



# WEEKLY EPIDEMIOLOGICAL REPORT

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Ministry of Health

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## Candida auris (C. auris) - A critical fungal Pathogen

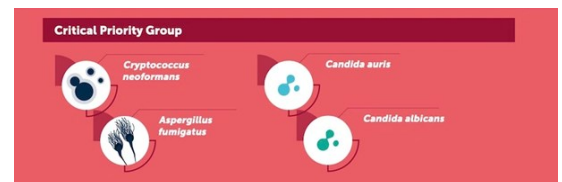


Source: CDC

*Candida auris* (*C. auris*) is a type of yeast that was first observed as a novel *Candida* species in 2009. As of March 2020, *C. auris* isolates in 41 countries. Sri Lanka reported its first case of *C. auris* in 2023. Further four different geographical clades, South Asian (I), East Asian (II), African (III), and South American (IV) have been identified. A recent study in Iran has described a potential fifth clade. *C. auris* typically causes outbreaks in nosocomial settings. It is considered a serious global health threat as an emerging fungal pathogen due to its multidrug-resistant nature and its potential to cause nosocomial outbreaks. In addition, the possibility of misidentification or misdiagnosis by routine laboratory procedures is an added threat to the prompt management of patients and control of outbreaks.

The global prevalence of *Candida auris* infection is unknown. The lack of commercially available diagnostic methods and resemblance to other *Candida* species has led to underreporting of cases. This fungus has numerous virulent qualities. Multi-drug resistance patterns have been identified for common antifungal therapies

that are used for other types of invasive *Candida* infections. The World Health Organization (WHO) has indicated *C. auris* in the critical priority group in the “WHO fungal priority pathogens list to guide research, development and public health action” considering its significance to public health.



Source: WHO Fungal Priority Pathogens List (WHO FPPL)

### Pathophysiology

*Candida auris* transmitted from person to person. The transmission is different from most other *Candida* species as most cases of candidiasis originate from the host's microflora. *C. auris* is not found as a commensal organism within the human gastrointestinal tract, like many other *Candida* species. It colonizes hosts within days to weeks of exposure. Often *C. auris* colonizes the skin and other body sites without causing illness or an infection. Yet *C. auris* may cause invasive infections which have high mortality. Can cause invasive infections within days to months. The colonization with *C. auris* may last for many months. The colonized patients are a source of transmission to other patients. Therefore, the transmission of *Candida auris* often occurs in nosocomial settings, despite implementing infection prevention measures. Patients with indwelling catheters, who are more prone to invasive procedures and who are in immunosuppressive states are at risk of *C. auris* infection.

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## Symptoms

*C. auris* can infect different body parts such as the bloodstream, open wounds, ears and many organs. The symptoms depend on the location of the body that is infected and on the severity of *C. auris* infection. Symptoms may be similar to other *Candida* infections. There is no common set of symptoms specific for *C. auris* infections.

## Diagnoses (Testing and Screening)

It is often misidentified as other *Candida* species by routine laboratory procedures. This necessitates modern molecular diagnostic techniques for diagnosis. In resource-poor settings, misidentification in the absence of sophisticated laboratory methods complicates the picture. In the absence of molecular diagnostics phenotypic and biochemical techniques used in conventional laboratories provide inconclusive results leading to the misidentification of *C. auris*. As an example, microscopically, *C. auris* forms oval or elongated yeast cells without hyphal or pseudo hyphal forms making it indistinguishable from other yeast species. The colonized persons with *C. auris* can be diagnosed by two main methods. Screening of the Colonization by a swab of the patient's skin or Clinical specimen testing. *C. auris* is not considered a threat to healthy people. Therefore, it typically does not recommend screening or testing of the family. Use of alcohol-based hand sanitiser or washing hands before and leaving a visiting patient's and in contact with the patient's devices are recommended.

## Resistance and Treatment

Multidrug resistance has been well known for *C. auris*. Almost forty percent of *C. auris* are multidrug resistant according to data from three continents. Multiple resistance mechanisms may be involved although the exact is not fully understood. Commonly used antifungal medications do not respond to *C. auris* infections. Most of the instances of *C. auris* infections are treatable with a class of antifungals named "echinocandins". Amphotericin B is considered an alternative to the echinocandins. Most of these antifungals are not widely available and are expensive in resource-poor countries like Sri Lanka. However, some *C. auris* strains have been resistant to all three main classes of antifungals and can be treated using multiple antifungals.

