

Ontario Public Health Standards:  
Requirements for Programs, Services and Accountability

Infectious Diseases Protocol

# Appendix 1:

## Case Definitions and Disease-Specific Information

**Disease: *Candida auris***

Effective: January 2025

# *Candida auris* (*C. auris*) infection

Communicable

Virulent

**Health Protection and Promotion Act:**

**O. Reg. 135/18 (Designation of Diseases)<sup>1</sup>**

## Provincial Reporting Requirements

Confirmed case

Probable case

As per Requirement #3 of the “Reporting of Infectious Diseases” section of the [Infectious Diseases Protocol, 2018](#) (or as current), the minimum data elements to be reported for each case are specified in the following:<sup>2</sup>

- [Ontario Regulation 569 \(Reports\)](#) under the Health Protection and Promotion Act (HPPA);<sup>3</sup>
- The iPHIS User Guides published by Public Health Ontario (PHO); and
- Bulletins and directives issued by PHO.

## Type of Surveillance

Case and outbreak level data (see Outbreak Definitions)

## Case Definition

### Confirmed Case

Laboratory confirmation of *C. auris* by an accredited microbiology laboratory.

Only clinical infections are considered confirmed cases of *C. auris*. All confirmed cases of *C. auris* require investigation to determine if nosocomial transmission has occurred, and to identify the source of transmission.

**The first positive isolate** from any individual identified as infected with *C. auris* is reportable. Subsequent positive isolates from the same individual are reportable only if the patient tests positive for *C. auris* of a different clade.

# Outbreak Definitions

## Suspect Outbreak Definition

An outbreak may be suspected in a hospital or long-term care home if:

- A single confirmed case is identified in a facility that has not seen a case previously; OR
- Two or more confirmed cases are identified within a facility even if they present on different units and present months apart.

## Confirmed Outbreak Definition

An outbreak is confirmed in a hospital or long-term care home if:

- Evidence of transmission between patients is identified;

**OR**

- An epidemiological link between patients is identified;

**OR**

- The hospital/long-term care home considers, based on their policies, transmission has occurred, or if the incidence of *C. auris* at the facility is higher than expected even without a clear link between patients.

## Outbreak Case Definition

The outbreak case definition varies with the outbreak under investigation. Please refer to the Infectious Diseases Protocol, 2018 (or as current) for guidance in developing an outbreak case definition as needed.<sup>2</sup>

The outbreak case definitions are established to reflect the disease and circumstances of the outbreak under investigation. The outbreak case definitions should be developed for each individual outbreak based on its characteristics, reviewed during the course of the outbreak, and modified if necessary, to ensure that the majority of cases are captured by the definition. The case definitions should be created in consideration of the outbreak definitions. Outbreak cases may be classified by levels of probability (i.e., confirmed and/or probable).

## Clinical Information

### Clinical Evidence

Since its identification in 2009, *C. auris* has emerged as a significant public health threat due to its ability to cause outbreaks in healthcare settings and its resistance to multiple classes of antifungal medications. Outbreaks have been documented worldwide, especially in intensive care units (ICUs) and long-term care facilities. *C. auris* is known for its persistence on surfaces and in the environment, increasing its transmission risk among vulnerable populations.<sup>4,5</sup>

### Clinical Presentation

*C. auris* can cause a range of infections, from wound and ear infections to bloodstream infections (candidemia). *C. auris* is capable of causing severe infections that can lead to sepsis, particularly in critically ill patients. Symptoms are often nonspecific and may include fever, chills, and general malaise. These symptoms can resemble other common infections, which, combined with *C. auris*'s resistance profile, complicates prompt diagnosis and treatment. *C. auris* is able to colonize a person without causing symptoms, yet still pose a transmission risk within healthcare facilities.<sup>6,7</sup>

## Laboratory Evidence

### Laboratory Confirmation

- *C. auris* isolated by culture from any human specimen (clinical or screening specimen) tested and identified in an accredited microbiology laboratory

**OR**

- Positive nucleic acid amplification technique (NAAT) results for *C. auris* using a validated assay from any human specimen (clinical or screening) tested in an accredited microbiology laboratory

### Approved/Validated Tests

- Any validated test approved for *C. auris* culture and subsequent identification (eg. matrix-assisted laser desorption/ionization - time of flight mass spectrometry (MALDI-ToF MS))

**OR**

- Specific- *C. auris* NAAT with the ability to differentiate this species from other *Candida*, performed by an accredited microbiology laboratory.

**Note:** The first isolate from any individual identified infected with *C. auris* should be forwarded to Public Health Ontario Laboratory (PHOL) for further characterization as part of provincial and national laboratory surveillance. Isolates are forwarded to the National Microbiology Laboratory (NML) for whole-genome sequence analysis.

