

## Candidemia in Non-Neutropenic Adults

**BOTTOM LINE:** NEVER ignore a blood culture positive for a *Candida* species.  
Early diagnosis and initiation of treatment are necessary to reduce mortality.

### Key Points:

- Candidemia is life-threatening and mortality can be up to 49%. For survivors, candidemia is associated with increased length of stay and increased healthcare costs.
- **The presence of *Candida* in a blood culture should always prompt an investigation for the source of the candidemia and whether there is disseminated infection.**
- Growth of *Candida* in blood is slower than bacteria; a longer time to positivity does not imply contamination.
- Candidemia is often a consequence of broad-spectrum antibacterial use. Prevention of candidemia includes reduction and narrowing of antibacterials in patients wherever possible.

### Optimizing Management of Candidemia:

1. An infectious diseases consult is **strongly recommended** as it is associated with a 46% reduction in 30-day all-cause mortality.
2. A thorough assessment and investigations to identify the **source** of candidemia along with **any complications**, such as endocarditis, septic thrombosis, are essential.
  - i. Remove any temporary vascular devices/catheter(s) (ideally within 24 hours). Send tip(s) for culture.
  - ii. Start antifungal treatment as soon as possible after positive blood culture result.
3. An echocardiogram is highly recommended to detect clinically occult endocarditis, which can be as high as 30%. Transesophageal echocardiogram (TEE) is needed to reliably exclude *Candida* endocarditis.
4. Consult for advice on removal of permanent devices (i.e. tunneled lines, pacemakers, cardiac valves, grafts, prosthetic joints, genitourinary stents or other prosthetic material), and drainage procedures.
5. Targeted imaging is needed to identify focal invasive disease depending on underlying risk factors (e.g. ultrasound of kidney and bladder for “fungus balls”)
6. Empiric therapy **in adults with uncomplicated candidemia**: Micafungin 100 mg IV daily. Alternative in patients who are hemodynamically stable with no prior azole exposure: Fluconazole (refer to table below for dosage)
7. To document clearance, collect 2 sets (4 bottles) of blood cultures 48 hours after the initial positive blood culture for *Candida*. Repeat every 48 hours until negative.
8. Inquire about symptoms of ocular involvement: blurred vision, photosensitivity, and floaters. Ophthalmology evaluation is **strongly recommended**.
9. Refer complicated cases (chorioretinitis, endovascular infections, including endocarditis, septic thrombophlebitis; and any with implantable cardiac devices, or if central venous catheter (CVC) or any other foreign material cannot be removed) to the appropriate service.

### Antimicrobial Stewardship:

Transition micafungin to oral fluconazole (usually within 5-7 days) if the patient's condition is stable, the *Candida* isolate is susceptible to fluconazole, and repeat blood cultures are negative. Remember to check for drug interactions, baseline QTc, and monitor liver enzymes with fluconazole.

<i>Candida albicans</i> , fluconazole-susceptible	Fluconazole loading dose 800 mg (12 mg/kg) IV/PO, then 400mg (6 mg/kg) IV/PO daily. Primarily renally eliminated; reduce dose if CrCl<50 mL/minute.
<i>Candida parapsilosis</i>	Fluconazole preferred (1 <sup>st</sup> -line)
<i>Candida krusei</i>	Situation-dependent. Intrinsically resistant to fluconazole.
<i>Candida lusitanae</i>	Fluconazole or micafungin preferred over amphotericin
<i>Candida glabrata</i>	Based on susceptibility. High-dose fluconazole (800 mg daily, 12 mg/kg) often recommended for susceptible <i>C. glabrata</i> but not validated in trials.

### Duration of Therapy (starts from the date of the first negative blood culture):

- For uncomplicated candidemia, duration is typically **2 weeks** starting from the date of the first negative blood culture.
- For complicated candidemia and critically ill patients, **duration varies** based on site of infection and source control. Therefore, infectious diseases consult is recommended.

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## Key References

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