

McMinn Clinic

Mast Cell Activation Syndrome

Also known as Mast Cell Activation Disease or Mast Cell Disease

If you have spent years feeling unwell — reacting to foods, scents, medications, or situations that don't seem to bother anyone else — and doctors keep telling you your labs are normal or that stress is to blame, please know this: you are not imagining it. It could be MCAS. Mast Cell Activation Syndrome is real, it is increasingly recognized, and there is a path forward.

What Is MCAS?

Mast cells are part of your immune system — the body's first responders. They stand guard in nearly every tissue, ready to release chemical signals that trigger inflammation, fight infections, and help injuries heal. Under normal circumstances, they do this job quietly and effectively.

In Mast Cell Activation Syndrome, these cells become overly sensitive. They release their powerful chemical mediators too easily and too often, even when no real threat is present. Because mast cells live in virtually every tissue in your body, the result can be symptoms that seem to involve just about everything at once — skin, gut, heart, lungs, brain, and beyond.

Those chemical mediators include histamine, prostaglandins, leukotrienes, and inflammatory cytokines. Together they drive much of what you feel during a flare.

A helpful way to think about it: Mast cells are like smoke detectors. In MCAS, those detectors go off when someone makes toast — not because there is danger, but because the threshold for alarm has become too low. Treatment is largely about recalibrating that threshold.

How MCAS Differs from Allergies

Traditional allergies involve a specific immune response to a single trigger — peanuts, pollen, shellfish. MCAS is different. It is a disorder of threshold and sensitivity rather than a reaction to one specific substance.

In MCAS, reactions may occur across many different triggers, those triggers may shift over time, and sometimes a flare happens with no obvious cause at all. It is not about one bad allergen. It is about a system that has become broadly reactive.

A Simple Way to Recognize MCAS

Think about MCAS when symptoms check these boxes:

- Multiple body systems are involved at the same time
- Symptoms come and go in episodes or flares
- Flares are triggered by foods, stress, chemicals, heat, or other environmental factors
- Symptoms improve with antihistamines or mast cell stabilizers

The overall pattern matters more than any single symptom. Many patients receive a dozen separate diagnoses — IBS, fibromyalgia, anxiety, chronic fatigue — before anyone connects the dots.

Common Symptoms of MCAS

Symptoms vary widely between individuals and tend to wax and wane. The hallmark clue is multisystem involvement during a flare. Below are the most commonly reported, organized by body system.

Skin

- Itching, flushing, or redness
- Hives (urticaria) or angioedema (deeper swelling)
- Dermatographia — skin that turns red or welts when lightly scratched
- Dark circles under the eyes, sweating

Eyes, Nose, and Throat

- Itchy or watery eyes, runny nose, sneezing
- Swelling or itching of the lips or tongue
- Throat swelling — seek urgent care immediately if breathing is affected

Heart and Circulation

- Rapid heart rate, high or low blood pressure
- Lightheadedness, fainting, or near-fainting

Lungs

- Shortness of breath, wheezing, asthma-like symptoms

Digestive System

- Cramping, diarrhea, nausea, vomiting
- Abdominal pain, reflux, heartburn

Nervous System

- Headaches, insomnia, dizziness, or brain fog
- Anxiety (sometimes severe), depression
- Neuropathy — tingling or nerve pain

Musculoskeletal

- Muscle aches, joint pain, bone pain
- Osteopenia or osteoporosis in some patients

General

- Hyper-reactivity to things that previously caused no problems
- Fatigue, unexplained weight loss
- Chemical sensitivities to scents, supplements, foods, or fillers
- Exaggerated reactions to insect bites

Why Histamine Matters — and Why It Isn't Always Villainous

Histamine gets a bad reputation, but your body actually needs it. It supports stomach acid production and digestion, helps regulate inflammation, functions as a neurotransmitter in the brain, and plays a role in your sleep-wake cycle.

The problem in MCAS is not that histamine exists — it is that mast cells release far too much of it, far too often. A low-histamine diet and antihistamine medications are tools for reducing the total histamine load on your system, not for eliminating it permanently.

Why So Many Patients Go Undiagnosed

MCAS is frequently missed — or worse, dismissed. Patients are told their symptoms are anxiety, psychosomatic, or simply unexplainable. This happens for several reasons.