## Indications and Limitations

For further information about human diagnostic testing, contact the PHO Laboratories at [customerservicecentre@oahpp.ca](mailto:customerservicecentre@oahpp.ca) or refer to the PHO Laboratory Services webpage: <https://www.publichealthontario.ca/en/Laboratory-Services/About-Laboratory-Services>

Typing to determine genetic relatedness of isolates (identification of clusters) for outbreak investigations is available upon request. After consultation with Public Health Ontario's laboratory, isolates of interest will be forward to NML for outbreak investigation typing.

Due to the high risk of spread, any movement of a case to a new facility, including returning to a setting (e.g., long-term care home, retirement home) from an acute care facility, must be discussed and agreed upon by the current facility, receiving facility, and Medical Officer of Health prior to movement of the case.

## Case Management

In addition to the requirements set out in the Requirement #2 of the “Management of Infectious Diseases – Sporadic Cases” and “Investigation and Management of Infectious Diseases Outbreaks” sections of the Infectious Diseases Protocol, 2018 (or as current), the board of health shall investigate cases to determine the source of infection. Refer to Provincial Reporting Requirements above for relevant data to be collected during case investigation.<sup>2</sup>

Individual cases should be managed as per individual facility protocols. Facilities developing protocols should review the Provincial Infectious Diseases Advisory Committee's (PIDAC) documents [Interim Guide for Infection Prevention and Control of \*Candida auris\* \(2019, or as current\)](#), or [Routine Practices and Additional Precautions \(2012, or as current\)](#).<sup>8,9</sup>

Due to the high risk of spread of *C. auris*, any movement of a case to a new facility must be discussed and agreed upon by the current facility, receiving facility, and Medical Officer of Health (MOH), prior to movement of the case.

## Contact Management

Contacts of patients with *C. auris* must be assessed and may require screening and follow-up by the hospital or long-term care home.

## Outbreak Management

Please see the Infectious Diseases Protocol, 2018 (or as current) for the public health management of outbreaks or clusters in order to identify the source of illness, manage the outbreak and limit secondary spread. PHO can provide Infection Control expertise and support in the event of a *C. auris* outbreak. Further guidance on outbreaks involving *C. auris* is also available in the PIDAC document, [Interim Guide for Infection Prevention and Control of Candida auris \(2019, or as current\)](#).<sup>2,8</sup>

Whenever an outbreak is suspected, point prevalence screening should be performed on the ward/unit(s) where the case originated.

## Prevention and Control Measures

### Personal Prevention Measures

Effective hand hygiene is essential to limit *C. auris* transmission. Other Infection Prevention and Control (IPAC) strategies are discussed below.

### Infection Prevention and Control Strategies

The consistent use of Routine Practices for all clinical care, including the use of hand hygiene and cleaning/disinfection of all shared equipment, are essential to reduce the risk of *C. auris* transmission. Additional guidance of infection control practices that can reduce the risk of *C. auris* transmission can be found in the PIDAC document [Interim Guide for Infection Prevention and Control of Candida auris \(2019, or as current\)](#).<sup>8</sup>

Key infection control measures for healthcare facilities include:

- **Contact Precautions:** Implement contact precautions, including the use of gloves and gown for all interactions with patients colonized or infected with *C. auris*.
- **Room placement:** Patients are to be placed in a single (private) room with dedicated toileting facilities. Cohorting of patients may be necessary.<sup>4</sup>
- **Dedicated patient care equipment.** If equipment cannot be dedicated, it must be thoroughly cleaned and disinfected between each patient.

- **Hand Hygiene:** Frequent and thorough hand hygiene with alcohol-based hand rubs or soap and water based on the [Four Moments of Hand Hygiene](#).<sup>5,10</sup>
- **Environmental Cleaning and Disinfection:** Rigorously clean and disinfect patient rooms and equipment at least daily (at a minimum) as *C. auris* can persist on surfaces for extended periods. Use Health Canada approved hospital or healthcare disinfectants with claims of efficacy against *C. auris* (with drug identification numbers (DIN)). Quaternary ammonium compounds should not be used due to reduced activity against *C. auris*.<sup>6</sup>
- **Screening and Contact Tracing:** Screen close contacts of colonized or infected patients and perform contact tracing to identify potential spread within healthcare settings. A point prevalence study should be performed whenever a single case is identified in a facility that has not seen a case previously.<sup>6,9</sup>

Refer to PHO's website to search for the most up-to-date information on [Candida auris | Public Health Ontario](#).<sup>11</sup>

## Antimicrobial Stewardship

The use of broad spectrum antibiotic and antifungal agents provides selective pressure for *C. auris* colonization and infection. Robust antimicrobial stewardship practices can limit selective pressure by reducing unnecessary antimicrobial initiation, selecting more targeted antimicrobial treatment, and shortening unnecessarily prolonged duration of therapy.<sup>12,13</sup>

Refer to PHO's website to search for the most up-to-date information on antimicrobial stewardship programs.

