of Risk Categories and Actions above).
	Community Living Center	CLC leadership developing workflow	CLC leadership developing workflow
Direct Admission from home	Community Living Center	Oncology nurse or clinician asks the patient or designated healthcare decision maker	CLC reviews CLC consult to determine high vs low risk status; and if high risk, the need for screening and placement in private room with

			contact precautions (See Summary of Risk Categories and Actions above).
	SCI unit	<b>During Business Hours</b>  RN case manager/social worker asks the patient, designated healthcare decision maker, or referring facility	<b>During Business Hours</b>  RN case manager/social worker alerts accepting SCI clinician regarding high vs low risk status; and if high risk, the need for screening and placement in private room with contact precautions (See Summary of Risk Categories and Actions above).
	4J	<b>During Business Hours</b>  Assistant Nurse Manager asks the referring facility	<b>During Business Hours</b>  The Assistant Nurse Manager alerts accepting Rehabilitation physician regarding high vs low risk status; and if high risk, the need for screening and placement in private room with contact precautions (See Summary of Risk Categories and Actions above).

#### **D. Obtaining Screening Swabs**

- 1) Discuss surveillance testing with patient or designated healthcare decision maker and obtain oral consent for collection of a surveillance specimen.
- 2) Provide appropriate educational materials such as the “Should I be tested for CRE?” and the “What you need to know about multidrug-resistant organisms (MDROs)” brochures (available and printable from [MDRO Education and Training Resources](#)) should be provided to the patient/resident.
- 3) If patient consents to testing, the nurse who obtains oral consent documents in CPRS that “Patient is high risk for CPO/C. auris. Oral consent obtained for CPO and C. auris testing”.
- 4) If patient does not consent to test, the person who obtains oral consent documents in CPRS that “Patient is high risk for CPO/C. auris. Oral consent requested for CPO and C. auris testing but patient does not agree because...”
- 5) If patient consents to testing, call the Microbiology Lab (31-2408) for the collection kit:
  - a. Obtain rectal swab using the Copan™ Transystem dual swab (Red cap). If the patient has a colostomy or ileostomy, swab the ostomy bag contents. This special collection should be noted on the orders. See MDH guidance regarding sample collection for CPO: [mdhcroguidance.pdf \(state.mn.us\)](#)
  - b. Obtain bilateral axilla/groin skin swab using the eSwab (White cap, flocked swab with liquid amies). See MDH guidance regarding sample collection for candida auris: [mdhcaurisguidance.pdf \(state.mn.us\)](#)

- 6) Send specimens to microbiology lab immediately after collection per standard procedure via pneumatic tube system
- 7) The laboratory will package and send the samples to the Minnesota Dept. of Health using a courier before 10AM. Samples received after the morning courier will be sent the following day.
- 8) The anticipated turn-around time is 2-4 business days. Results are typically expected on business days during business hours.
- 9) Positive test results will be reported as per MCP PE-08V policy. See: [MCP PE-08V Critical Values Critical Tests and Abnormal Values.pdf](#)

#### **E. Tracking and Management of Patients who test Positive for CPO or C. auris**

- 1) Electronic Surveillance Software (TheraDoc) will be used by Infection Prevention to identify CPO and C. auris test results.
- 2) If patient tests positive, See [SOP IP-06 Contact Precautions MVAHCS 09122023 - signed.pdf](#)
- 3) A contact investigation will be initiated by Infection Prevention Team to determine if health care exposures occurred and need for additional surveillance testing on the unit based on VHA Toolkit for Control of Carbapenemase-Producing, Carbapenem-Resistant Enterobacteriaceae (CP-CRE).

#### **4. ASSIGNMENT OF RESPONSIBILITIES**

All employees have a responsibility to appropriately use PPE and follow Contact Precautions signage. See above text for specific responsibilities of nursing staff, providers, infection preventionists, laboratorians, etc.

#### **5. DEFINITIONS**

- A. Carbapenemase-producing Organisms (CPO).** A subset of Carbapenemase resistant organisms that express resistance to carbapenems (MIC  $\geq 4$   $\mu\text{g/ml}$ ) by acquiring genes that produce enzymes (carbapenemases) with the ability to inactivate carbapenems directly. Examples of carbapenemases include KPC (Klebsiella pneumoniae carbapenemase), NDM (New Delhi Metallo- $\beta$ -lactamase), VIM (Verona Integron-encoded Metallo- $\beta$ -Lactamase), and OXA-48 (an oxacillinase). These genes are detected by PCR testing. These sub-set of Carbapenemase resistant organisms are more prone to share these resistance genes with other organisms.
- B. Candida auris.** A species of *Candida* that is associated with healthcare transmission. It is typically more resistant to antifungals (azoles and amphotericin) compared to other species of *Candida*.

**C. High Risk for Candida auris or CPO:** The patient is High Risk for Candida auris or CPO if the following apply:

- 1) Hospitalized, received surgery, or hemodialysis outside of the US and Canada within the last 12 months. OR
- 2) Inpatient or skilled nursing facility stay in the last 12 months in any of the following areas: Arizona, California, Florida, Illinois, Indiana, Nevada, New Jersey, New York, Ohio, Texas, and Washington D.C. For most current data see: [Tracking Candida auris | Candida auris | Fungal Diseases | CDC](#).

