

# Themes for each Day

Day 1: Big picture of MCAS and frameworks for healing

Day 2: Sensitivities, genetics, children

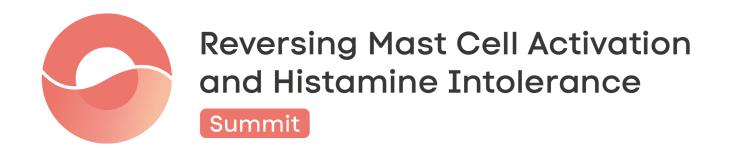
Day 3: Mold and mycotoxins

Day 4: Food Triggers, EMFs, Fatigue

Day 5: Nervous system, trauma, anxiety

Day 6: Hormones and GI tract in MCAS

Day 7: Cutting edge supports & Putting it all together





### Your co-hosts





Christine Schaffer, ND



Reversing Mast Cell Activation and Histamine Intolerance

Summit



# Summit Day 1

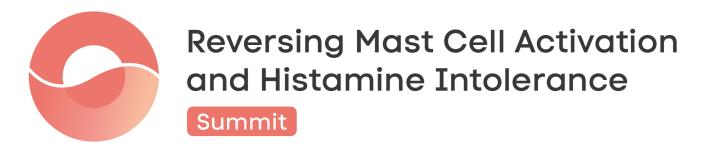
Beth O'Hara, FN - Why are so many people sick with Mast Cell Activation and Histamine Intolerance

Tom Moorcroft, DO - Developing powerful mindsets for healing from MCAS, Mold Toxicity, and Lyme

Christine Schaffner, ND - How Connection to Your Internal and External Environment Optimizing Healing and Fulfillment

Isaac Eliaz, MD - Survival Paradox and Galectin-3 in Mast-Cell Activation Syndrome

Lawrence Afrin, MD - MCAS Overcoming Testing and Treatment Challenges
Darin Ingels, ND - Immune Modulatory Approaches in MCAS & Chronic Infections
Kelly McCann, MD - EDS, POTS, Dysmotility, and Autoimmunity in MCAS

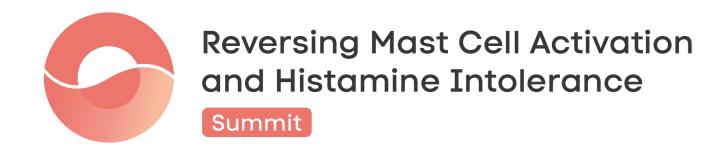




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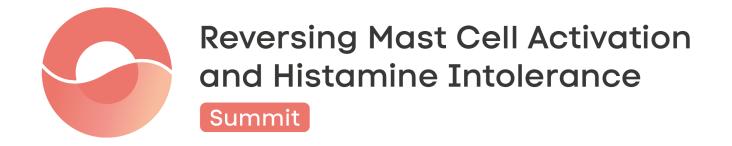
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# MCAS 101 Topics for Today

- Mast Cells 101
- Mediators and Receptors
- MCAS Defined
- Signs and Symptoms of MCAS
- What is the real problem?
- Top triggers of MCAS

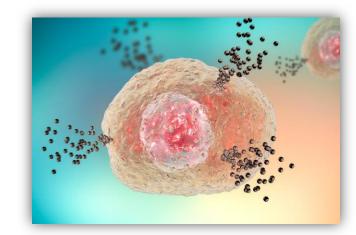




### What are Mast Cells?

- Mast cells are specialized immune cells
- Frontline sensors and defenders; major conductors of the immune system
- Respond to toxins (mold, chemicals) and pathogens (bacteria, viruses)
- Respond to every particle of air, everything you swallow, every thought.
- Respond to your environment

- Heat and Cold
- Light and Sound
- Touch and Smell
- Vibration
- Injury

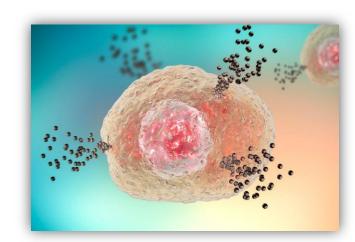




### Mast Cell Locations

- Mucosal and Epithelial Tissues:
  - Lining of the nose and sinuses
  - Lining of the eyes
  - Lining of the mouth
  - Lining of the digestive tract
  - Lining of the bladder and urethra
  - Lining of the lungs
- Vascularized Tissues
- Nerve Tissue
- Brain

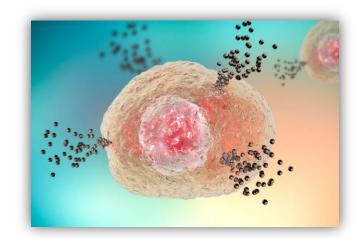
- Connective Tissues:
  - Ligaments
  - Tendons
  - Bones
  - Blood vessels
  - Lymph vessels
  - Hair follicles
  - Skin





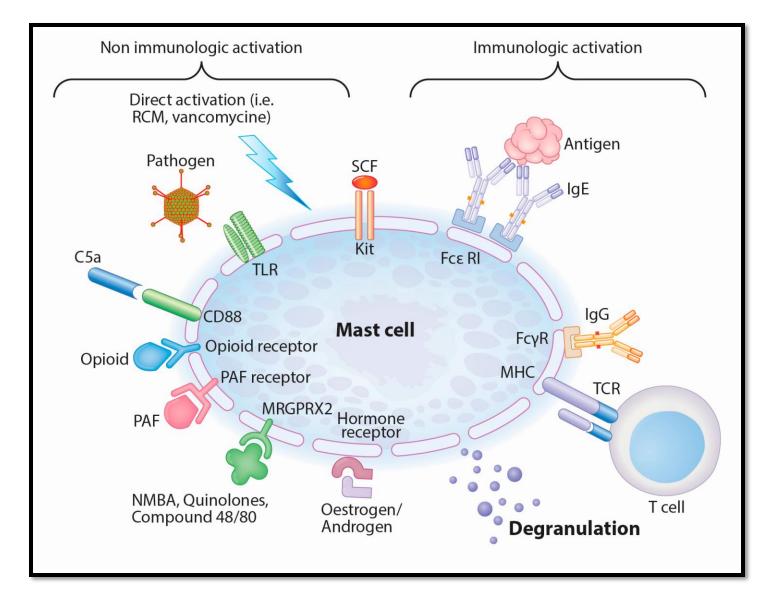
### Mast Cell Roles and Functions

- Immune system responses
- Coordination of immune defense in infections like viruses, bacteria, mold, candida, and parasites
- Wound healing and tissue repair
- Recovery of connective tissues after injury (i.e. skin and joints)
- Formation of new blood vessels and vasodilation
- Creating new nerve cells
- Regulation of menstruation
- Regulation of pregnancy





# Mast Cell Receptors and Mediators

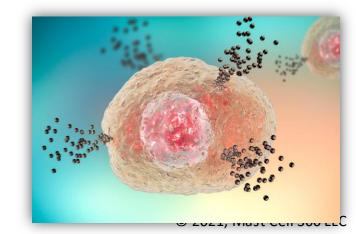




# Mast Cell Activation Syndrome

#### What is Mast Cell Activation Syndrome?

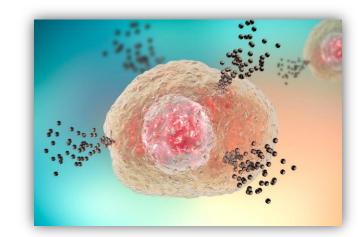
- multi-systemic inflammatory conditions involving overly sensitive and overly responsive mast cells; with or without allergy or anaphylaxis
- Rare: Genetic MCAS (also called clonal)
- Very common: secondary MCAS (also called non-clonal MCAS)





# Mast Cell Activation Syndrome

- Dysregulation of Mast Cells
- Mast cells become over-reactive and over-release inflammatory mediators
- Population studies are showing MCAS is present in up to 17% of the general population
- Estimates are 75% or more of people with chronic health conditions likely have MCAS

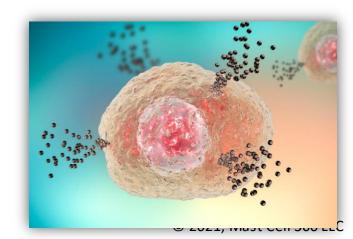




# Signs and Symptoms of MCAS

# Can show up very differently in different people depending on:

- Individual root triggers
- Locations of mast cells affected
- Which receptors are affected
- Which mediators are being over-released
- Individual bio individuality
- Individual genetics



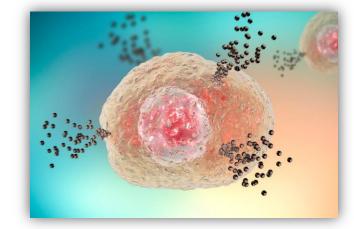


#### **Systemic Symptoms:**

- overall fatigue
- inflammation
- swelling
- weight changes
- sensitivities to foods, medications, environment, chemicals, EMFs, etc.

