

THE HUMAN MYCOBIOME

Diverse fungal species live in and on the human body. Preliminary surveys have revealed several pathogenic species that may increase one's risk of disease when the healthy microbiome is disrupted.

Candida species are among the most common members of the human microbiome. When the balance of a microbial community is disrupted, *Candida* species can flourish and cause disease (candidiasis, or "thrush," when it develops in the mouth or throat).

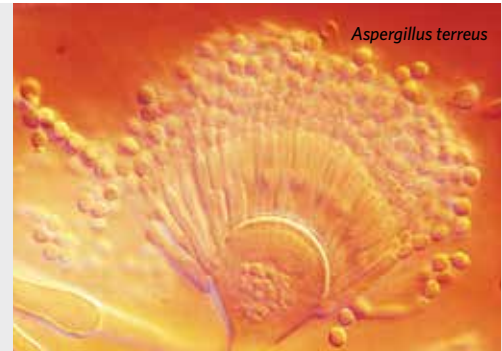


ORAL
CAVITY

Genera Identified Potentially pathogenic lineages

- *Alternaria* • *Aspergillus*
- *Aureobasidium* • *Candida*
- *Cladosporium* • *Cryptococcus*
- *Fusarium* • *Gibberella*
- *Glomus* • *Pichia*
- *Saccharomyces*
- *Teratosphaeria*

Pathogenic fungi such as *Aspergillus*, *Fusarium*, and *Cryptococcus* species are common residents, and may increase the risk of invasive fungal infections, especially in immunocompromised patients.



ASPERGILLUS: MEDMYCO/WIKIMEDIA COMMONS; CANDIDA: MICHAELFRANCISCO/FICKR; FUSARIUM: CDC/DR. LIBERO AJELLO; MALASSEZIA: CDC/DR. LUCILLE K. GEORG



LUNGS

- *Aspergillus*
- *Candida*
- *Cladosporium*
- *Penicillium*
- *Cryptococcus*

Pathogenic species such as *Candida albicans* are found in patients with cystic fibrosis, pulmonary fibrosis, and other lung diseases, as well as in lung transplant patients and those suffering from cardiovascular disease.



GASTROINTESTINAL
TRACT

- *Aspergillus*
- *Candida*
- *Cladosporium*
- *Cryptococcus*
- *Fusarium*
- *Penicillium*
- *Pneumocystis*
- *Mucor*
- *Saccharomyces*

Alterations in the composition of the commensal microbiome in the gut have been implicated in the exacerbation of inflammatory bowel disorders such as Crohn's disease.



SKIN

- *Candida* • *Cryptococcus*
- *Debaryomyces*
- *Epidermophyton* • *Malassezia*
- *Microsporium* • *Rhodotorula*
- *Trichophyton* • *Aspergillus*
- *Chrysosporium* • *Epicoccum*
- *Leptosphaerulina* • *Penicillium*
- *Phoma* • *Saccharomyces*
- *Ustilago*

Malassezia species, which can lead to superficial skin disease, have been found in the external auditory canal and on the skin, particularly on the torso and arms.