## Disease Characteristics

**Aetiologic Agent** – *C. auris* is a multidrug-resistant fungus that can cause serious infections, particularly in immunocompromised patients. It is a member of the *Candida* genus.

**Modes of Transmission** – Transmission of *C. auris* occurs primarily through direct contact with contaminated surfaces and environment as well as through person-to-person contact in healthcare settings including other patients and healthcare workers. The organism can persist on surfaces for long periods, contributing to its spread. *C. auris* can be transmitted rapidly within the health care setting, with one facility documenting *C. auris* transmission between patients based on exposures as short as 4 hours.<sup>5,14,15</sup>

**Communicability** – *C. auris* can colonize the skin and is capable of surviving on surfaces in healthcare environments for extended periods, allowing it to be shed and transmitted. Evidence suggests that *C. auris* spreads primarily through direct contact with mucous membranes or broken skin. Most cases of infection or colonization are linked to the use of invasive devices like central venous or urinary catheters, recent surgeries, or parenteral nutrition. Both direct (close personal contact) and indirect (via contaminated surfaces or shared medical equipment) transmission have been observed, including in outbreak settings. Additionally, vertical transmission (from mother to newborn) and catheter-related bloodstream infections have been reported as potential transmission routes.<sup>6,7</sup>

**Reservoir** – Humans and the environment (such as hospital surfaces and medical equipment) are reservoirs for *C. auris*.<sup>6,7</sup>

**Host Susceptibility and Resistance** – Individuals who have frequent or prolonged stays in healthcare facilities, those who have compromised immune systems, those who require complex medical care, those with invasive devices, and patients receiving broad-spectrum antibiotics or antifungals are at increased risk for colonization and infection. *C. auris* exhibits resistance to multiple antifungal agents, complicating treatment options.<sup>4,5</sup>

Please refer to PHO's [Infectious Disease Trends in Ontario](#) reporting tool and other reports for the most up-to-date information on infectious disease trends in Ontario.<sup>16</sup>

For additional national and international epidemiological information, please refer to the Public Health Agency of Canada and the World Health Organization.

## Comments

Declaration of an outbreak can be made by either the institution/health facility or the medical officer of health (MOH).

- In the event of a disagreement between the institution/health facility and the MOH, the MOH has the authority to determine if an outbreak of a communicable disease exists, for purposes of exercising statutory powers under the *Health Protection and Promotion Act*.<sup>17</sup>

Once an outbreak is declared, it is reported to the Ministry through the integrated Public Health Information System (iPHIS).

- The board of health shall declare whether an outbreak is over, in consultation with the institution/facility. Rationale for declaring or not declaring an outbreak, and declaring an outbreak over should be documented.



- Issuing a media release to the public is the responsibility of the institution or health facility. Should there be a public health risk to the general population, a joint media alert may be issued, or the board of health may issue an alert on behalf of the institution or health facility with their knowledge.

Preventing the emergence of *C. auris* in Ontario will require comprehensive surveillance data to ensure:

- The early identification of cases, transmission events and outbreaks at any institution or health facility;
- The identification of risk factors for *C. auris* carriage to allow health facilities to implement surveillance strategies based on an understanding of the incidence and risk factors for *C. auris* in their region; and
- The evaluation of implemented control measures.

Although the prevalence of *C. auris* in Ontario is low, the emergence of multidrug resistant organisms within Canadian health care facilities requires an integrated approach to surveillance and infection control between public health and primary care. With no or limited treatment options, even a single transmission event of *C. auris* is of concern.

As this is a newly designated Disease of Public Health Significance, please send any media advisories/alerts to [IDPP@ontario.ca](mailto:IDPP@ontario.ca) for awareness.