#### **Skin Symptoms**:

- itching
- flushing
- hives
- rashes
- hair loss
- rosacea, psoriasis, eczema





#### **Cardiovascular Symptoms:**

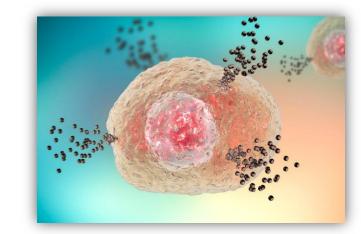
- fainting or feeling faint
- chest pains
- heart palpitations
- dizziness
- low blood pressure

#### **Urinary Tract Symptoms:**

- inflammation of tissues
- Burning
- pain with urination
- urinary tract infection type symptoms

#### **Musculoskeletal Symptoms:**

- Osteoporosis/osteopenia
- arthritis that moves around
- muscle and/or bone pain
- hyperflexible joints
- degenerative discs





# Brain and Nervous System Symptoms:

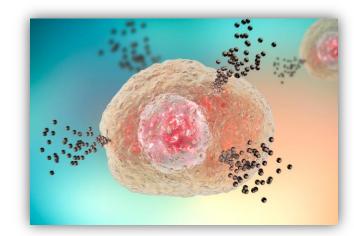
- brain fog
- difficulty paying attention
- headaches, migraines
- depression, anxiety
- tingling and numbness
- tinnitus

#### **Lung and Respiratory Symptoms:**

- congestion
- coughing
- shortness of breath
- asthma

#### **Reproductive System Symptoms:**

- endometriosis
- painful periods
- male and female infertility
- hormone imbalances



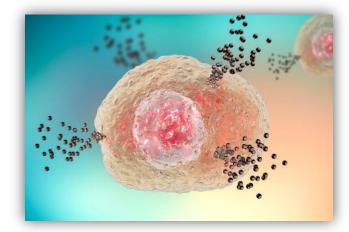


#### **Digestive Symptoms:**

- mouth burning
- diarrhea and/or constipation
- nausea
- reflux or heartburn
- food sensitivities
- IBS
- throat/tongue swelling
- symptoms within 0 to 15 minutes of eating

#### **Eye Symptoms:**

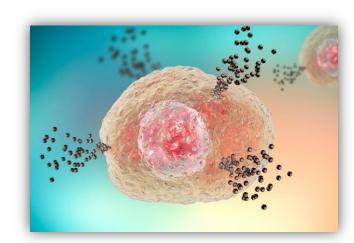
- eye pain
- Redness
- trouble focusing
- inflammation in the eyes
- blurry, itchy, watery eyes
- Irritated eyes





# Anaphylactic or anaphylactiod reactions (can be life threatening):

- difficulty breathing
- itchy hives
- flushing or pale skin
- feeling of warmth
- weak and rapid pulse
- nausea
- vomiting
- diarrhea
- dizziness and fainting

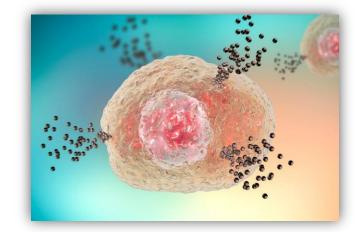




#### Other conditions that may be related to MCAS

- Fibromyalgia
- Chronic Fatigue
- Interstitial Cystitis
- Certain cancers
- Diabetes
- Ehrlers-Danlos Syndrome (EDS)
- Postural Orthostatic Tachycardia Syndrome (POTS)
- Autism Spectrum Disorders

- Any Autoimmunity
  - Ie. Rheumatoid Arthritis
  - Lupus
  - Thyroid Autoimmunity
  - Multiple Sclerosis
  - Crohn's disease
  - Ulcerative Colitis
  - Sjögren's syndrome
  - Celiac Disease

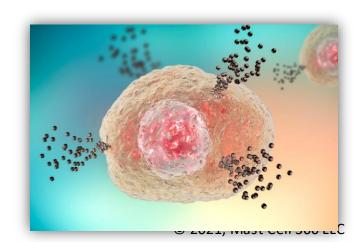




# Common but not Definitive Signs of MCAS

- Sensitive to a number of agents
- Reacting within seconds to minutes to smells, foods, beverages, stressors
- Any form of autoimmunity

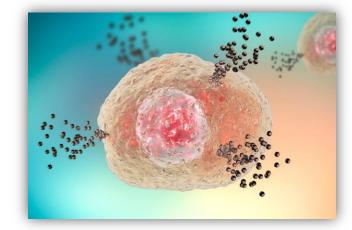
Take the MCAS Symptom Survey: Mastcell360.com/symptoms

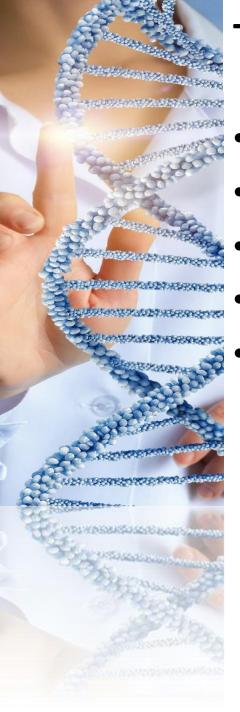




### What is the REAL Problem?

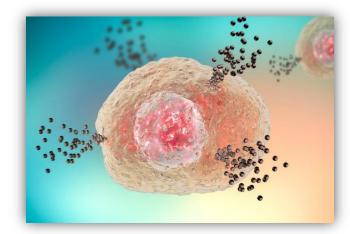
- Mast Cell Activation Syndrome and Histamine Intolerance are NOT the problem.
- The underlying pathogens, toxicity, stressors, and genetic weaknesses are the problem.
- But you CAN reverse much if not all of the symptoms by removing and addressing the underlying triggers!





# Top MCAS Triggers

- Mold Toxicity
- Tickborne Infections
- Chemical Toxins
- Trauma and Chronic Stressors
- EMFs

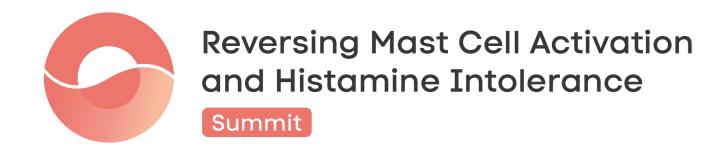




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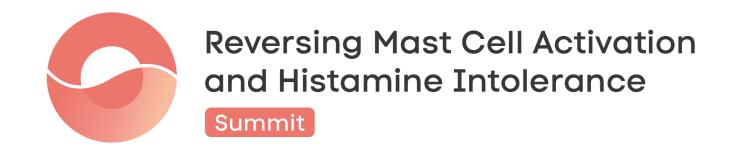
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Summit



# Summit Day 2

Isaac Eliaz, MD - Role of Mast Cell Activation in Cancer

Bob Miller, CTN - Part 1: Advanced Genetics and Pathways involved in MCAS, COVID, and Cancer

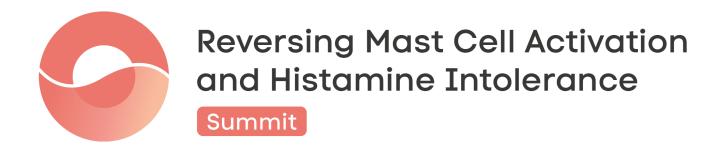
Neil Nathan, MD - Healing from MCAS and Sensitivities

Tania Dempsey, MD - Chemical Sensitives in MCAS

Eric Gordon, MD - The Cell Danger Response: MCAS as a healing response

Theo Theoharides, MD - MCAS and Neural Inflammation

Jill Crista, ND - Addressing MCAS in Children

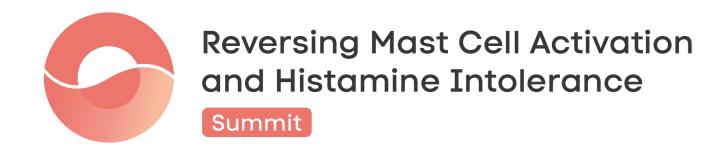




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# MCAS 101 Topics for Today

• Intro to Cell Danger Response



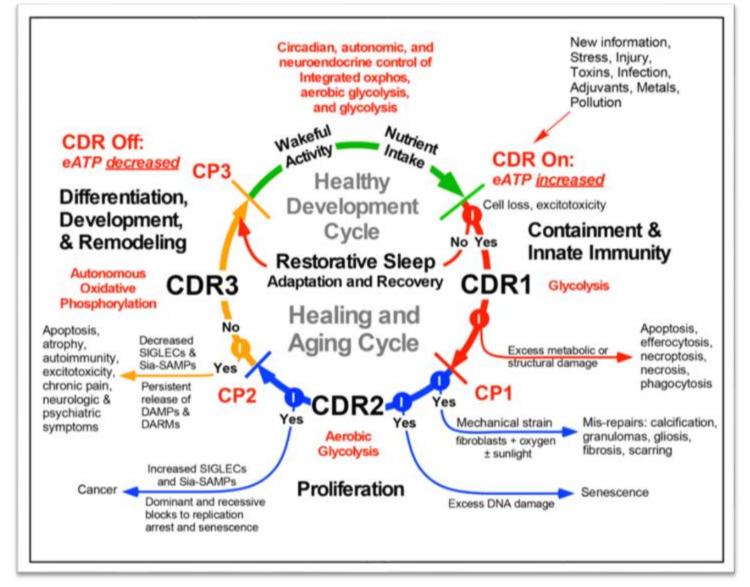


# Cell Danger Response: Sensitivities & MCAS





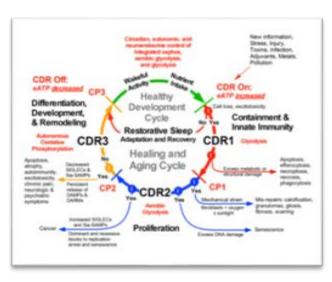
### Cell Danger Response & Sensitivities/MCAS





### Cell Danger Response & Sensitivities/MCAS

- Stiffening of cell membranes
- Methylation changes
- Glutathione production changes
- Gene expression changes
- Vitamin D decreased
- HDC activity increased -> increased mast cell/eosinophil activity
- Heme activity altered (can increase porphyrins)
- Tryptophan shunted away from serotonin/melatonin to kynurenic and quinolinic
- Metals accumulate
- Bowel changes, including microbiome
- Mitochondrial changes
- Sleep cycles and fatigue levels changed
- Significant epigenetic changes

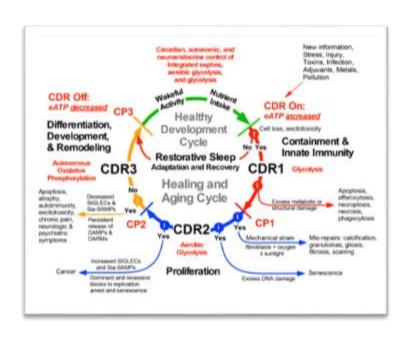




# CDR is often why many struggle with:

- Phosphatidylcholine too early
- High dose methylation supports early on
- B6 as P'5'P early on supports increased HDC activity
- For some, low carbs are a problem
- Metal detox before mold is addressed
- Antimicrobials for gut before mold is addressed
- Mitochondrial supports early on

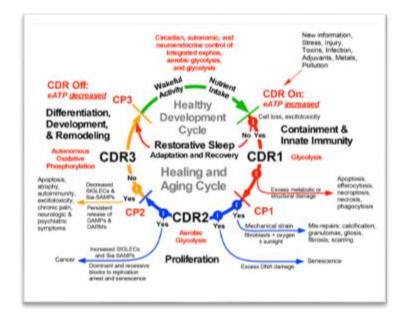
These start working AGAINST CDR.