## Prevention

In the year 2016, *C. auris* was declared a public threat by the Centers for Disease Control and Prevention (CDC) considering the high rates of transmissibility and antifungal resistance patterns. Standard precautions should be followed at each medical procedure. Healthcare personnel should follow standard hand hygiene principles as maintenance of hand hygiene is the basic component of infection control. The soiled hands be washed with soap and water or alcohol-based hand rubs. Gloves do not substitute for hand hygiene. Prevention of invasive infection in colonized individuals involves isolation of the person and cleaning the rooms with

disinfectants, using personal protective equipment to deliver care. Should avoid the entry of the fungus into sterile body sites. Ensure appropriate use and maintenance of medical devices, such as central venous catheters, indwelling urinary catheters, etc. to prevent infection. Patients with *C. auris* often continue to carry the organism in their skin or other body sites for a very long duration even if they are asymptomatic. Therefore, healthcare institutes should be aware and informed about the patients with tested positive for *C. auris*, with or without symptoms, or those who were exposed to a person with *C. auris* or were cared for in a facility where there was an outbreak of *C. auris*.

It is necessary to enhance Healthcare Team Outcomes by increasing the awareness of the seriousness of this pathogen. The team should include all interprofessional team members, including clinicians, nurses, medical technicians, pharmacists, and laboratory technicians.

Few countries have effective surveillance for fungal diseases. The Global Antimicrobial Resistance and Use Surveillance System (GLASS) was developed by the World Health Organization. This was to support countries to build or strengthen their national fungal Anti-Microbial Resistance (AMR) surveillance and also to enable the incorporation of AMR surveillance for invasive *Candida* infections into GLASS.

Both globally and in healthcare settings, an interprofessional healthcare team that includes epidemiologists, is crucial for monitoring the spread of this pathogen because "*Candida auris* is an emerging fungal pathogen associated with nosocomial infections and a serious global health threat".

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Table 1: Selected notifiable diseases reported by Medical Officers of Health 20<sup>th</sup>- 26<sup>th</sup> Jan 2024 (04<sup>th</sup> Week)

RDHS	Dengue Fever		Dysentery		Encephali		Enteric		Food Poison-		Leptospirosis		Typhus		V. Hep.		H. Rabi.		Chickenpox		Meningitis		Leishmani-		WRCD			
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**		
Colombo	499	1824	1	2	0	1	0	1	0	1	0	3	7	30	0	0	0	0	0	0	7	31	1	1	0	0	95	100
Gampaha	150	629	1	2	0	1	0	1	0	0	0	3	29	0	0	1	0	0	0	6	15	1	13	1	3	88	100	
Kalutara	96	381	0	3	0	0	1	2	0	0	0	11	48	0	0	1	0	0	0	14	53	2	7	0	0	93	100	
Kandy	186	818	1	3	0	0	0	0	1	3	7	19	0	2	0	0	0	0	0	23	43	0	1	0	2	91	100	
Matale	28	154	1	1	0	0	0	0	0	2	2	16	0	0	0	0	0	0	1	3	0	1	5	10	100	100		
Nuwara Eliya	18	87	3	9	1	1	0	0	0	2	6	30	1	4	0	1	0	0	4	12	0	1	0	0	100	100		
Galle	119	442	3	7	1	4	0	1	3	10	27	98	5	16	0	2	0	0	16	49	2	9	3	3	83	100		
Hambantota	50	176	0	0	0	0	0	0	0	0	36	102	2	5	0	0	0	0	12	26	2	5	13	41	86	100		
Matara	32	140	0	2	0	2	0	0	0	2	11	41	1	1	0	0	0	0	6	22	0	25	3	9	100	100		
Jaffna	746	2816	6	13	0	0	0	0	0	2	0	5	33	136	0	0	0	0	14	32	1	3	0	0	93	93		
Kilinochchi	41	142	0	0	0	0	0	0	0	1	1	3	1	1	0	0	0	0	0	1	0	1	0	0	100	100		
Mannar	10	111	0	0	0	0	0	1	0	0	0	7	0	1	0	0	0	0	0	1	0	1	0	1	100	100		
Vavuniya	19	80	0	0	0	0	0	0	0	0	4	26	0	1	0	0	0	0	1	2	4	0	0	0	100	100		
Mullaitivu	23	105	0	2	0	0	0	0	0	1	3	24	1	2	0	0	0	0	0	2	0	0	0	1	83	100		
Batticaloa	88	475	4	17	0	0	0	1	0	0	3	8	0	0	0	0	0	0	1	8	0	4	1	1	100	100		
Ampara	11	40	1	3	0	1	0	0	0	0	10	43	0	1	0	1	0	0	1	12	2	6	1	3	86	96		
Trincomalee	42	175	0	3	0	0	0	0	0	0	10	36	0	1	0	0	0	0	0	2	0	2	1	2	100	100		
Kurunegala	135	555	1	2	0	2	0	0	0	1	30	92	1	4	0	1	0	1	7	35	6	25	12	40	97	100		
Puttalam	76	359	0	0	0	1	0	0	0	0	15	58	0	1	0	0	0	0	5	17	1	6	0	2	69	100		
Anuradhapura	34	133	0	0	0	0	0	0	0	0	21	74	2	6	1	2	0	0	4	14	3	8	25	84	100	100		
Polonnaruwa	12	58	1	3	0	0	0	0	0	0	8	45	0	0	0	0	0	0	9	22	0	4	7	24	100	100		
Badulla	53	329	3	5	0	1	0	0	0	2	20	71	0	1	1	4	0	0	7	31	0	3	0	0	94	100		
Monaragala	48	162	1	3	0	0	0	0	0	0	53	189	0	1	0	2	0	0	2	6	1	14	0	11	100	100		
Ratnapura	67	297	2	12	0	0	0	0	0	2	26	165	0	3	1	3	0	0	7	24	3	9	6	10	95	100		
Kegalle	91	400	1	3	0	1	0	0	0	0	10	59	0	1	1	3	0	0	16	54	1	8	3	8	82	100		
Kalmunai	60	229	1	4	0	0	0	0	0	0	4	23	0	1	0	0	0	0	1	6	0	2	0	0	77	100		
<b>SRILANKA</b>	<b>2734</b>	<b>11117</b>	<b>31</b>	<b>99</b>	<b>2</b>	<b>15</b>	<b>1</b>	<b>7</b>	<b>4</b>	<b>31</b>	<b>328</b>	<b>1341</b>	<b>47</b>	<b>189</b>	<b>5</b>	<b>21</b>	<b>0</b>	<b>1</b>	<b>163</b>	<b>522</b>	<b>28</b>	<b>163</b>	<b>81</b>	<b>255</b>	<b>93</b>	<b>99</b>		

