

STANDARD DEVIATIONS: This Yeast is a Beast

Greetings,

There are over 40 different fungus species known to cause disease in humans, of which *Candida albicans* is the most common and most frequently tested for. In the United States there are approximately 1.4 million doctor office visits every year for candidiasis.

About three-quarters of women have at least one yeast infection at some time during their lives. Oral candidiasis is the most common fungal infection of the mouth, and it also represents the most common opportunistic oral infection in humans. About 20% of those receiving chemotherapy for cancer and 20% of those with AIDS also develop the disease. Infections of the mouth occur in about 6% of babies less than a month old.

In 2009, another *Candida*, *C. auris*, was identified in hospitalized patients in Asia. Since then it has quickly travelled around the globe. In 2015 it made it to our shores and reported **cases have increased 318%** in 2018 (last data) over the number of cases reported in 2015-17.

Here is a little fact. The first case was identified in a Japanese woman with an *ear infection*; that's where the nomenclature of "*auris*" comes from.

C. auris is a concerning, emerging organism that the CDC has described as an urgent threat.



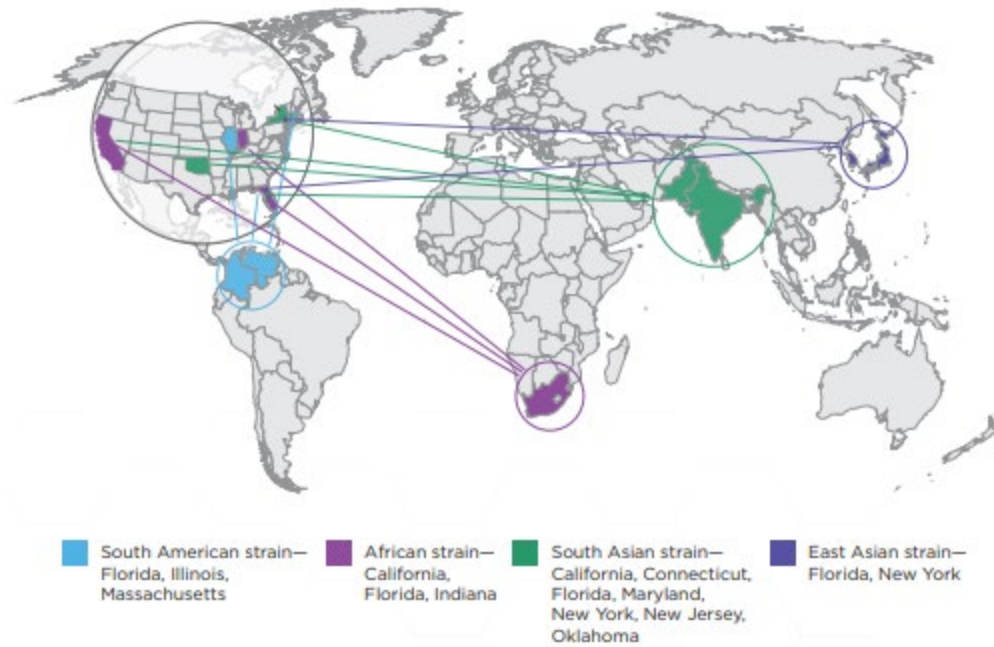
C. auris spreads mostly in long-term healthcare facilities among patients with severe medical problems.

Resistance is the defining characteristic that makes *auris* so worrisome. Some strains are pan-resistant, resistant to all three classes of antifungals. More than 90% of *C. auris* infections are resistant to at least one drug, and 30% are resistant to two or more drugs.

Common healthcare disinfectants are poor at killing this fungus; that allows it to be carried on patient's skin, medical devices, surfaces, and the skin of providers, allowing spread. Now, it's difficult to determine, because many who get his infection are already sick or compromised, but mortality seems to approach 30% world-wide; that's scary.

There are four known strains that all just kind of popped up around the world, and they've all been found in the States.





What makes *C. auris* particularly nasty is that it spreads easily in hospital settings. Currently, there are cases in Washington, D.C and Texas affecting patients in long-term care. These are likely nosocomial infections, and that is why we (as clinical staff in hospital settings) should be paying attention. Somehow our understanding and awareness of biosafety is faltering.

After a recent death at Mount Sinai, NY, the fungus was still found in the patient's room. Where?

- The walls
- Bed
- Doors
- Curtains
- Phones
- Sink
- Whiteboard
- Pumps
- Poles
- Mattress
- Bed rails
- Cannister holes
- Window shades, and
- Ceiling



C. auris is so tenacious because it is impervious to major antifungal medications, making it a new example of one of the world's most intractable health threats: the rise of drug-resistant infections.

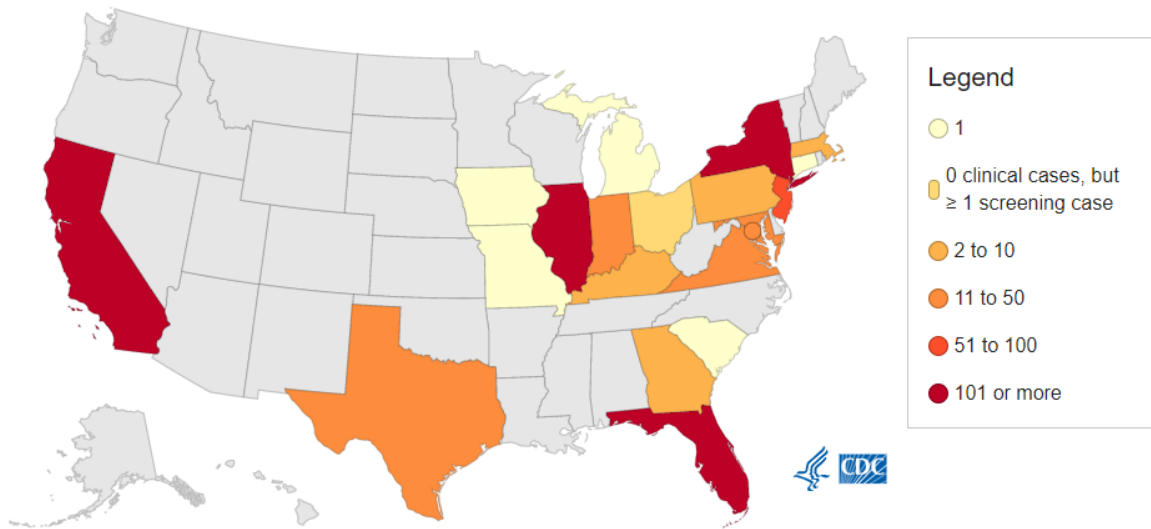
Candida yeasts are generally present in healthy humans, frequently part of the human body's normal oral and intestinal flora, and particularly on the skin; however, their growth is normally limited by the human immune system and by competition of other microorganisms. Pan-resistant *C. auris* is a canary in the coal mine for emerging resistance. Biosafety may be our best tool to battle this serious and emerging threat, if we can't treat with drugs.

Contact precautions, hand hygiene, and environmental cleaning and disinfection are essential to preventing the spread of *C. auris*. These are the things we preach in biosafety and in good laboratory technique on the bench.

Have a great week and be safe,

Bryan

Reported clinical cases of *Candida auris*, June 1, 2020-May 31, 2021



{Coming to a facility near you. Ready?}