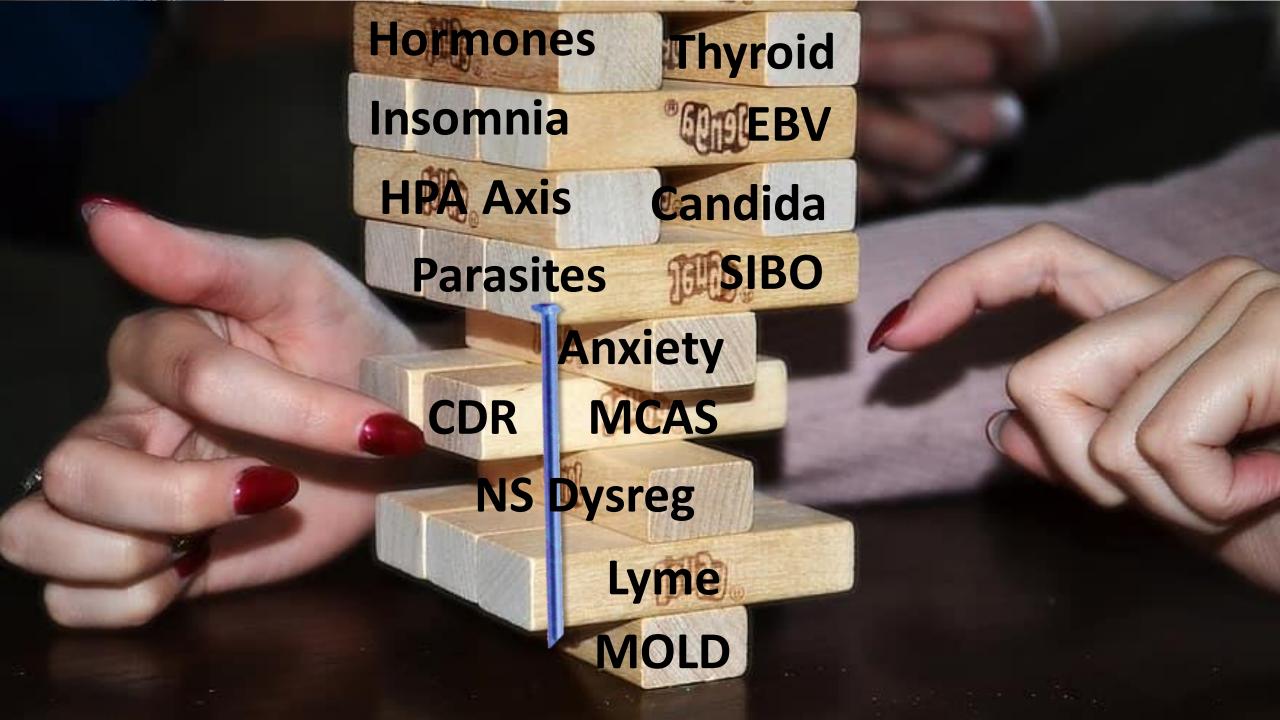




### What is the REAL Problem?

- Cell Danger Response tells us Mast Cell Activation Syndrome, gut imbalances, hormone imbalances, etc. are NOT the problem
- The underlying pathogens, toxicity, stressors, and genetic weaknesses are the problem
- According to this model, these things are an expression of Cell Danger Response.







# When Mold Toxicity Isn't Addressed

#### It's very hard to fix:

- Chronic EBV infections
- Chronic Lyme and coinfections
- SIBO and other gut issues
- Hormone imbalances
- Sleep issues
- Mast Cell Activation
- Histamine Intolerance
- Salicylate Intolerance
- Heme Dysregulation
- Heavy Metals

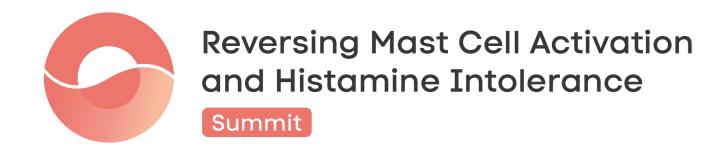




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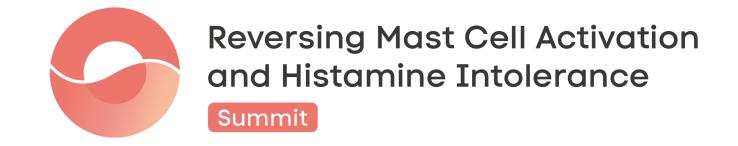




#### October 20

# Today is in honor of Mastocytosis and Mast Cell Diseases Awareness Day!

- Started October 20, 2018
- Recognized by 23 organizations from 21 countries





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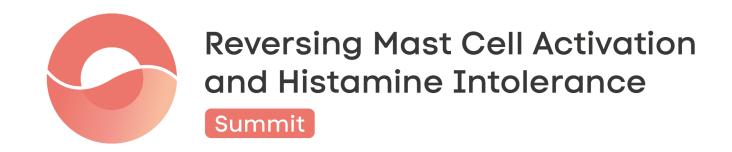
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## Summit Day 3

Bob Miller, CTN - Part 2: Advanced Genetics and Pathways involved in MCAS, COVID, and Cancer

Jeff Bookout - Part 1: How to Not Lose Money and Time on an Incomplete Mold Inspection

Connie Zach - How to Safely Using Sauna with MCAS and Histamine Intolerance

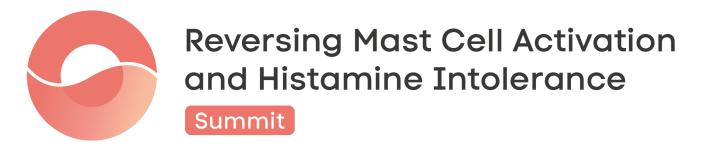
Nafysa Parpia, ND - Using Peptides in MCAS and complex, chronic illness

Heather Sandison, ND - Histamine and Mast Cells in Brain Function

Kashif Khan - Epigenetics of MCAS and Histamine Intolerance

Lauren Tessier, ND - How Mycotoxins Trigger Histamine and Mast Cell Chaos

Jeff Bookout - Part 2: How to Not Lose Money and Time on an Incomplete Mold Inspection

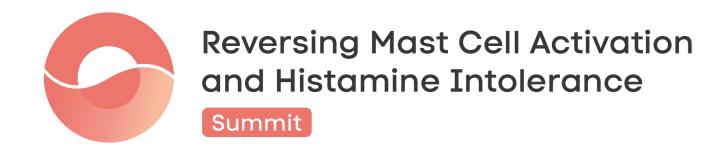




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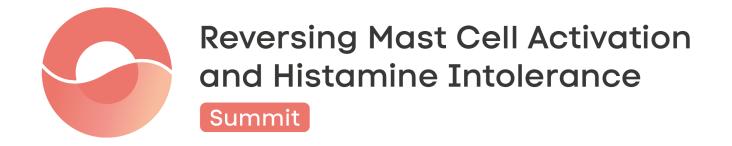
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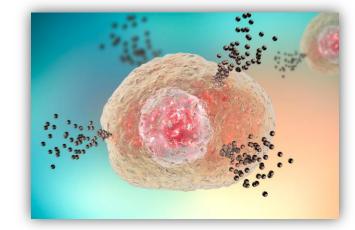
- 3 levels of sensitivities
- What is Mold Toxicity?
- What is Mold Colonization?
- How common is Mold Toxicity?
- Symptoms of Mold Toxicity
- Mold Toxins & Mast Cells





### The MC360™ 3 Levels of Sensitivities

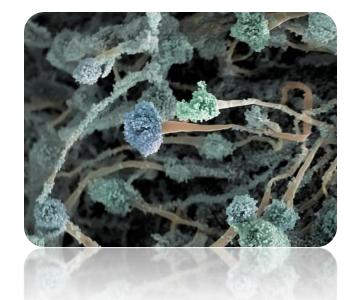
- **Easy** you can take almost any supplements or medications you need at any amount; other than perhaps gluten or dairy, you don't struggle with foods
- Sensitive tolerating some supplements and medications, but you have to onboard them carefully and some really backfire for you; you may have some food intolerances as well
- Super Sensitive tolerating less than 5 supplements or medications (or none) and struggling with a lot of food sensitivities





## Presentations of Mold Toxicity

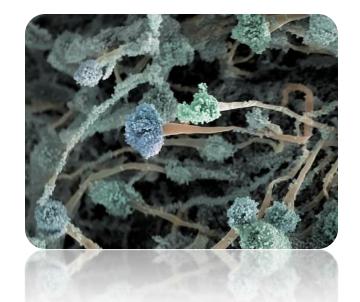
- Only Mold Toxins
- Mold Toxins with Mold Colonization
- Mold Allergy
- Mold Allergy with Mold Toxins only
- Mold Allergy with Mold Colonization and Mold Toxins





## How do you get mold toxins?

- Inhaling them through nose and mouth
- Skin absorption
- Swallowing in food or drinks
- From mold colonization

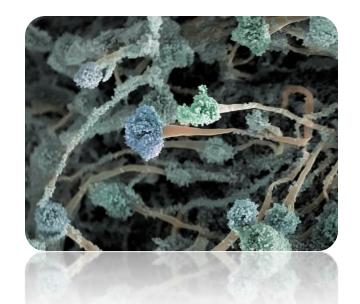




## How do you get mold colonization?

Spores enter the body through:

- Mouth
- Nose
- Vaginal canal
- Ears
- Water and food consumption
- Spores can also lead to mold growth on the skin and nails



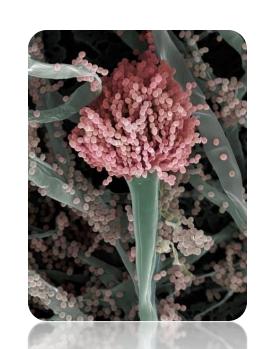


## How Do You Get Mold Toxicity?

- Exposure through buildings with humidity >50%
- Exposure to water damaged buildings enters through mouth, nose, vaginal canal, skin
- Food in developing countries
- Passes through the placenta and breastmilk to the fetus
- Exposure could have been years or decades ago

#### And/or

 Exposure could be ongoing in homes, workplaces, churches, schools, retail stores, friend/family members' homes, etc.





## Have you had Mold Exposure?

- Do you have a dirt crawl space under your current or a previous home?
- Is there a humidifier on your furnace?
- Ever lived in an old house/apartment or worked in an old building?
- Are there any musty smells in home, car, workplace?
- Do you have an evaporative A/C unit (aka swamp cooler?
- Is there any visible mold in the shower, under the vanity, anywhere?
- Do you have windows that leak?
- Does humidity in your home get above 50%?
- Have there been any water leaks (roofs, pipes, water heater, etc?
- Have you ever shampooed the carpets?
- Have you left a car window or trunk open when it rained?





