

## **OVER-THE-COUNTER REMEDIES FOR MAST CELL ACTIVATION SYNDROME (MCAS)**

Mast cell activation syndrome, or MCAS, is becoming widely known amongst people with Ehlers Danlos Syndrome. It's a real thing, and if severe it can seriously damage health. But as diseases go, it's a newcomer. The term was defined only as recently as 2010. The topic is complex and confusing. The medical experts disagree about the underlying MCAS process, how to identify it, and what to do about it. This means that the medical approach you'll be offered for MCAS depends as much on who you see, as on what science says about the condition.

As a medical generalist, I must tread very carefully in this minefield of uncertainty and controversy! So I should explain why I'm writing about it at all. I can't ignore it, because MCAS is quite common among people with the Ehlers Danlos Syndromes, who have comprised most of my patients for over 15 years. My cue for writing this little article is the fact that *the only medical specialists who deal with MCAS are allergists and immunologists*. (Allergy and immunology are two medical fields that overlap so much that many practitioners do both.) These specialists commonly have waiting lists going out for several months – or many months, if they are in big medical centers. For most medical problems, if you had to wait so long to get to see the specialist, then your local family doctor could at least make a start on treating you while you were waiting. But this isn't true for MCAS, because *most doctors in most specialties, including family practice, do not know what "MCAS" stands for, let alone how to diagnose it or treat it*. This is not because they are ignorant or behind the times. It's because MCAS is not getting mentioned in the journals they read, or the educational meetings they attend, or their routine recertification exams.

It follows that if you suspect that you may have MCAS, your path to a doctor who can help you with it, will likely be a long one. So can you do anything to help yourself, while waiting for your appointment to come around? The answer is, yes you can. Even though there are variations in experts' recommendations for MCAS, they all agree that there are some things you can do to help yourself, and medicines you can take that are safe enough to be available in pharmacies, without a prescription. However, that latter step is neither clear nor simple – mainly because of an abundance of choices among the medications available, and the fact that each of them is sold under several brand-names with hugely varying prices. And the complexity of offerings increases many-fold if we include *supplements* as well as *drugs*. I've not found a short, practical account of these remedies and how to use them before you see a doctor, and that's the modest aim of this article.

For a general account of MCAS and its diagnosis, there are many online sources, including lectures, web pages and books. The online support organizations are easy to find by web search and are very helpful. For people with an Ehlers Danlos condition, I recommend the chapter on MCAS by Anne Maitland in the book, *Disjointed*, edited by Diana Jovin. (This is available as an e-book, as well as in paperback.) The chapter does not, however, get specific about medications.

My suggestions, below, are quite tentative. They are based on a report by a committee assembled by the American Academy of Allergy, Asthma and Immunology (AAAAI), published in October 2019 ([AAAAI Mast Cell Disorders Committee Work Group Report: Mast cell activation syndrome \(MCAS\) diagnosis and management](#)). They therefore express at least a *rough* consensus among *some* MCAS

authorities. But be aware that not all doctors dealing with MCAS would agree with them. And new evidence will surely alter these suggestions sooner or later.

Most MCAS experts would probably endorse these five steps to treat MCAS in 2021:

1. Learn about MCAS if you think you may have it, or something like it.
2. If you think you are having episodes of *anaphylaxis*, see your doctor about epinephrine injectors.
3. Start learning the factors that trigger your mast cell attacks, and avoid them when you can.
4. Consider trying nonprescription drugs, and/or supplements, to quieten down your mast cells.
5. If these aren't working well, see a doctor for prescription medications, and perhaps testing to get clearer about the nature of your condition.

There are lots and lots of online resources where you can learn about all the above, *except for number four: over-the-counter remedies for MCAS*. I can't find a short, lucid account of these online. It makes sense to try the nonprescription remedies while waiting to see a specialist. So, below I present a very quick tour of the over-the-counter remedies for MCAS. These divide, roughly, into "drugs" and "supplements." (This distinction really only refers to how things are marketed: whether they're on the "medications" shelf or the "supplements" shelf in the pharmacy.) I'll deal with each, starting with drugs.