- Symptoms span multiple systems and vary from one flare to the next
- Standard lab tests are often completely normal
- Clinician awareness is still growing — many physicians were not trained to recognize this condition

Despite this, MCAS is now increasingly recognized as a real, diagnosable, and treatable clinical condition. If you have felt dismissed, that experience reflects the limitations of a system still catching up — not the validity of what you have been experiencing.

What Causes and Triggers MCAS?

MCAS is usually multifactorial. Many patients have a genetic predisposition, with one or more triggers pushing the system over the edge. Common trigger categories include:

- **fragrances, cleaning products, medications, supplement fillers**Chemical:
- **high-histamine foods, alcohol, leftovers more than 24 hours old**Food-related:
- **temperature changes, pressure, vibration, exercise**Physical:
- **stress, anxiety, exhaustion**Emotional:
- **infections, hormonal changes, systemic inflammation**Biological:

Important: Avoid NSAIDs such as ibuprofen and naproxen unless your provider specifically clears them. They are among the most common mast cell triggers and can provoke significant flares.

Conditions That Often Occur Alongside MCAS

MCAS rarely travels alone. It tends to cluster with other conditions that share underlying patterns in immune function, connective tissue, and the autonomic nervous system. If you have been diagnosed with any of the following, MCAS may be part of your picture:

- Ehlers-Danlos syndrome or hypermobility spectrum disorders
- Dysautonomia or POTS (postural orthostatic tachycardia syndrome)

- Autoimmune conditions
- IBS, SIBO, or other gut disorders
- Long COVID or post-viral syndromes
- Multiple chemical sensitivity
- Lyme disease
- Food intolerances
- Anxiety or mood disorders

How MCAS Is Diagnosed

Diagnosis is clinical — meaning it is based on the full picture of your symptoms, your response to treatment, and supporting laboratory findings. No single test can confirm or rule out MCAS.

What to Know Before Testing

- Routine labs are often completely normal
- A normal serum tryptase does NOT rule out MCAS
- Timing is critical — some tests are only meaningful within 1 to 4 hours of an active flare
- Some specialty tests may not be covered by insurance

Core Tests

- Serum tryptase (draw during a flare when possible)
- 24-hour urine N-methylhistamine
- Chromogranin A
- Dermatographia evaluation

Additional Helpful Tests

- IL-6 — may track disease activity more reliably than tryptase
- MTHFR and homocysteine
- PTH, if calcium is elevated
- VIP, if diarrhea is a prominent symptom
- Bradykinin and D-dimer, if swelling is present
- Stool testing, food sensitivity panel, mold evaluation

Treatment: Tiered, Individualized, and Patient-Paced

MCAS treatment is not one-size-fits-all. What works beautifully for one patient may provoke a flare in another. A slow, methodical approach — starting with the lowest effective dose of anything new — is almost always more successful than an aggressive one.

Goals of Treatment

- Stabilize mast cells so they respond less easily
- Reduce your overall reactivity and inflammatory load
- Raise your threshold to triggers over time

Meaningful improvement typically takes 4 to 8 weeks. Full stabilization often requires 6 to 12 months. This is a marathon, not a sprint — and progress, even when slow, is real.

Tier 1 — Foundation: Reduce Triggers and Support the Gut

Start here before adding any supplements or medications. The foundation matters.

- Avoid alcohol, NSAIDs, strong scents, and high-histamine foods
- Follow a low-histamine diet (see food guidance below)
- Consider a structured elimination and reintroduction protocol
- Support gut health — address SIBO, dysbiosis, and intestinal permeability

Safe starter foods for a low-histamine trial:

- Fresh chicken or turkey (cooked and eaten promptly)
- Fresh fish (frozen immediately after catch)
- Rice, peeled zucchini
- Apples and blueberries
- Olive oil

Surprising high-histamine foods many patients don't expect:

- Avocado, spinach, tomatoes, eggplant, citrus
- Bone broth, smoked or cured meats
- Any leftovers — histamine increases rapidly as food sits

Tier 2 — Over-the-Counter Stabilizers and Blockers

Always start at one-quarter of the standard dose to assess your individual tolerance. Think of this as testing the waters before you dive in.