## Symptoms of Mold Toxicity

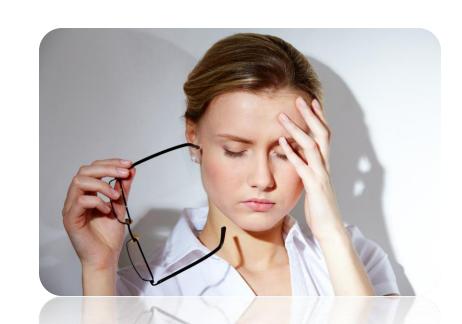
- Abdominal pain, IBS, constipation and/or diarrhea, nausea and vomiting, stubborn chronic SIBO
- Anemia
- Asthma, chronic sinus congestion, cough, shortness of breath
- Changes in appetite (increases or decreases)
- Difficulty with cognition: confusion, disorientation, "brain fog", word finding, calculating numbers in head, concentration trouble, trouble
- with short-term memory
- Edema
- Eyes: excess tearing, blurred vision
- Excessive thirst, frequent urination
- Fatigue and/or weakness
- Frequent colds/other viruses





## Symptoms of Mold Toxicity

- Headaches, migraines
- Impotence (men)
- Infertility (men and women)
- Interstitial Cystitis, urinary frequency, urinary urgency
- Increase in static shocks
- Joint pain, morning stiffness, muscle aches, cramps
- Menstrual issues (painful periods, heavy periods, loss of period)
- Metallic taste in the mouth
- Mood swings
- Night sweats, difficulty with temperature regulation (too hot or too cold)





## Symptoms of Mold Toxicity

- POTS, low blood pressure, dysautonomia
- Sensitivity to bright light, sounds, and/or touch
- Sensitivity to foods, supplements, and/or meds
- Sinus issues, nasal polyps
- Sleep Issues
- Slow healing
- Tinnitus
- Tremor
- Unusual nerve pains sometimes described as a lightning bolt or ice pick sensation, numbness, tingling
- Vertigo/dizziness





## Definitely Consider Mold for Those with:

- Atypical presentations: Alzheimer's, autoimmunity, Multiple Sclerosis,
   Parkinson's
- Asthma
- Autism Spectrum Disorders and Sensory Processing Disorders
- Biochemical anxiety, depression, depersonalization, derealization, mood swings
- Cancer history
- Chronic fatigue syndrome
- Chronic sinusitis
- Cognitive impairment, OCD





## Definitely Consider Mold for Those with:

- Fibromyalgia
- Hypermobility, skin over-elasticity
- Multiple chemical sensitivities
- Nasal Polyps
- Significant EMF sensitivity
- Significant sensitivities to light, sound, and/or touch
- Significant sensitivities to foods, supplements, and/or meds





## Symptoms Unique to Mold (and/or Bartonella)

- Internal vibration/tremor
- Nerve pain lightning bolt or ice pick type pain
- Strange skin sensations
- Sensitivities to everything (chemicals, supplements, medications, sound, light, touch, EMFs, etc.)
- Static shocks





#### Impact of Mold on Mast Cell-Cytokine Immune Response

Kritas, S. K., Gallenga, C. E., D Ovidio, C., Ronconi, G., Caraffa, A. I., Toniato, E., Lauritano, D., & Conti, P. (2018)

Spores are able to navigate in the airways of the lung and can be recognized trough toll-like receptor (TLR) signaling by the innate immune cells including MCs. Activated MCs release preformed mediators including histamine, proteases (tryptase, chimase), pro-inflammatory cytokines/chemokines and they also generate arachidonic acid products. MCs activated by fungi provoke an increases [SIC] of PGD2 levels and lead to hypersensitivity diseases which present signs such as irritation of the respiratory tract and eyes, recurrent sinusitis, bronchitis, cough and neurological manifestations including fatigue, nausea, headaches and brain fog. Therefore, fungi activate the innate immune response through the TLRs, leading to the release of myeloid differentiation factor 88 (MyD88) which, with a series of cascade reactions, induces the stimulation of AP-1 and NF-kB with subsequent activation of inflammatory IL-1 family members. Here, we report that fungi can activate MCs to secrete proinflammatory cytokines which may be inhibited by IL-37, a new antiinflammatory IL-1 family member.



## The contribution of mast cells to bacterial and fungal infection immunity

Adrian M Piliponsky, Luigina Romani (2018)

#### **Abstract**

Mast cells are hematopoietic progenitor-derived, granule-containing immune cells that are widely distributed in tissues that interact with the external environment, such as the skin and mucosal tissues. It is well-known that mast cells are significantly involved in IgE-mediated allergic reactions, but because of their location, it has also been long hypothesized that mast cells can act as sentinel cells that sense pathogens and initiate protective immune responses. Using mast cell or mast cell protease-deficient murine models, recent studies by our groups and others indicate that mast cells have pleiotropic regulatory roles in immunological responses against pathogens. In this review, we discuss studies that demonstrate that mast cells can either promote host resistance to infections caused by bacteria and fungi or contribute to dysregulated immune responses that can increase host morbidity and mortality. Overall, these studies indicate that mast cells can influence innate immune responses against bacterial and fungal infections via multiple mechanisms. Importantly, the contribution of mast cells to infection outcomes depends in part on the infection model, including the genetic approach used to assess the influence of mast cells on host immunity, hence highlighting the complexity of mast cell biology in the context of innate immune responses.



# Mechanisms of Mycotoxin-Induced Neurotoxicity through Oxidative Stress-Associated Pathways

Doi, K., & Uetsuka, K. (2011)

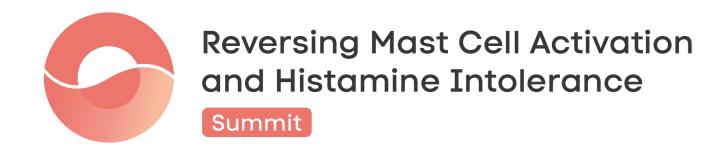
Among many mycotoxins, T-2 toxin, macrocyclic trichothecenes, fumonisin B1 (FB1) and ochratochin A (OTA) are known to have the potential to induce neurotoxicity in rodent models. T-2 toxin induces neuronal cell apoptosis in the fetal and adult brain. Macrocyclic trichothecenes bring about neuronal cell apoptosis and inflammation in the olfactory epithelium and olfactory bulb. FB1 induces neuronal degeneration in the cerebral cortex, concurrent with disruption of de novo ceramide synthesis. OTA causes acute depletion of striatal dopamine and its metabolites, accompanying evidence of neuronal cell apoptosis in the substantia nigra, striatum and hippocampus.



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Day 1: Big picture of MCAS and frameworks for healing

Day 2: Sensitivities, genetics, children

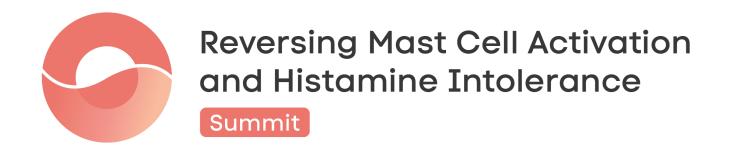
Day 3: Mold and mycotoxins

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Day 6: Hormones and GI tract in MCAS

Day 7: Cutting edge supports & Putting it all together





#### Your co-hosts





Christine Schaffer, ND



Reversing Mast Cell Activation and Histamine Intolerance

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## Summit Day 4

Andrew Salisbury - Safely Drinking Coffee Again with MCAS and Histamine Intolerance

Nick Pineault - EMFs - A Forgotten Trigger of MCAS?

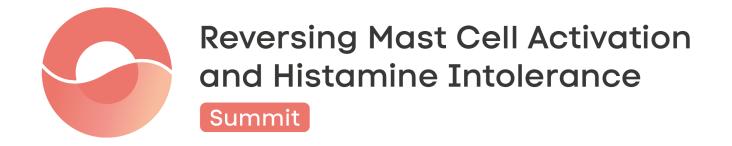
Julie Matthews, CNC - Navigating Salicylates and Oxalates when you have MCAS or Histamine Intolerance

Beverley Rider, PhD - Healing with Histamine Intolerance

Lauryn Lax, OTD - From Food Fears to Food Freedom

Erika Schlik - Gluten, Dairy, and Lectins in MCAS

Evan Hirsh, MD - The 4-Steps to Decrease MCAS and Increase Energy

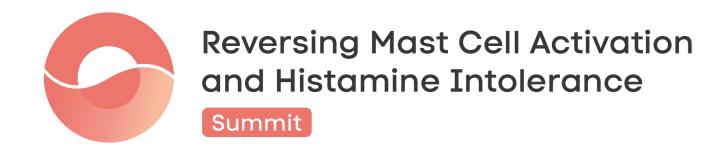




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## MCAS 101 Topics for Today

- Histamine Intolerance 101
- MCAS vs Histamine Intolerance
- Overview of Oxalates and Salicylates
- Intro to Lectins
- 3 Levels of Sensitivities & Action Steps



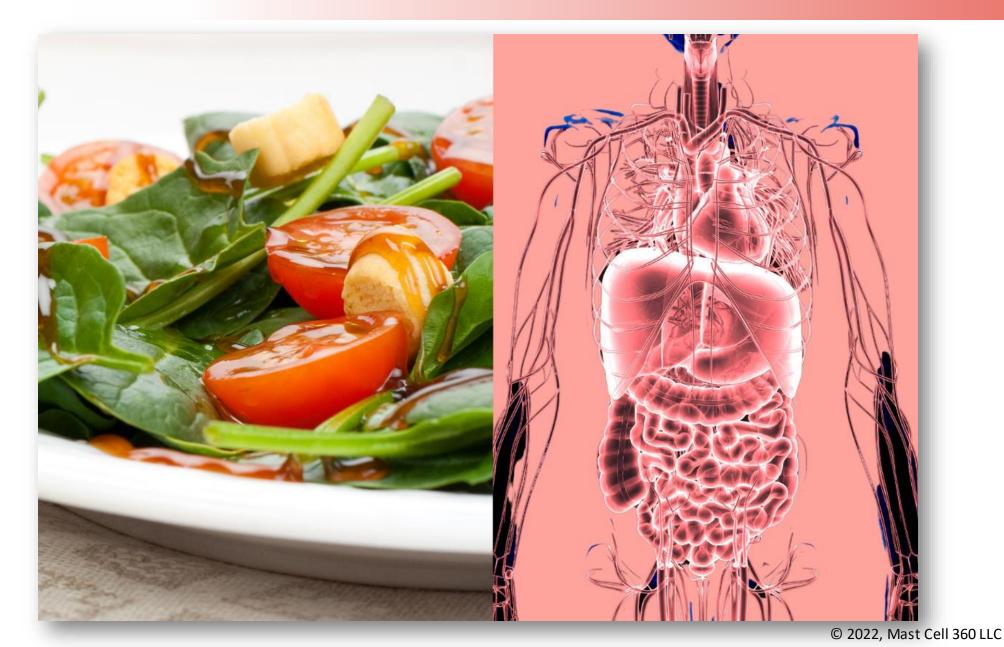


## Don't Eliminate Foods Unnecessarily





### Where Does Histamine Come From?





### Where Does Histamine Come From?

#### **Histamine From Food**

- High histamine foods
- Fermented foods
- Histamine-liberating foods like citrus fruits, strawberries, walnuts