Source: Weekly Returns of Communicable Diseases (esurveillance.ephid.gov.lk). T=Timeliness refers to returns received on or before 26<sup>th</sup> Jan, 2024. Total number of reporting units 358. Number of reporting units data provided for the current week: 358. C\*\*=Completeness. A = Cases reported during the current week. B = Cumulative cases for the year.

**Table 2: Vaccine-Preventable Diseases & AFP**

20<sup>th</sup>– 26<sup>th</sup> Jan 2024 (04<sup>th</sup> Week)

Disease	No. of Cases by Province									Number of cases during current week in 2024	Number of cases during same week in 2023	Total number of cases to date in 2024	Total number of cases to date in 2023	Difference between the number of cases to date in 2024 & 2023
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	02	01	00	00	00	00	00	00	03	00	06	06	0 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	01	01	00	00	00	01	01	01	00	05	03	18	09	100 %
Measles	08	00	09	00	00	02	01	01	00	21	00	93	00	0 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	01	00	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	01	-100 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	00	01	00	0 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	01	00	00	0 %
Tuberculosis	85	45	17	08	11	01	05	06	18	196	226	706	593	19.05%

**Key to Table 1 & 2**

**Provinces:** W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.  
**RDHS Divisions:** CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matale, NE: Nuwara Eliya, GL: Galle, HB: Hambantota, MT: Matara, JF: Jaffna, KN: Killinochchi, MN: Mannar, VA: Vavuniya, MU: Mullaitivu, BT: Batticaloa, AM: Ampara, TR: Trincomalee, KM: Kalmunai, KR: Kurunegala, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.

**Data Sources:**  
**Weekly Return of Communicable Diseases:** Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,  
**Special Surveillance:** AFP\* (Acute Flaccid Paralysis), Japanese Encephalitis  
**CRS\*\*** =Congenital Rubella Syndrome  
**NA** = Not Available

**Take prophylaxis medications for leptospirosis during the paddy cultivation and harvesting seasons.**

**It is provided free by the MOH office / Public Health Inspectors.**

Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to [chepid@sltnet.lk](mailto:chepid@sltnet.lk). **Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

**ON STATE SERVICE**

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