## Nonprescription drugs for MCAS prevention

There are two groups of these drugs. One group consists of "H1 blockers," meaning drugs that reduce or "block" the action of histamine at "type 1 receptors." These are involved in many types of immune reactions, especially itching, rashes, asthma, rapid heart beat and low blood pressure. The other group of drugs contains "H2 blockers," meaning drugs that block the action of histamine at type 2 receptors. These are involved mainly in reactions in the gut: nausea, vomiting, abdominal pain and diarrhea. However, if you take both an H1 and an H2 blocker, the overall effects are often improved.

The table below shows commonly used H1 and H2 blockers, available without a prescription. These are widely available, and inexpensive – so long as you shop for the cheapest generic. These are *preventive* medications. They aim at reducing the *frequency and severity* of MCAS symptoms. They are *not* so good for treating a reaction that has already started: for that, chlorpheniramine (Benadryl) remains the first choice, though it doesn't work for everyone, and some people can't take it at all because they get weird side effects. *It takes a couple of weeks* to learn if the preventive drugs are helpful, and if so, whether the effect is big, medium or just marginal. You need to pay close attention to whether anything changes in your MCAS symptoms after you start taking them. Otherwise you may later find you've been taking medicines for months, but on reflection, you've never really learned whether or not they help.

## Main nonprescription first-step medications for MCAS

Medication	Generic name	How to take it	What it may prevent
H1 BLOCKER	Fexofenadine <sup>1</sup> or cetirizine <sup>2</sup>	One standard-strength tablet about 20 minutes before breakfast.	Itching, skin rashes, asthma, rapid heart rate, collapse.
H2 BLOCKER	Cimetidine <sup>3</sup> or famotidine <sup>4</sup>	One standard-strength tablet about 20 minutes before breakfast.	Nausea, abdominal pain, diarrhea.

<sup>1</sup> Common brand names for fexofenadine: Equate, Aller-Fex, Allegra, Care-One.

<sup>2</sup> Common brand names for cetirizine: Zyrtec, Allergy Relief.

<sup>3</sup> Common brand names for cimetidine: Tagamet, Heartburn Relief.

<sup>4</sup> Common brand names for famotidine: Pepcid, Famocid, Acid Reducer, Acid Controller.

- **IMPORTANT: Be sure to read all the instructions and cautions that come with the tablets you choose, *before* you take the first tablet.**
- The website *GoodRx.com* provides lists of prices of these drugs, under various brand names, at different pharmacies near you. Prices can be hugely variable – from about \$4 to over \$30 a month.
- Allergists often advise continuing as above for two weeks, to get a good sense of what the combination does, and then moving up by adding a second dose of each of your morning tablets, in the evening – about 20 minutes before your evening meal. Keep notes on any changes you notice in your symptoms, towards the end of the first and second two-week period.
- If you are taking other medications, check with your pharmacist or doctor that these new ones would be compatible with them.
- If you have any new symptoms while on these drugs, discuss them with your pharmacist or doctor.
- If you want to continue these medications for over two weeks, allergists advise that you should see a doctor to check that they are safe for you in the long term, and to see if other medications (on prescription, perhaps) might work better. Your primary care practitioner (PCP) should be able to help with this, even if they aren't familiar with MCAS specifically.
- If you do decide to see an allergist/immunologist, check with online MCAS support groups to see if there's one in your area who gets good reviews.

## Supplements for MCAS

With any “new” disease, if there’s uncertainty or controversy among the medical experts, makers of supplements joyfully surge forward to tout their products. This has been true of MCAS, where even a basic google search reveals websites with titles like “My 15 favorite MCAS supplements.” (Fifteen? All at once?? Yes, that’s what some websites recommend.) Some have more “sciency” titles like “MCAS and quercetin genetic optimization,” and quote a list of scientific articles in support of their claims. Overall, these claims make depressing reading for anyone familiar with medical research. I have dutifully paged through many of these promotional handouts, but find the research simply doesn’t support what the manufacturers claim it does. A study that shows that a particular substance revs up a chemical reaction in a test tube doesn’t tell you it’s a useful medicine. Most of the chemicals in a paint shop will do that, but I don’t recommend sampling them. And if the reaction that the supplement stimulates is one of the *thousands* that go on within the body’s immune system, that study doesn’t show that the compound “supports the immune system.” It may actually be *toxic*, since many poisons stimulate the processes they act on, before damaging them. (Think cocaine, or strychnine.) In fact, immune responses are so bewilderingly complex, that it’s unclear even what the words “supports the immune system” *mean*. The phrase, “supports the \_\_\_\_\_” was introduced some years ago as the standard line in promotional materials for nonprescription supplements. Just *because* it’s so empty of meaning, manufacturers know the phrase doesn’t make a claim that could be challenged as false advertising.