#### **Histamine Made in the Body**

- Mast cells
- Basophils
- Eosinophils





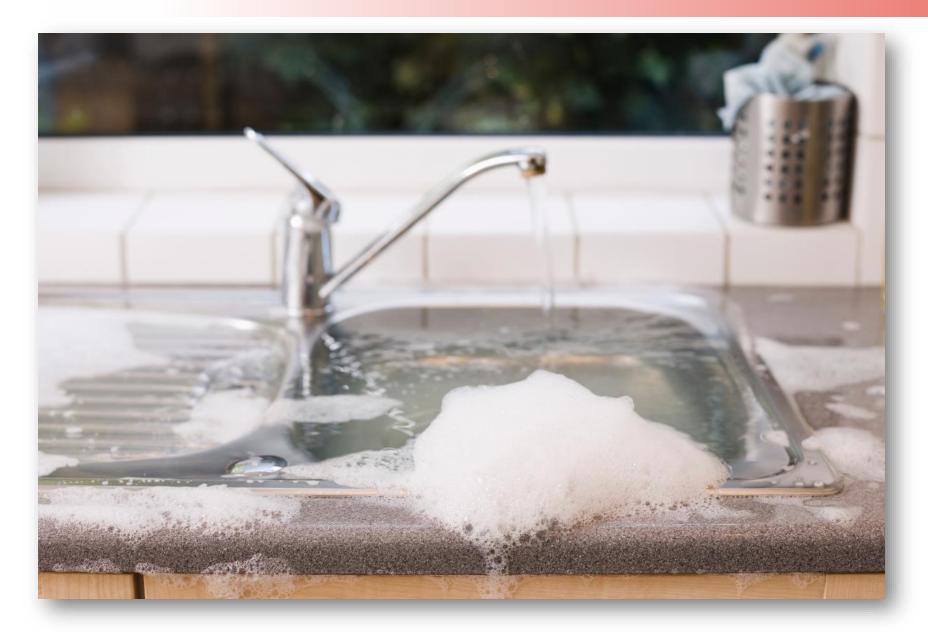
## What is Histamine Intolerance?

- Histamine Intolerance is when your body can't handle the levels of histamine built up in your body.
- Sometimes we call this your histamine load.
- Response time usually needs at least 30 minutes or more
- Response time can happen hours or days later





## Why Does Histamine Build Up?





## Why Does Histamine Build Up?

- Histamine isn't getting broken down in your body
- Enzymes that break down histamine, such as DAO and HNMT
- Not enough DAO or HNMT (or other important histamine degrading enzymes) can lead to an "overflowing sink"
  - Gut inflammation
  - Low nutrients
  - Methylation issues



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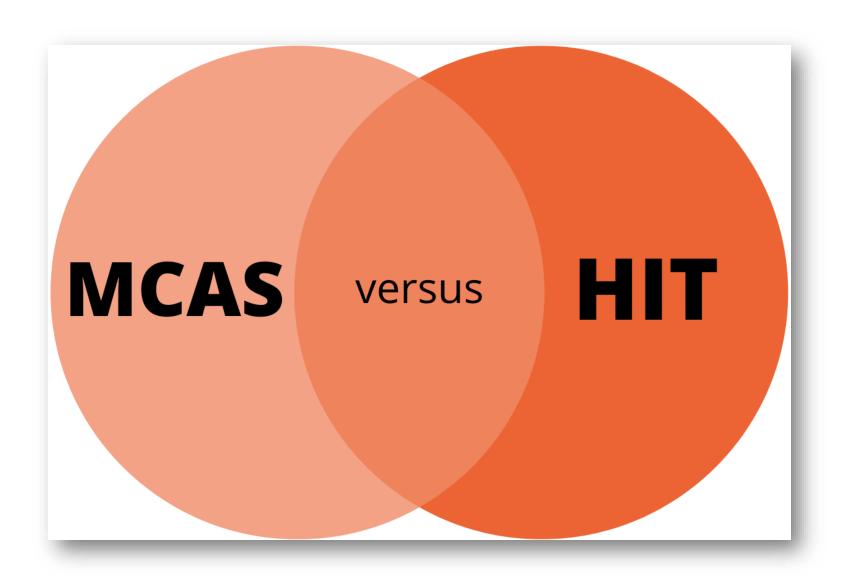


# Why Does Histamine Build Up?





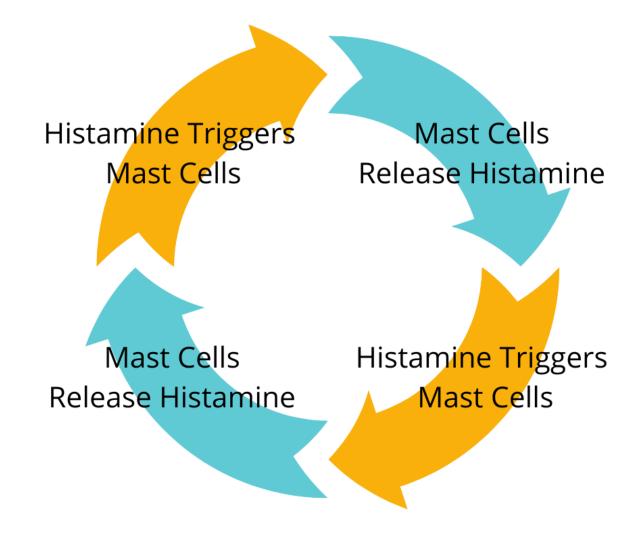
### MCAS vs HIT





#### MCAS vs HIT

#### What can happen if you have both MCAS and HIT





### **Oxalates**

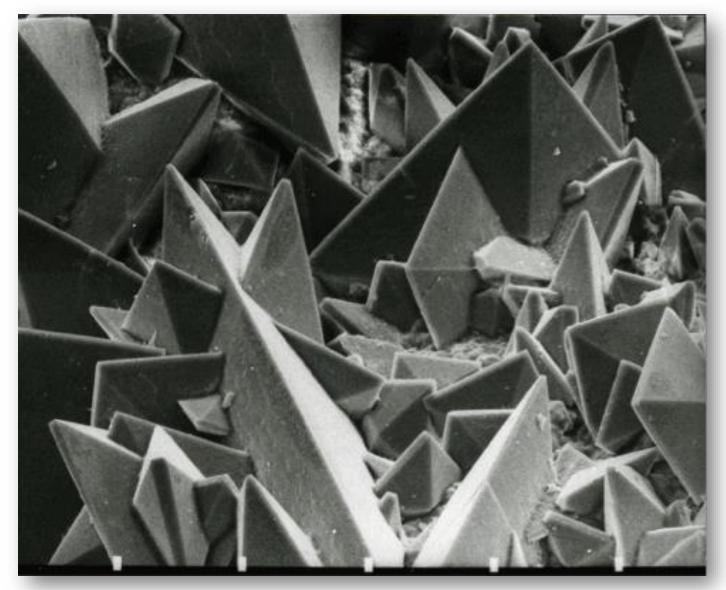


Image Source: https://en.wikipedia.org/wiki/Calcium\_oxalate#/media/File:Surface\_of\_a\_kidney\_stone.jpg



### Contributors to High Oxalates

- Mold Toxicity
- Leaky gut and eating a lot of high oxalate foods
- Antibiotic overuse
- High doses of Vitamin C
- Genetic issues
- Antifreeze poisoning



## Oxalate Overload Symptoms

- •Fibromyalgia
- Vulvodynia
- Interstitial Cystitis
- Joint pains
- Osteoporosis and Osteopenia
- Arthritis
- Kidney stones
- Cataracts
- PCOS
- Thyroid dysfunction
- Arthralgias
- Ear crystals/vertigo



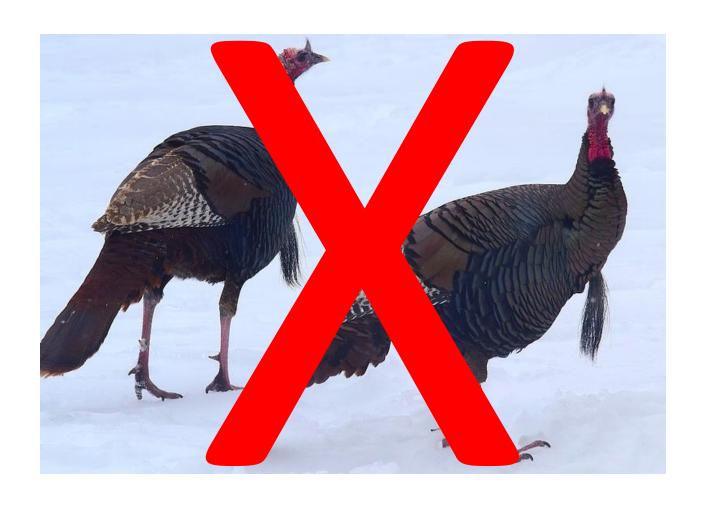
## **Highest Oxalate Foods**

- Beets
- Swiss chard
- Rhubarb
- Sweet potatoes
- Spinach
- Almonds



## Decreasing high oxalate foods

### Do NOT stop oxalate foods Cold Turkey





# Oxalate Dumping





# What are Salicylates?





### What are Salicylates?

- Salicylates are found in plants
- Protect plants from insects, bacteria, and fungal diseases.
- Many herbs and spices are high in salicylates.
- Also found in fruits, vegetables, nuts seeds and oils.

