

Meet the Superbugs

Rhizopus oryzae (order Mucorales)

Also called: *R. oryzae* **Say it:** RHI-zo-pus o-RY-zae

About: Mucormycosis is a serious and invasive fungal infection. Caused most commonly by *R. oryzae*, it usually occurs in people with weakened immune systems or uncontrolled diabetes mellitus.^{1,2} Mortality rates are very high; up to 88 %.³

Shape: Dandelion⁴ **Year identified:** 1895⁵

Potential threats include: Infection typically manifests in the upper airways as pulmonary mucormycosis⁶ before invading the blood vessels, resulting in dissemination and tissue death.⁷

One way to fight this superbug: Ensure immunocompromised patients are placed in protected environments to reduce mold exposure.

1. Millon L, Scherer E, Rocchi S, Bellanger AP. Molecular strategies to diagnose mucormycosis. *J Fungi*. 2019;5:E24.
2. Ibrahim AS, Spellberg B, Avanesian V, Fu Y, Edwards JE. *Rhizopus oryzae* adheres to, is phagocytosed by, and damages endothelial cells in vitro. *Infect Immun*. 2005;73:778-783.
3. Guinea J, Escribano P, Vena A, et al. Increasing incidence of mucormycosis in a large Spanish hospital from 2007 to 2015: epidemiology and microbiological characterization of the isolates. *PLoS One*. 2017;12:e0179136.
4. Pitt JI. Zygomycetes. In: Pitt JI, Hocking D, eds. *Fungi and Food Spoilage*, 3rd edition. New York: Springer, 2009;145-168.
5. Mycobank. *Rhizopus oryzae*. Available at: <http://www.mycobank.org/BioMICS.aspx?TableKey=14682616000000063&Rec=13943&Fields=All> Last accessed February 2020.
6. Mignogna MD, Fortuna G, Leuci S, et al. Mucormycosis in immunocompetent patients: a case-series of patients with maxillary sinus involvement and a critical review of the literature. *Int J Infect Dis*. 2011;15:e533-40.
7. Sipsas NV, Gamaletsou MN, Anastasopoulou A, Kontoyiannis DP. Therapy of mucormycosis. *J Fungi*. 2018;4:90.

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