At present all the supplements being promoted for MCAS treatment seem to be in the category of “promising and worth studying.” This is a category known to pharmaceutical manufacturers. But they know very well that the proportion of such potential medicines that actually turn out to be useful medicines is *between one in a hundred and one in a thousand*. That’s how many “promising” drug candidates they sift through before they have something that does what they hoped, and is safe enough to put in a pill. I have to conclude that taking any supplement (including “nutraceuticals”) for MCAS, *based on the manufacturers’ arguments*, is a very big gamble with long odds against success. My grouchy view – which I know enrages supplement-enthusiasts - is that if the supplement makers *know* that the papers they quote don’t actually show that their products work, then they shouldn’t be quoting them. On the other hand, if they are so scientifically-illiterate that they *can’t tell* this is so, then they shouldn’t be in the business of making the supplements in the first place.

National mast cell experts (people like Dr Lawrence Afrin and Dr Anne Maitland) have no consensus on supplements. Nor do European experts. Their stance is, roughly, “hopeful but agnostic.” They think that some nonprescription supplements might turn out to be helpful, at least to *some people* with MCAS, but they don’t profess confidence in which supplements these are, or – and this is crucial – how long it takes for any of them to do any good. So if you do want to try a supplement, there’s no good evidence about how many tablets you have to buy, or how long to take it, to see if it will work. The manufacturer, of course, wants to tell you that it may take several months. For an expensive supplement with “sciencey” pretensions, you’re being asked to take a big gamble on something costing several hundred dollars, and entailing ingesting a chemical substance for some months, that is *either* unknown in nature, and therefore may have unknown

harmful effects, *or* is already present in foods, in which case you shouldn't need to pay for having it forced into capsules.

Is research on the verge of settling these questions? Far from it. The kind of careful, multi-pronged research to do that is way beyond the scope and budget of most supplement manufacturers. Anyway, if their supplement is selling well, why should they prejudice their sales by doing research that might show it doesn't work? Instead, we get study after study, all small and inconclusive, many contradicting each other. In 2002, the magisterial T.C.Theoharides wrote an account of the prospects for finding supplements for MCAS, and the studies that would need to be done to discover them. Eighteen years on, those studies still haven't been done.

This issue isn't confined to MCAS remedies. Most supplements, like most cosmetics, are the products of marketing hype rather than known benefit. Trying to be rational about supplements, and not be taken in by the marketers, is demanding and time-consuming. The organization, Consumer Lab (<https://consumerlab.com>) does a very good job of sifting through the studies, and reporting their findings online. But their report on Vitamin C is 25 pages, that on Vitamin D is 54. You could choose to vault over these achingly-long reviews, and look at ones that are short enough to digest in less than a weekend. For instance, the one on quercetin is only 6 pages. But then, the reason for that is that so very little research has been done on quercetin. I've written elsewhere about general principles for approaching supplements rationally. But in truth, most supplement-shopping is not a rational enterprise: it's more like shopping for a nice dessert, or smart shoes. I suspect many people who started reading this little article have already quit, for that very reason.

So, on options for MCAS supplements, I regret there's no quick advice I can give, other than to implore you to think carefully, ahead of time, about how much you want to spend on gambling on a supplement and for how long you'll take it, before quitting (as you should) if it isn't very clearly helping. A year's treatment with one of the more fancy supplements will cost you as much as a vacation in Cancun, or a weekly massage for three months. Think about that.

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