



ACTINOMYCETES (Actinos)

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01

What are they &
Where are they?

02

How do they affect us?

03

How do we test?

04

How to reduce?





What are they?

Bacteria

Gram Negative Bacteria

Very few are pathogenic

Produce VOCs

Smell musty/moldy
or like

Freshly turned soil

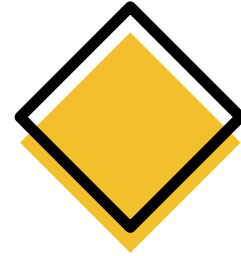
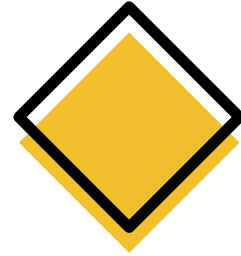
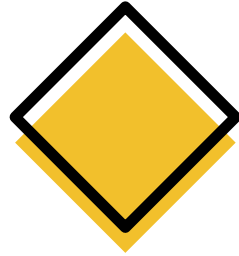
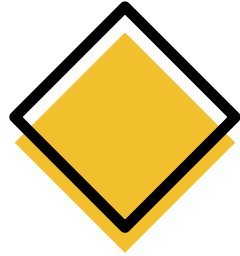
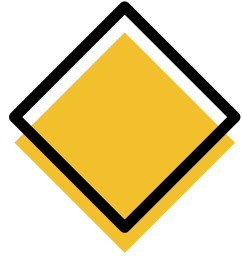
Often mistaken for mold

Endotoxins Producers

Corynebacteria
Tuberculostearicum

Propionibacterium
Acnes

Where are they found?



Water
damaged
Buildings

Areas w Hi
Skin Cells



Bedroom:

- Sheets/
Pillows
- Mattress
Cover

Basements:

- Masonry
Walls
- Drain tile
(french
drain)
- Furnace
drain

Kitchen:

- P-Traps
- Compost
bins
- Garbage
Disposal

- Cool mist
humidifiers
- Ultrasonic
humidifiers
- Dehumidifier
Coil





Where are they found?

Anywhere there is soil or moisture

- HVAC: Furnace blower cabinet
- HVAC: Direct air intake duct into furnace
- Hot Tubs
- Water jets in bathtubs
- Dog Paws
- Furnace evaporator coil
- Brought into house on shoes





Where are they found?

Anywhere there is soil or moisture +

- Crawlspace w Dirt Floors (ducts?) ▾
- Bath tub drain
- Shower drain
- Damp Towels
- Mattress covers ○
- Concrete slab





Health Concerns

◀ **Cognitive dysfunction**

Short Term memory deficit

Decreased ability to learn new material

Confusion/disorientation

Tremors

Headaches

Metallic taste

Chronic Fatigue





Effects





**Effects are similar to Cyanobacteria
from Lake Blooms**





Inhalation is a very efficient delivery method for endotoxins



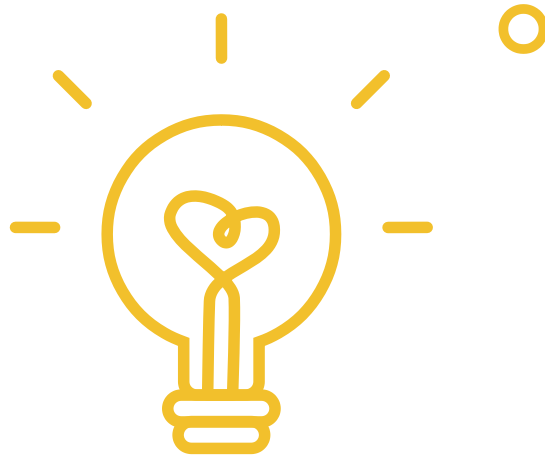


**Ultrafine particles with endotoxins attached
far outnumber spores
yet today's testing only measures spores**





**Many Air Quality professionals believe the
Microbial VOCs are responsible for symptoms**





Testing for Actinos in Homes

Unsuccessful with cultures

**Envirobiomics (Next Generation Sequencing), LIS Biotech?
Patients can spend thousands looking for them**

Microscope can spot them at 400x

Take micrographs at 600x

Use oil immersion (1000x) to confirm.

If there is active mold, there are actinos



Testing for Actinos in Homes

Need 10 gr of dust

Fresh dust a better representation of exposure

Sample air emitters like air supply vents.

House plants were not found to be a big source

How do we reduce Actinos

1. Find them
2. Mycolic Acid Coating
3. Think "Kitchen Grease"
4. Detergent and Water
5. Hydrogen Peroxide Drains & P-Traps
6. Hot Steam (200 degrees+)
7. UV Light
8. PCO Technology



Actinos Cleaning Protocol (Shoemaker 47% reduction)

Skin: Dr Bronner's Castille Soap

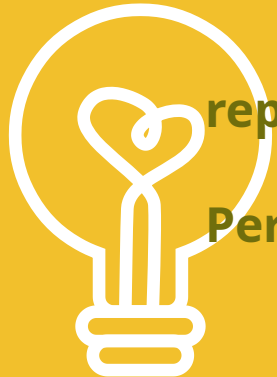
Hair: Medicasp or Tar Shampoo

Home: Don't let drains dry out

Use Bed Vacuum w UV

Monthly Drain cleaning:

- 6-7 drops dish soap/qt of water
- Scrub drain w bottle brush rinse
- Pour 1 bottle Hydrogen Peroxide into drain
- Wait 10 mn then rinse



repeat x3

Peroxide into drain



THANK YOU

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