

# DIAGNOSE

## Invasive Candidiasis (IC)



To optimize diagnostics, knowledge of the patient population and the likelihood (pretest probability) of IC is essential.<sup>1,2</sup>



Early, targeted treatment of IC reduces mortality. Early diagnosis is important.<sup>1,3</sup>

### Determine if Yeast/*Candida* Are Present

#### Traditional microbiology

#### Non-culture-based tests



#### Blood Sample



#### Sterile-site biopsy

- For culture, direct microscopy, histopathology
- Not always feasible<sup>1,2</sup>



#### Beta-D-Glucan

- Pan-fungal marker
- Sensitivity: 75%-80%
- Specificity: ~80%<sup>1,2</sup>

#### Molecular Tests

- PCR not standardized in US
- But multiplex PCR tests available—allow for species-level detection (eg, T2 *Candida*)<sup>1,2</sup>

#### Culture<sup>1,2</sup>

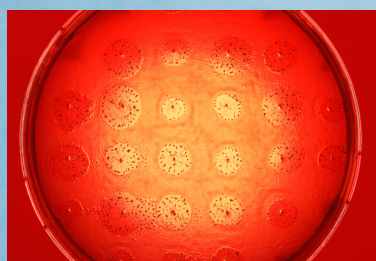
Gold standard but...

Slow (~2-3 days)

50% sensitivity

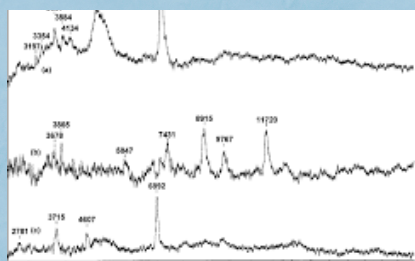


Establish species & conduct antifungal susceptibility testing (AFST) to guide therapy.<sup>1,2,4,5</sup>



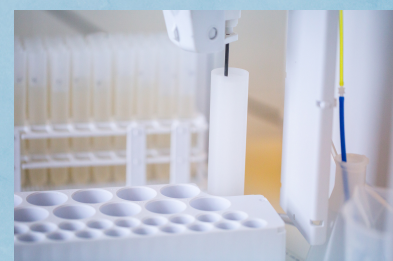
#### Subculture and reference methods for AFST

- Slow (2-3 days)



#### MALDI-TOF

- Mass spectrometry
- Quick outcomes
- Allows speciation and some resistance patterns



#### Blood Culture ID Panels

- Faster results vs subculture
- Allows for resistance testing
- Requires positive culture

 AFST is recommended on all sterile site *Candida* spp. isolates.<sup>1,6</sup>

AFST = antifungal susceptibility testing; MALDI-TOF = matrix-assisted laser desorption ionization time-of-flight mass spectrometry.

1. Clancy CJ, Nguyen MH. *J Clin Microbiol.* 2018;56:e01909-17. 2. Gonzalez-Lara MF, Ostrosky-Zeichner L. *Semin Respir Crit Care Med.* 2020;41:3-12. 3. Grim SA, et al. *J Antimicrob Chemother.* 2012; 67:707-714. 4. Messacar K, et al. *J Ped Infect Dis Soc.* 2017;6:267-274. 5. Simor AE, et al. *J Clin Microbiol.* 2018;56:e01387-18. 6. Pappas PG, et al. *Clin Infect Dis.* 2016;62:e1-e50.

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