## 6. REFERENCES

- A. VHA Directive 1131 Management of Infectious Diseases and Infection prevention and Control Programs Amended 6/4/2021  
[https://vaww.va.gov/vhapublications/ViewPublication.asp?pub\\_ID=5616](https://vaww.va.gov/vhapublications/ViewPublication.asp?pub_ID=5616)
- B. The Joint Commission Standards (IC.02.01.01) The hospital implements its infection prevention and control plan [The Joint Commission E-dition \(jcrinc.com\)](#)
- C. Guideline for Isolation Precautions: Prevention Transmission of Infectious Agents in Healthcare Settings, 2007. Updated 07/2019. Centers for Disease Control and Prevention. <https://www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines-H.pdf>
- D. Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006, updated 02/15/2017. Centers for Disease Control and Prevention [Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006 \(cdc.gov\)](#)
- E. VHA 2019 Toolkit for Control of Carbapenemase-Producing, Carbapenem-Resistant Enterobacteriaceae (CP-CRE) – revised 1/6/2020. [Carbapenemase-Producing Carbapenem-Resistant Enterobacteriaceae \(CP-CRE\) - MDRO Prevention Initiative \(va.gov\)](#)
- F. Minnesota Department of Health - Hospital Admission Screening for CPO and C. *auris* Colonization [Hospital Admission Screening for CPO and C. auris Colonization - Minnesota Dept. of Health \(state.mn.us\)](#)
- G. Screening for *Candida auris* Colonization. [Screening for Candida auris Colonization | Candida auris | Fungal Diseases | CDC](#)
- H. Tracking Candida auris. [Tracking Candida auris | Candida auris | Fungal Diseases | CDC](#).

## 7. REVIEW

This was approved by Infection Control Committee 12/7/2022. Review by Infection Prevention Team or Infection Control Committee will be annual and when there are changes to the governing document, or other pertinent regulatory documents.

## 8. RECERTIFICATION

This SOP is scheduled for recertification on or before the last working day of December 2028. In the event of contradiction with national policy, the national policy supersedes this document.

## 9. SIGNATORY AUTHORITY

Dr. Michael Armstrong, MD  
Chief of Staff

**Date Approved:** December 12, 2023

**NOTE:** *The signature remains valid until rescinded by an appropriate administrative action.*

**DISTRIBUTION:** Posted on MVAHCS Standard Operating Procedures SharePoint site, Owner Hospital Epidemiologist, Infection Prevention

## Appendix: Order CRO & *Candida auris* order under Microbiology Orders (see below)

The screenshot shows a software interface titled "Microbiology Orders...". It is divided into two main columns. The left column, under the heading "Micro Routine", lists various culture and testing options numbered 1 through 22. The right column, under the heading "Surveillance cultures", lists options 21 through 25, followed by "MRSA Initiative Orders Inpatient" (28, 29) and "MRSA Initiative Orders Outpatient & Ambulatory Care" (33). The option "26 CRO & Candida Auris" is circled in red.

Micro Routine	Surveillance cultures
1 Urine culture Menu...	21 GNR only culture "Must enter site in comment"
2 Blood/Bone Marrow culture Menu...	22 GNR & MRSA only culture (Must specify site in "order comment")
3 Tissue culture Menu...	23 MRSA only culture
5 Catheter tip culture "Must specify site in order comment"	23A MRSA Nasal Screen-Outpatient Only
6 Enteric Pathogen Testing (Stool)	24 Staphylococcus aureus only culture (Must specify site in "order comment")
7 Sputum culture Menu...	25 VRE only culture (Must specify in "order comment")
8 Wound/Drainage culture Menu...	26 CRO & Candida Auris
9 Throat culture Menu...	
10 Bronchial specimen Menu...	
11 Body fluid culture Menu...	
	<b>MRSA Initiative Orders Inpatient</b>
12 Corneal Scrapings culture Menu...	28 MRSA Nares Nasal Screen - Surveillance
13 Nails/clippings/Scrapings culture Menu...	29 MRSA Nares Nasal Screen - Discharge
14 Women's Health Request Menu	
	<b>MRSA Initiative Orders Outpatient &amp; Ambulatory Care</b>
15 Non-Stool Parasitology	33 MRSA Nares Nasal Screen-Surveillance
16 Nasopharyngeal Testing Menu	
17 Esophageal Brushing Fungal culture and KOH	
18 Skin scraping Fungal culture and KOH	
19 COVID-19 Testing	
20 Dialysis/Dialysate	
22 Dental Waters Menu	

If High Risk: Enter a nursing text order that reads "Place patient in private room and in contact precautions while awaiting results of the CPO/*Candida auris* Screening"

If Low Risk: Enter a nursing text order that reads "Place patient in private room if available while awaiting results of the Carbapenem Producing Organism and *Candida auris* Screening"

If patient does not consent to test, person who discusses oral consent shall document in CPRS "oral consent requested for CRE and C. auris testing but patient does not agree because..."