



# Massachusetts ME/CFS & FM

ASSOCIATION

EDUCATION, SUPPORT & ADVOCACY SINCE 1985

***Got Mold?***

***How our Homes Impact our Health***

***Michael Rubino, Co-founder and Chair***

***Change the Air Foundation***

**Sunday Conversations**

**with MassME**

**April 21, 2024**



# Housekeeping

- ❖ We respect your privacy
- ❖ Please stay muted
- ❖ Put questions/comments in the chat
- ❖ A recording of the main presentation and Q&A will be posted

*We cannot answer questions related to your personal or any specific, medical condition.*

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*Michael Rubino*

*Cofounder and Chair  
Change the Air Foundation*



Got Mold?

How Our Homes Impact Our Health





Hello!

# I'm Michael Rubino

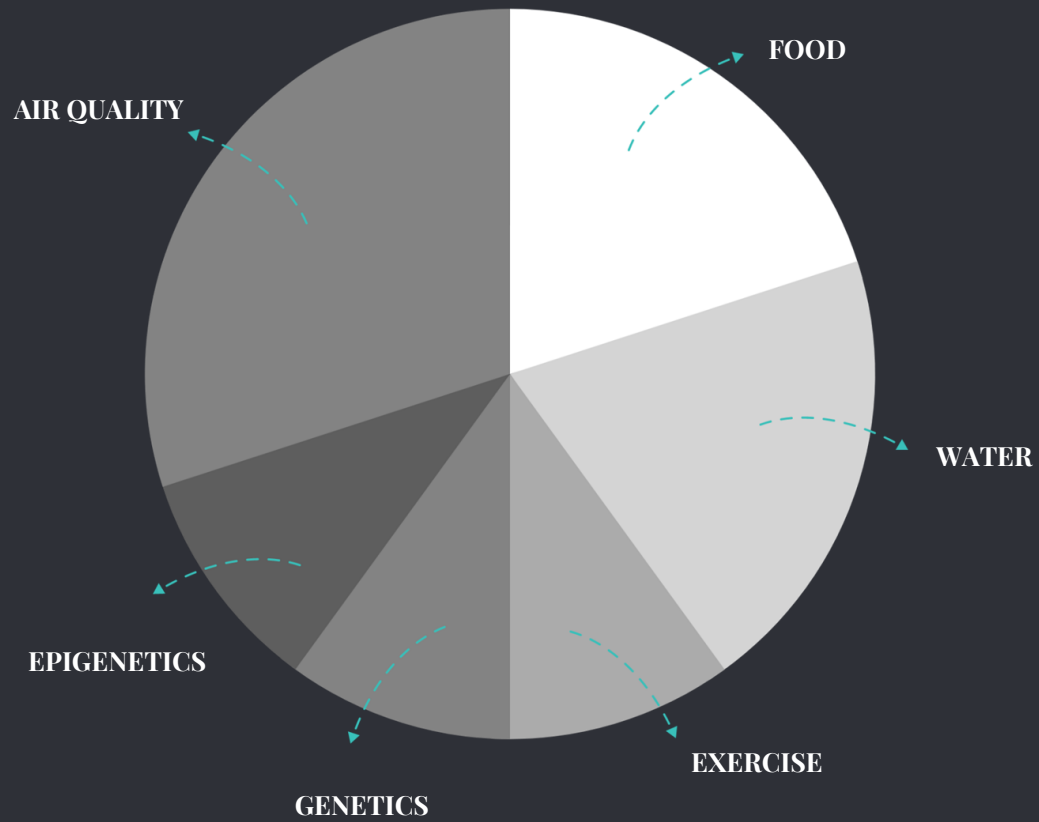
Co-Founder and Chair of Change the Air Foundation a non-profit giving every person the knowledge, resources, and support to achieve better health by breathing safe indoor air.

# Never Been Sicker

The prevalence of mold in buildings is widespread.

In a major cross-sectional study conducted by the US EPA of 100 randomly selected office buildings from across the country, and from which building with known air quality issues were excluded, sampling data showed that 85% of the buildings had past water damage and 43% had current water leaks.

The Occupational and Safety Health Administration estimates that over 25% of homes have had enough water damage to host toxigenic indoor molds.