Surprising places salicylates are found:

- Cosmetics
- Personal Care Products
- Aspirin
- Creams
- Cleansers
- Toothpastes
- Perfumes
- And even some Essential Oils





## Symptoms of Salicylate Intolerance

- Aspirin allergy
- Ear ringing (tinnitus)
- Nasal congestion
- Sinus infection and inflammation
- Nasal or sinus polyps
- Chronic cough
- Asthma
- Itchy skin, Hives

- Rashes
- Abdominal pain
- Gas
- Diarrhea
- Inflammation of the
- GI tract, including colitis
- Tissue swelling
- Fatigue



### How Salicylates Can Affect MCAS

- Not everyone with MCAS has Salicylate Intolerance
- Only about 20% of people in the Mast Cell 360 practice have Salicylate Intolerance
- Salicylates can be a major trigger for mast cells
- You may get mast cell inflammation signs like pain, redness, swelling, or heat.



### Causes of Salicylate Intolerance in MCAS

- Taking in too many salicylates (through food or supplements)
- Mold toxicity clogging the detox pathways that get rid of salicylates
- Lack of needed nutrients for reducing salicylates in your body
- Issues with oxalates
- Lack of sulfur in diet (from meats and veggies like broccoli, cauliflower, onions, and garlic)
- Too many inflammatory mast cell mediators like histamine



### What Are Lectins?





#### What Are Lectins?

#### Common Food Groups with Lectins:

- Many Grains ie. corn, wheat, rice, oats, rye
- Legumes, including beans, lentils, soy, peanuts
- Plants in the cucumber family (melons, squash, cukes)
- Nightshade plants (tomatoes, potatoes, etc.)
- Genetically modified foods
- Cashews
- Certain Seeds ie. chia, quinoa, pumpkin, sunflower





## Lectin Sensitivity

What Makes People Sensitive to Lectins?

- Genetic predisposition
- Stress or limbic system activation
- Nutrient Deficiencies
- Immune system triggers:
- mold toxicity
- infections





### Lectin Sensitivity

Why Are Lectins Harmful for Sensitive People?

#### Lectins can:

- Break down the gut barrier
- Contribute to autoimmunity
- Interfere with communications between cells
- Contribute to inflammation
- Trigger mast cells





### The Lectin – Mold Toxicity Link

#### Mold Toxicity can lead to:

- A leaky gut
- Overall immune activation, including mast cells
- Nervous system problems

When you have inflammation from the Mold Toxicity, lectins can make everything worse.

#### Lectins can:

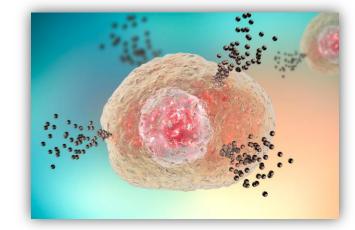
- Worsen leaky gut
- Activate the immune cells
- Worsen leaky brain





### The MC360™ 3 Levels of Sensitivities

- **Easy** you can take almost any supplements or medications you need at any amount; other than perhaps gluten or dairy, you don't struggle with foods
- Sensitive tolerating some supplements and medications, but you have to onboard them carefully and some really backfire for you; you may have some food intolerances as well
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#### What next?

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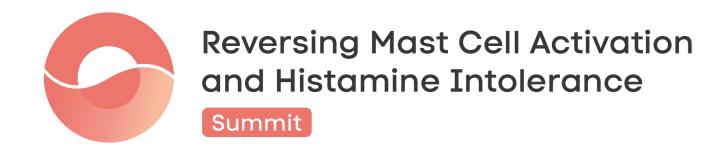




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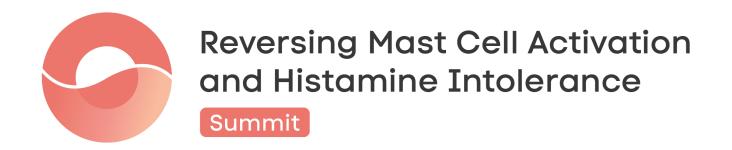
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Reversing Mast Cell Activation and Histamine Intolerance

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### Summit Day 5

Keesha Ewers, PhD, ARNP - Perceived IS Real: The Impact of Trauma on Healing

Jody Cohen - Essential Oils to Calm Your Nervous System & MCAS

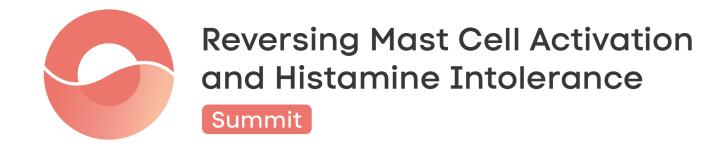
Trudy Scott, CN - Reversing Anxiety Issues with MCAS or Histamine Intolerance

Diana Driscoll, OD - The Vagus nerve, POTS, and MCAS

Aimie Apigian, MD - Healing Stored Trauma to Reverse MCAS

Ashok Gupta, MSc - Limbic Retraining for MCAS, Sensitivities, and Long-COVID

Julie Schiffman, MSW - Emotional Freedom Technique for those with MCAS

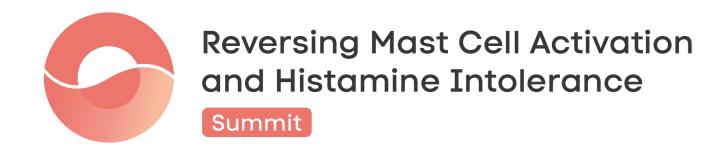




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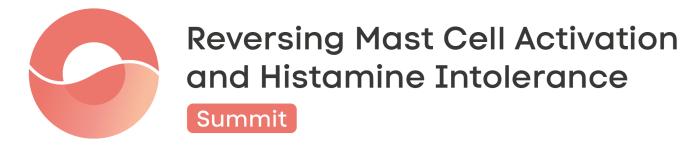


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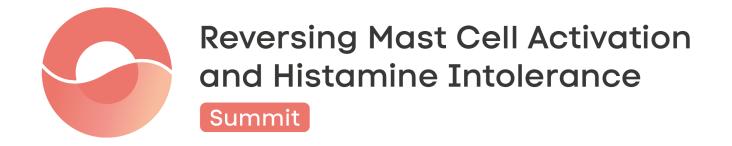
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### MCAS 101 Topics for Today

- Mast Cells and the Nervous System
- How to know if you have Nervous System Dysregulation
- The biggest triggers of Nervous System Dysregulation
- Targeting the 3 key areas of the Nervous System for MCAS





### The Mast Cell - Nervous System Links

Mast Cells are found in:

Limbic System areas of the brain

At nerve endings

Along the nerve sheaths

Mast Cells affect behavior in:

**Avoiding toxins** 

Avoiding allergens

Responses to stress

Mast Cells are involved in:

**Anxiety** 

Depression

Pain

Migraines





### The Mast Cell - Nervous System Links

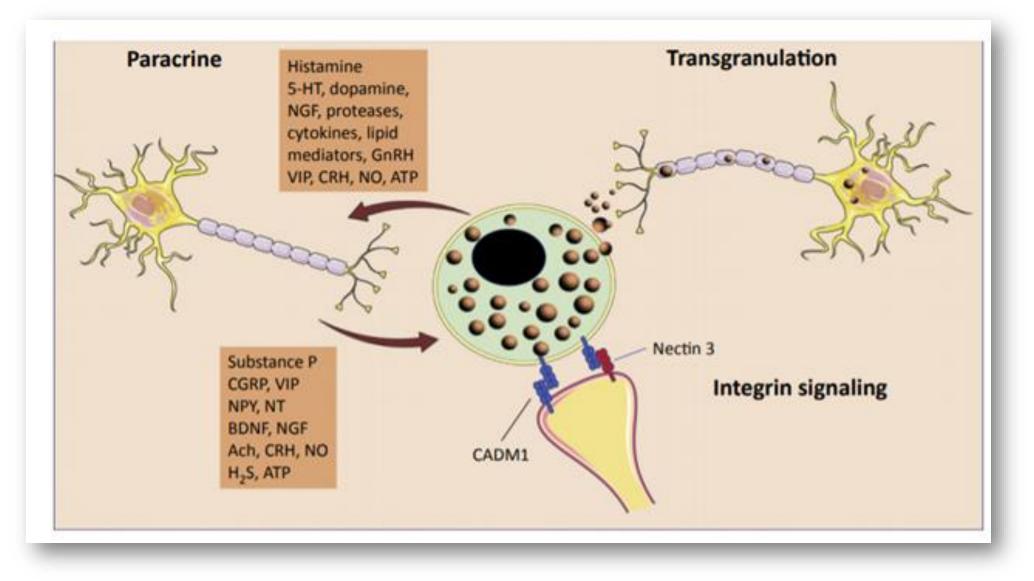
Psychoneuroendicrinoimmunology

Psycho = mind state
Neuro = nervous system
Endicrino = hormone system
Immuno = immune system