Bioflavonoids — natural plant compounds that help calm mast cell reactivity:

- Quercetin — broad mast cell stabilizing effect
- Luteolin — especially useful for brain and neurological symptoms
- Fisetin — anti-inflammatory and neuroprotective
- Rutin — supports vascular stability

H1 Antihistamines (block histamine at H1 receptors):

- Non-drowsy: loratadine, fexofenadine, cetirizine
- Sedating: diphenhydramine, hydroxyzine (use caution in older adults)

H2 Antihistamines (block histamine at H2 receptors — important for gut symptoms):

- Famotidine, cimetidine, nizatidine

Additional supports:

- DAO enzyme — take before meals to help break down dietary histamine
- Vitamin C — antioxidant support, but may worsen diarrhea in some patients
- Bifidobacterium infantis — a probiotic strain with mast cell-calming properties
- NAC (N-acetyl cysteine) — antioxidant and anti-inflammatory
- SPMs (specialized pro-resolving mediators) — help resolve inflammation

- CBD or hemp oil — may help modulate mast cell activity

Tier 3 — Prescription Medications

These require provider supervision and should only be added after foundational work is underway:

- Doxepin — a potent H1 and H2 blocker
- Mirtazapine — antihistamine properties with mood support
- Cromolyn sodium — a direct mast cell stabilizer
- Low-dose naltrexone (LDN) — immune modulating at low doses
- Montelukast (Singulair) — leukotriene blocker, helpful for respiratory symptoms

What to Expect With Treatment

Improvement is real, but it is gradual. Flares will still happen along the way — that is not failure, that is the nature of this condition. The goal is not perfection. It is fewer flares, milder flares, and shorter recovery.

- Sensitivities to supplements and medications are common — adjust the dose rather than abandoning the therapy
- Tracking your symptoms and triggers is one of the most powerful tools you have
- Full stabilization typically takes 6 to 12 months
- Avoid comparing yourself to others — your mast cells are unique to you

Common Mistakes to Avoid

- Starting too many new therapies at once — you won't know what is helping or causing problems
- Ignoring reactions to fillers, dyes, or excipients in supplements and medications
- Expecting rapid results and stopping treatment prematurely
- Not tracking your symptoms — without a log, patterns are nearly invisible

Managing a Flare

When a flare hits, having a plan makes all the difference. Work through these steps in order:

1. Remove the trigger if you can identify it — leave the environment, stop the food or medication
2. Get to fresh air, rinse your skin if a topical exposure is involved
3. Use rescue medications as prescribed by your provider
4. Hydrate, rest, and reduce stimulation — your nervous system is overwhelmed
5. Seek urgent care immediately for throat swelling, difficulty breathing, severe low blood pressure, or fainting with injury

How to Talk to Your Doctor About MCAS

Many physicians are not yet familiar with MCAS. When seeking care from providers who don't know your history, this straightforward statement may help steer your doctor in the right direction.

“I have a mast cell activation disorder. I react to multiple medications and chemicals. Please start any new medications at the lowest possible dose and avoid NSAIDs unless absolutely necessary.”

This is not dramatic — it is accurate. Carrying this information with you, ideally in writing, can prevent unnecessary reactions during procedures, surgeries, or urgent care visits.

Your Quick Start Plan

If you are just beginning to suspect MCAS, here is where to start. You don't have to do everything at once — in fact, you shouldn't. One step at a time, with attention, will teach you more than a dozen changes made simultaneously.

6. **Start tracking your symptoms.** Note the date, possible triggers, which body systems are involved, and severity on a scale of 1 to 10. Many patients begin to see patterns within just a few weeks.
7. **Try a low-histamine diet trial for 2 to 4 weeks.** Remove common triggers: leftovers older than 24 hours, fermented foods, alcohol, and NSAIDs. Observe what changes.
8. **Ask your provider about testing during a flare.** Some abnormalities are only detectable in the first 1 to 4 hours after symptoms begin — so timing your labs matters.
9. **Know your urgent care signs.** Seek immediate care for throat swelling, difficulty breathing, sudden severe low blood pressure, or fainting with injury.

Important: This handout provides educational information to support your wellness journey. It is not personalized medical advice. It is not intended to diagnose or treat any disease. Treatment should always be individualized. Please consult your healthcare provider before starting or stopping supplements, medications, or other therapies. Your doctor can help you determine what's right for your unique situation.

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