# DID YOU KNOW?



- **The average person takes 20,000 breaths each day?**
- **The World Health Organization estimates that 9 out of 10 people do not breathe clean air?**
- **The EPA suggests the average person spends 90% of their time indoors?**

# What Makes Air Quality Poor?

Each of these things introduce particles that our body has to work overtime to remove and can have a profound effect on our health

☞ Volatile Organic Compounds / Offgassing

⚡ Electromagnetic Fields & Radiation

🏠 Formaldehyde

☞ Radon

🧴 Household Chemicals

💧 🦠 Water Damage (Mold and Bacteria)

# How to Hack Your Air Quality

- 👉 Use low VOC alternatives for paints, adhesives and other VOC containing products
- ⚡ Ensure that your homes electrical is well grounded and not creating any EMFs, hardwire things like the internet. Use EMF reducing paints on your homes exterior
- 🪑 Ensure your furniture, sponges, and other manufactured products do not contain formaldehyde
- 👉 Inspect your home for Radon and install a radon mitigation system if necessary
- 🌿 Toss household chemicals for botanical alternatives like HomeBiotics
- 💧🌀 Unfortunately we need way more slides for these tips



# Water Damage: Mold and Bacteria

- Mold and bacteria are pretty insidious as they constantly reproduce
- Mold is typically 2-4 microns or roughly 25-50 times smaller than what the eye can see
- Bacteria can be between .2 and 2 microns in size
- Mycotoxins, toxins produced by certain species of mold are approximately .1 microns in size

## Why Does This Matter?

- According to the American Lung Association anything smaller than 10 microns poses the greatest health risk



# What Is Mold?

- The word “Mold” means many things which causes confusion
- Mold = one of the three types of fungi (the other are mushrooms and yeast)
- Mold = 100,000 different species (that we know of)
- Mold = a living multi-cellular organism that reproduces asexually by spores
- Mold = the spore itself

# FUN FACTS ABOUT MOLD

- There may be 100,000 species of mold but we can currently only test for about 50 of them
- Mold can grow as quickly as 24 to 48 hours
- Certain species of mold like aspergillus only require 60% Relative Humidity or higher to grow
- Certain species like Stachybotrys or Chaetomium take 3-5 days of moisture to grow
- Mildew is just a nice way of saying mold
- Bleach does not effectively remove mold
- To remove mold you need to remove its roots too



# Mold and Our Health

- Mold is like a plant, a poisonous one – roots, seeds/spores, toxins
- Mycotoxins – fungal toxins produced by certain species of mold
- How are Mycotoxins produced?
  - Mold
  - Real Estate
  - Chemical Warfare
- Less volume of air inside our homes than outside causing an increase of particles and toxins with each breath we take
- Did I mention we take 20,000 breaths per day?

# Bacteria and Our Health

- Bacteria, especially Actinobacteria can intrude into our homes
- Actinobacteria are gram-positive bacteria that often accompany mold in water damaged events inside of our homes

## Sources of Actinobacteria:

1. Water Damage that intrudes from outside
  2. PVC Drains including HVAC drain lines
  3. Abundant in the soil
  4. Tracked in from pets
  5. Tracked in from wearing shoes in the home
- Size of Actinobacteria: between 2 and 50 microns with 10 microns being the most common size
  - Actinobacteria: reproduces asexually through spores like mold
  - Did I mention we take 20,000 breaths per day?





# Common Symptoms of Living in Water Damage



Brain fog, chronic fatigue, headaches, inflammation, gut issues, skin issues, respiratory issues, trouble breathing, night sweats, night terrors, insomnia, cognitive impairment, fertility issues, mental health issues, mold rage, and more... just a few of the highlights of common symptoms

Like all illnesses, it shows up differently in everyone

There are so many unanswered questions as to all the things mold and bacteria can do to us but one pattern has been profound for me. When we find and fix issues in peoples home they can finally begin to notice improvements in their health

# Detecting Hidden Mold

- Mold can be hidden. Like behind a wall and you have no idea, hidden

The old process:

1. Call Joe Blow from Mold Inspections R US
2. Joe runs a single air sample in the center of your home while telling you how nice and clean your home is
3. Joe says good news: your home is perfect

Imagine going to the doctor and just checking one vitamin or mineral as an entire health profile

- It almost makes sense if I have poor air quality then an air test would tell me that right?
- Mold only travels 2-3 feet beyond the source before settling in our dust
- Dust recirculates through changes in pressure and HVAC from room to room, entering the body with those damn 20,000 breaths



# Hacking Air Tests

- Just like we screen our bodies at the doctor, we want to screen our homes
- Our dust is like the blood of our home. It carries the DNA of what's in it  
The Dust Test utilizes PCR technology
- When using The Dust Test, you can look for abnormalities in:
  - Mold
  - Toxins for Mold
  - Bacteria
  - Toxins for Bacteria
  - \*The byproducts of water damage

\*The Dust Test is used as a reference and is not endorsed by Change the Air Foundation.