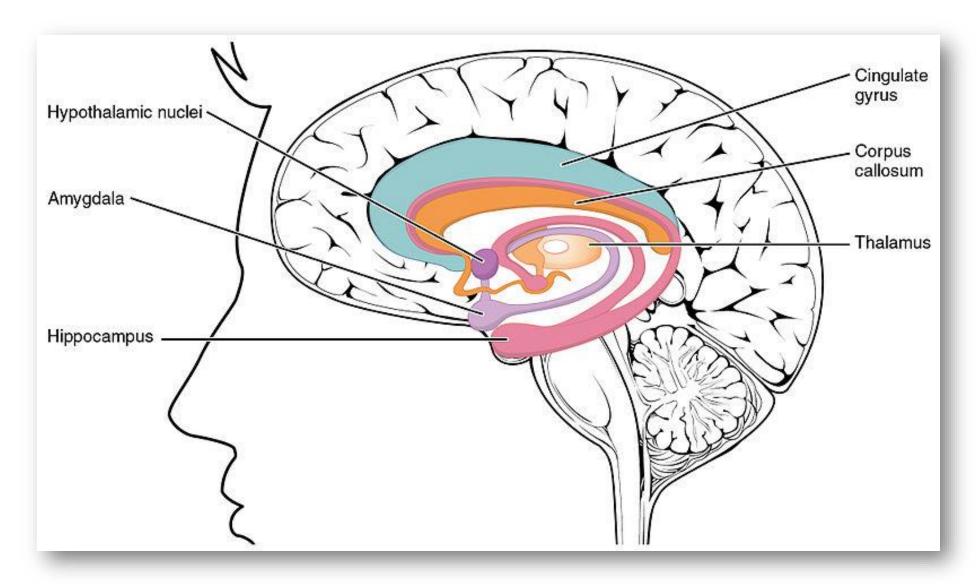


# The Mast Cell - Nervous System Links



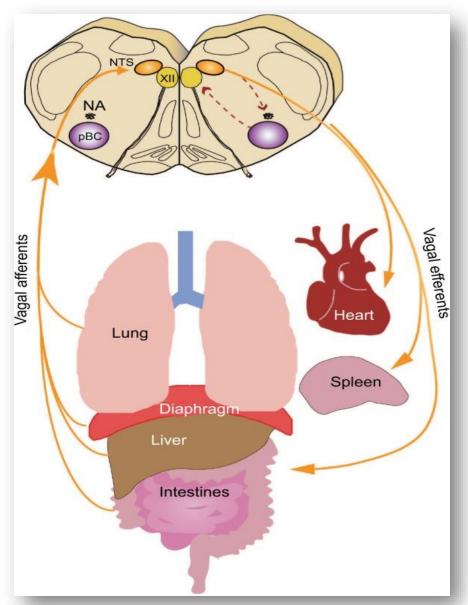


# Limbic System





# The Vagal Nerves





## Common Triggers of Haywire Mast Cells

- Mold Toxicity
- Lyme & Co-infections
- Traumas
  - i. Early childhood
  - ii. Abuse
  - iii. Witnessing abuse
  - iv. Medical traumas
  - v. Challenging surgeries





# Common Triggers of Haywire Mast Cells

Too many Life Changes at once - moving, new job, addition to family, etc.

Chronic Emotional Stressors (difficult relationships at home, with family/friends, at work, being bullied, financial stresses, quarantines, politics)

Chronic high EMF exposures (i.e. working near a WIFI router)

Chronic chemical exposures (working in a hospital, exposures from nearby factories, off-gassing of new furniture, mattresses, flooring, paint, etc.)





# Signs and Symptoms of NS Dysregulation

- Startling easily
- Weak gag reflex
- Overly strong gag reflex
- Trouble sleeping
- Waking up tired
- Feeling wired and tired
- Feeling wired after too much conversation
- Easily stressed with changes
- Anxiety or depression
- Loss of intestinal motility (chronic constipation or diarrhea)
- High or low blood pressure





# Signs and Symptoms of NS Dysregulation

- Asymmetry or dysregulation of soft palate movement
- Light/sound Sensitivities
- Supplement or medication reactions
- History of chronic Lyme, Bartonella, Babesia, etc.
- Chemical sensitivities (paint, gasoline, new clothing, new furniture,

etc.)

- Constant food reactions
- Mast Cell Activation Syndrome
- EMF sensitivities
- Mold sensitivities
- Sensitivity to perfume or cologne
- Autoimmunity





## The Mast Cell - Nervous System Links

Nervous System Dysregulation is involved in:

- POTS (Postural Orthostatic Tachycardia Syndrome)
- Autoimmune Disorders
- Problems with Gut Motility
- Neuropathy
- Tinnitus
- Complex Regional Pain Syndrome
- EDS (Ehlers–Danlos Syndrome)
- Fibromyalgia
- Chronic Fatigue
- IBS (Irritable Bowel Syndrome)

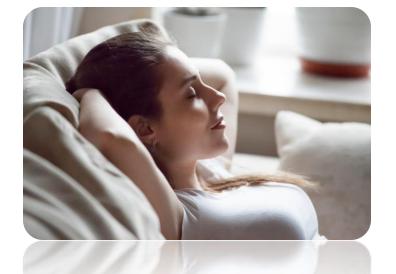




# Rewiring the NS Dysregulation

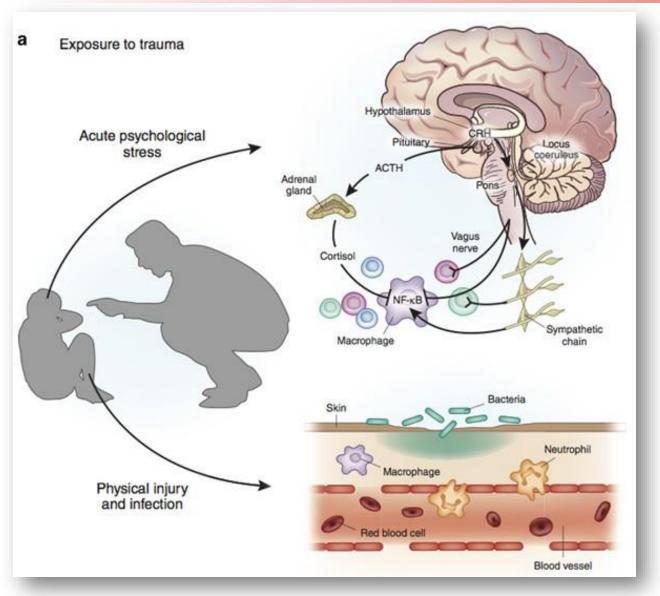
Best outcomes when working on both systems in targeted ways:

- Limbic System Regulation
- Vagal Nerve Signaling
- Structural issues impacting nervous system





# Psychoneuroimmunology of Early-Life Stress





#### Stress Factors to Assess:

- Divorce
- New significant relationship
- New additions to your family
- Death of a loved one
- Witnessing violence
- Surgery
- Overworking
- Moving
- Retirement

- Financial concerns
- Toxic relationships
- Losing a job
- Starting a new job
- New relationship
- Feeling isolated
- Worries about political changes
- Worries about safety



#### Trauma to Assess:

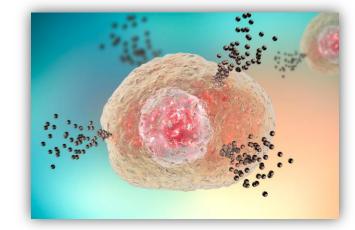
- Experiencing or witnessing sexual, physical, emotional, or mental abuse (now or as a child)
- Childhood neglect
- Sudden loss of a loved one
- Witnessing a traumatic event
- Bullying, harassment, or abuse at school or work
- Military Trauma
- Having a family member with a serious illness or injury
- Significant childhood medical issues (like surgeries)





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- **Easy** you can take almost any supplements or medications you need at any amount; other than perhaps gluten or dairy, you don't struggle with foods
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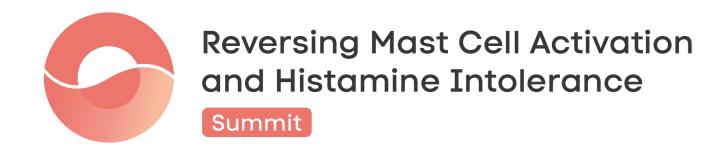




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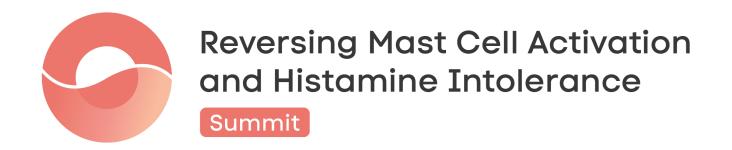
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## Summit Day 6

Magdalena Wszelaki - Overcoming Estrogen Dominance

Shivan Sarna - SIBO/IMO - The "little known" gut condition affecting millions

Jill Carnahan, MD - Reversing Chronic GI Issues in MCAS and Histamine Intolerance

Steven Wright - Gut Health, MCAS and Histamine Intolerance

Jessica Drummond, DCN - Healing with Endometriosis, MCAS, and Histamine Intolerance

Kiran Krishnan - Rethinking the Microbiome in MCAS and Histamine Intolerance

Marcelle Pick, NP - Adrenals, Thyroid, and Sex Hormones in MCAS

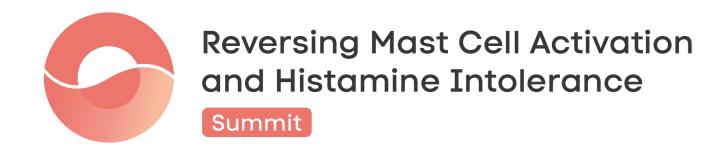




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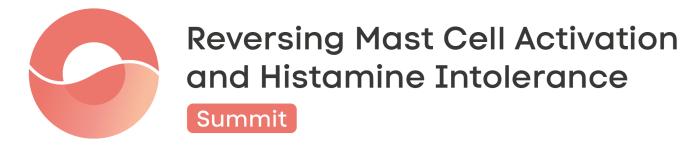


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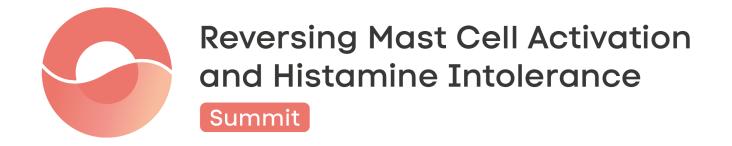
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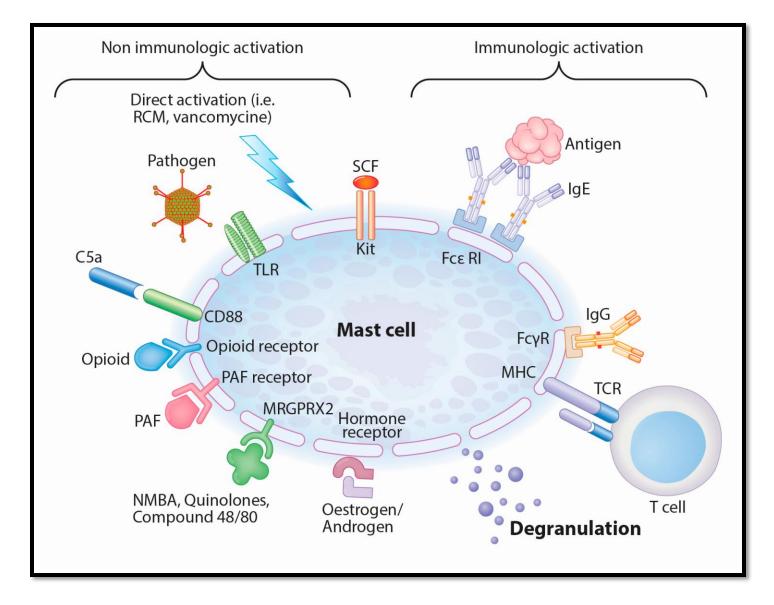
## MCAS 101 Topics for Today