## References

1. *Designation of Diseases*, O Reg 135/18. Available from: <https://www.ontario.ca/laws/regulation/180135>
2. Ontario. Ministry of Health. *Infectious diseases protocol*, 2023. Toronto, ON: King's Printer for Ontario; 2023. Available from: <https://files.ontario.ca/moh-infectious-disease-protocol-en-2023.pdf>
3. *Reports*, RRO 1990, Reg 569. Available from: <https://www.ontario.ca/laws/regulation/900569>
4. Centers for Disease Control and Prevention. *Candida auris* (C. auris) [Internet]. Atlanta, GA: Centers for Disease Control and Prevention; [2024] [cited 2024 Dec 18]. Available from: <https://www.cdc.gov/candida-auris/>
5. World Health Organization. *WHO fungal priority pathogens list to guide research, development and public health action*. Geneva: World Health Organization; 2022. Available from: <https://www.who.int/publications/i/item/9789240060241>
6. Public Health Agency of Canada. *Candida auris*: infectious substances pathogen safety data sheet [Internet]. Ottawa, ON: Government of Canada; 2023 [cited 2024 Dec 18]. Available from: <https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/candida-auris.html>
7. Ontario Agency for Health Protection and Promotion (Public Health Ontario). *Candida auris* [Internet]: Case and contact management. Toronto, ON: King's Printer for Ontario; [2022] [cited 2024 Dec 5]. Available from: <https://www.publichealthontario.ca/en/Diseases-and-Conditions/Infectious-Diseases/CCM>
8. Ontario Agency for Health Protection and Promotion (Public Health Ontario); Provincial Infectious Diseases Advisory Committee. *Interim guide for infection prevention and control of Candida auris* [Internet]. Toronto, ON: Queen's Printer for Ontario; 2019 [cited 2024 Dec 5]. Available from: <https://www.publichealthontario.ca/-/media/Documents/P/2019/pidac-ipac-candida-auris.pdf>
9. Ontario Agency for Health Protection and Promotion (Public Health Ontario); Provincial Infectious Diseases Advisory Committee. *Routine practices and additional precautions in all healthcare settings*. 3<sup>rd</sup> ed. Toronto, ON: Queen's Printer for Ontario; 2012. Available from: <https://www.publichealthontario.ca/-/media/Documents/B/2012/bp-rpap-healthcare-settings.pdf>

10. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Hand hygiene [Internet]. Toronto, ON: King's Printer for Ontario; [2023] [cited 2024 Dec 5]. Available from: <https://www.publichealthontario.ca/en/Health-Topics/Infection-Prevention-Control/Hand-Hygiene>
11. Ontario Agency for Health Protection and Promotion (Public Health Ontario). *Candida auris* [Internet]. Toronto, ON: King's Printer for Ontario; [2023] [cited 2024 Dec 5]. Available from: <https://www.publichealthontario.ca/en/Diseases-and-Conditions/Health-Care-Associated-Infections/Candida-auris>
12. Mishra SK, Yasir M, Willcox M. *Candida auris*: an emerging antimicrobial-resistant organism with the highest level of concern. *Lancet Microbe*. 2023;4(7):e482-3. Available from: [https://doi.org/10.1016/s2666-5247\(23\)00114-3](https://doi.org/10.1016/s2666-5247(23)00114-3)
13. Shastri PS, Shankarnarayan SA, Oberoi J, Rudramurthy SM, Wattal C, Chakrabarti A. *Candida auris* candidaemia in an intensive care unit—prospective observational study to evaluate epidemiology, risk factors, and outcome. *J Crit Care*. 2020;57:42-8. Available from: <https://doi.org/10.1016/j.jcrc.2020.01.004>
14. Public Health England. Guidance for the laboratory investigation, management and infection prevention and control for cases of *Candida auris* [Internet]. v2.0. London: Crown Copyright; 2017 [cited 2018 Apr 26]. Available from: [https://assets.publishing.service.gov.uk/media/5a822c35e5274a2e87dc1869/Updated\\_Candida\\_auris\\_Guidance\\_v2.pdf](https://assets.publishing.service.gov.uk/media/5a822c35e5274a2e87dc1869/Updated_Candida_auris_Guidance_v2.pdf)
15. Schelenz S, Hagen F, Rhodes JL, Abdolrasouli A, Chowdhary A, Hall A, et al. First hospital outbreak of the globally emerging *Candida auris* in a European hospital. *Antimicrob Resist Infect Control*. 2016;5:35. Available from: <https://doi.org/10.1186/s13756-016-0132-5>
16. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Infectious Disease Trends in Ontario [Internet]. Toronto, ON: King's Printer for Ontario; [2024] [cited 2024 Dec 5]. Available from: [Ontario Agency for Health Protection and Promotion \(Public Health Ontario\). Infectious Disease Trends in Ontario \[Internet\]. Toronto, ON: King's Printer for Ontario; c2023](#)
17. *Health Protection and Promotion Act*, RSO 1990, c H.7. Available from: <https://www.ontario.ca/laws/statute/90h07>