### Air Testing:

- Can miss sources more than 3 feet away from testing
- Can miss sources behind walls or ceilings unless you pull air from behind them

### Surface testing:

Only helpful to test visible signs or stains of suspect mold and/or water damage

### Benefit:

The Dust Test is a fraction of the cost of hiring an inspector AND you can provide it to inspectors and tell them to FIND it



# Hacking Water Damage

We find mold and bacteria now what?

1. Identify the sources creating these particles and toxins
2. Remove (not kill) the sources of mold and bacteria
3. Clean the HVAC (it's the lungs of your home)
4. Clean the home (removing dust will remove the settled contaminants with it)

The two main objectives:

- Remove the organism (notice the word remove)
- Remove the particles and toxins created by the organism

Killing, Fogging, Destroying, Sanitizing, Disinfecting, Ionizing, UV-ing - all marketing terms to avoid

# Other Dangers of Murdering Mold

- Mold and bacteria from water damaged events are filamentous and root into building materials
- What happens if you don't remove the roots of a weed?
- Something is wrong, allowing for the opportunity for mold and bacteria
- When mold or bacteria feel threatened they produce toxins. Chemical warfare remember?
- The average water damage event takes a professional 3-5 days to properly dry out with professional equipment
- Did I mention that mold grows in 24-48 hours?
- Always remove the wet building materials following the path the water has traveled

# The Ugly Part

What does it all cost?

- **Good Air Quality Renovations with no gimmicks are a renovation and cost the average cost of a renovation**
- **Some homes need more renovations than others**
- **Homeowners insurance can be helpful if you have the proper coverages and if it can be tied to what is considered a covered loss**
- **What can we do when we cannot renovate?**

# Budget Friendly IAQ Hacks

- Particles and toxins accumulate in the dust. Regular wet wiping of the surfaces in a home can reduce exposure to contaminants
- Wet wiping > Vacuuming - it reduces the likelihood of aerosolization when you wet wipe
- Air Purification removes dust and contaminants as they become aerosolized (which also helps reduce frequency of cleaning)
- Choose an air purifier that can remove the smallest particle possible at the highest efficiency possible
- HVAC filtration - consider upgrading your HVAC filtration to remove smaller particles before they enter your HVAC
- Clean the HVAC first then the home
- Maintain humidity levels between 40 and 50%



# Changing The Air

- **President of Change the Air Foundation, a non-profit**
- **Education - ensuring people have access to the right information to improve their environments**
- **Awareness - raising awareness on the effects poor air quality can have**
- **Policy Reform - mold is not yet recognized as a health hazard, problems in the insurance industry, lack of financial assistance does not provide people with enough access to clean air**
- **Research - connecting healthcare practitioners, air quality practitioners and scientific researches with the data they need to create credible studies that can be used for reform**

**For more information visit [ChangeTheAirFoundation.org](http://ChangeTheAirFoundation.org)**

# THANK YOU!

Thank you for having me and thank you for listening!

Michael Rubino is a Certified Microbial Remediation Supervisor the highest certification for microbial remediation at the American Council for Accredited Certification requiring 10 years of documented field experience, author of *The Mold Medic: An Expert's Guide on Mold Removal*, founder of HomeCleanse bridging the gap between our health and our homes, Co-Founder and Chair of Change the Air Foundation, with a personal mission of helping over 100 million people by the year 2030 end suffering from environmental exposures.

For more information about me, visit [themichaelrubino.com](http://themichaelrubino.com)

# Join Team MassME at a Fun 5K Run/Walk/Roll

We are looking for healthy allies to join Team MassME at the  
McCourt Foundation Boston Waterfront 5K Race on June 8.

This is a family-friendly event, with an easy and accessible course along the waterfront. **All funds raised by our team will support MassME's programs,** including Sunday Conversations and our peer support groups.



Scan the QR code or see the link in the chat  
to **register as a participant** or to **donate**.

Cheer us on by sharing with your networks! See you there.



Please join us next month!



*Anne Maitland, M.D.*

*Mast Cell Activation Syndrome*

*Sunday, May 19, 2024*

*4 p.m. ET*





## How you can help...

We are only able to produce this speaker series through your membership and generous donations. Thank you!

[massmecfs.org/join](https://massmecfs.org/join)

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To join the Sunday Conversations team: [volunteer@massmecfs.org](mailto:volunteer@massmecfs.org)