- Estrogen, Progesterone and Mast Cells
- 3 Types of Estrogen Dominance
- Cortisol and Mast Cells
- GI Tract and MCAS





## Mast Cell Receptors and Hormones





## **Understanding Hormones**

#### 3 Main Types of Estrogen:

- E1 (estrone)
  - "weaker" estrogen
  - dominant during menopause
- E2 (estradiol)
  - strongest estrogen
  - plays important roles in the body
  - also called "dirty" estrogen
  - can contribute to estrogen dominance
- E3 (estriol)
  - protective form of estrogen





## Estrogen Dominance

#### 3 Main Types of Estrogen Dominance

- 1. more E2 estrogen than progesterone
- 2. estrogen metabolites are out of balance
- 3. estrogen gets broken down into damaging molecules





## Mast Cells and the GI Tract





## Major triggers of GI Mast Cells

- Low stomach acid
- Low digestive enzymes
- Low DAO
- SIFO Small Intestinal Fungal Overgrowth
- SIBO Small Intestinal Bacterial Overgrowth
- Stress
- Food triggers
- Waterborne chemicals
- Viruses
- Sometimes parasites





#### What is SIBO?

#### 3 Types of SIBO – named after gases produced

- Hydrogen more often causes diarrhea
- Methane more often causes constipation
- Hydrogen Sulfide
  - pungent gas
  - usually diarrhea
  - may have increase in symptoms with high sulfur foods





# SIBO, MCAS, and HIT

- SIBO can cause gut inflammation  $\rightarrow$
- amps up immune system  $\rightarrow$
- activates mast cells ->
- histamine release  $\rightarrow$
- Increases overall histamine load  $\rightarrow$
- can lead to Histamine Intolerance if histamine enzymes can't keep up





## How Mold Toxicity Affects SIBO

#### Mold toxins can worsen SIBO by:

- disrupting gut bacteria
- affecting ability to keep gut bacteria levels in check
- contributing to leaky gut
- affecting entire immune system so GI immune system can't keep SIBO in check





#### What Is SIFO?

- SIFO stands for Small Intestinal Fungal Overgrowth
- More accurate to say a fungal imbalance
- Two most common culprits behind SIFO
  - Candida
  - Mold Colonization in the gut





# Mold's Role in SIFO, SIBO, and MCAS

#### **Mold and Mast Cells**

- Mold breaks down your body's tissue
- Mast cells respond to mold and injury from decomposing tissue
- More mast cell activation :(





## Mold's Role in SIFO, SIBO, and MCAS

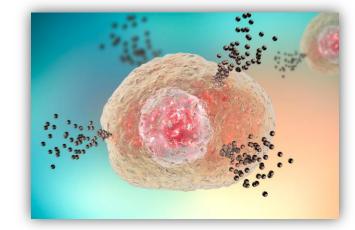
- SIBO and SIFO often occur together in people with Mold Toxicity
- Mold toxins weaken the part of the immune system that should keep bacteria and yeasts (fungus) from overgrowing
- Mold disrupts your system so it doesn't attack mold spores!
- Molds can produce oxalates when colonized; candida feeds off oxalates
- SIBO, SIFO, and Mold Toxicity are all mast cell triggers





#### The MC360™ 3 Levels of Sensitivities

- **Easy** you can take almost any supplements or medications you need at any amount; other than perhaps gluten or dairy, you don't struggle with foods
- Sensitive tolerating some supplements and medications, but you have to onboard them carefully and some really backfire for you; you may have some food intolerances as well
- Super Sensitive tolerating less than 5 supplements or medications (or none) and struggling with a lot of food sensitivities





#### What next?

#### **Super Sensitive?**



Mast Cell Nervous System Reboot

mastcell360.com/mastcell-reboot

Sensitive, Easy, or a Practitioner?

MC360™ Precision Mold Master Class



mastcell360.com/mold-course

Special Summit Discount – 25% off Only through end of the summit!





#### What next?

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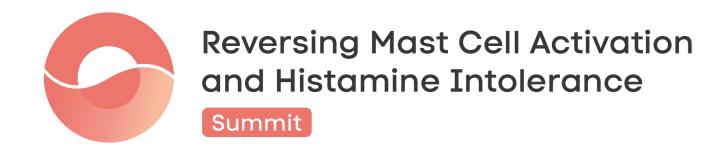




## Your Summit Resources Page

#### Mastcell360.com/summit

- Special discounts available only through the summit
- Links to papers, books, products and other resources mentioned in talks at your fingertips
- Additional special downloads, including these slides and our Food Intolerances Shopping Lists





## Themes for each Day

Day 1: Big picture of MCAS and frameworks for healing

Day 2: Sensitivities, genetics, children

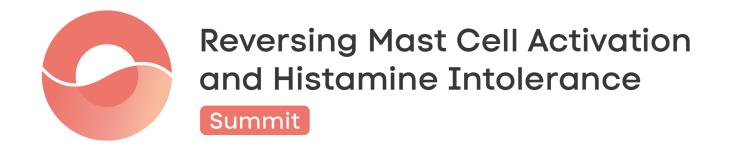
Day 3: Mold and mycotoxins

Day 4: Food Triggers, EMFs, Fatigue

Day 5: Nervous system, trauma, anxiety

Day 6: Hormones and GI tract in MCAS

Day 7: Cutting edge supports & Putting it all together





#### Your co-hosts





Christine Schaffer, ND



Reversing Mast Cell Activation and Histamine Intolerance

Summit



## Summit Day 7

William Pawluk, MD - Safely Using PEMF in MCAS

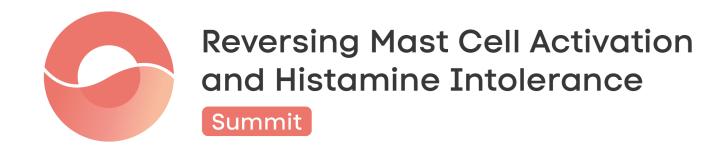
Chandler Marrs, PhD - B1 (Thiamine Deficiency) in Fatigue, Dysautonomias, Brain Fog, Weight and MCAS

Alison Vickery, FDN - The Missing Llnk in MCAS and Histamine Intolerance

Cheng Ruan, MD - qEEG & MCAS - Hidden keys to healing revealed through our brain waves and thought patterns

Joe Smith, DC - Head Injuries as a Root Cause of MCAS

Cynthia Allen, GCFP - Moving with MCAS, EDS, Pain, and Fatigue

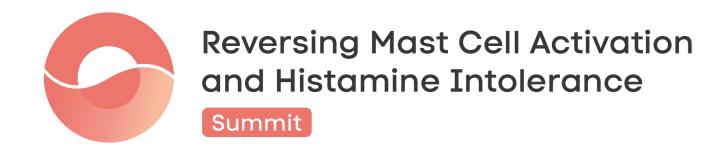




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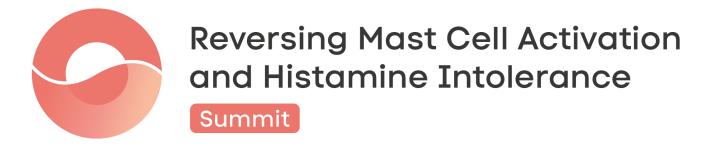


## Special Live Q&A Dates

### Facebook.com/mastcell360

- Thursday October 20 at 6p Eastern
- Monday October 24 at 2p Eastern

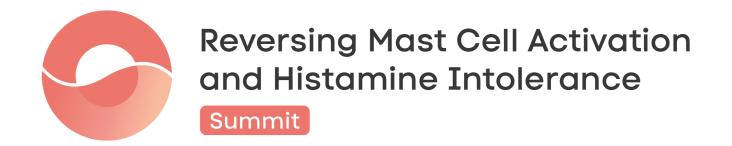
- Don't need a FB account to join
- Refresh if you don't see the FB live starting
- Like our Mast Cell 360 page to get reminders about our weekly FB Lives





# MCAS 101 Topics for Today

- Order of Operations in MCAS
- How to order what you've learned on the summit
- Deciding your next steps





## The MC360™ Method

- The right things
- in the right order
- at the right time.





## The MC360™ Method

#### 3 categories of MCAS clients:

- Easy
- Sensitive
- Super Sensitive





## The MC360™ Method

- 1. Stabilization
- 2. Gentle Detox
- 3. Clean Up
- 4. Rebuilding
- 5. Optimizing





## The MC360™ Method: Stabilization

- Nervous System Rebooting
- Mast Cell Calming
- Support Digestion and GI Motility
- Support Sleep, Adrenals, Hormones





### The MC360™ Method: Stabilization

- Clean Up Environmental Mold Exposures
- Clean Up Other Triggers
  - EMFs
  - Water
  - Air
  - Food-Based Chemicals
  - Other Chemicals
  - Other Triggers





### The MC360™ Method: Gentle Detox

- 1. Targeted Binders for Mycotoxins
- 2. Lymph Supports and Movement, as tolerated
- 3. Kidney/Liver Supports, if needed
- 4. Methylation Supports, if needed
- 5. Antimicrobial Supports, if needed
- 6. Biofilm Busters, if needed





# The MC360™ Method: Clean Up

#### For example:

- SIBO
- Remaining hormonal imbalances
- Remaining sleep issues
- Bacterial, viral, parasitic loads
- Heavy Metals





# The MC360™ Method: Rebuilding

- 1. Gut
  - Microbiome
  - GI Lining
- 2. Mitochondrial Supports
- 3. Bone Health





# The MC360™ Method: Optimizing

- Genetic Optimization
- Any Other Concerns



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Are you new to MCAS and super sensitive?



Mast Cell Nervous System Reboot

mastcell360.com/mastcell-reboot

Are you able to take a few supplements and ready to dive aa little deeper?



MC360™ Precision Mold Master Class – Basic

mastcell360.com/mold-course





Are you a frequent summit attendee or practitioner who loves in-depth information? Do you want to learn as much as you can?



MC360™ Precision Mold Master Class – Advanced mastcell360.com/mold-course

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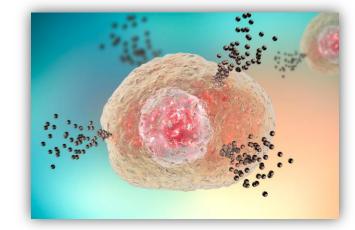
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