



MIGRAINE WORLD SUMMIT

INTERVIEWS WITH WORLD-LEADING EXPERTS

# TRANSCRIPT



## ALCOHOL AND MIGRAINE

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**Introduction** (00:04): What has been well established is things to do to really avoid getting alcohol-related headache. Limiting quantities is one strategy. Hydrating is also an important thing. So, making sure to consume enough water after drinking does make a lot of sense. The other things to keep in mind would be to have a drink with some food in your stomach — having food in your stomach does alter the rate at which alcohol is absorbed into your system — and obviously not hitting a peak alcohol dose. And kind of having a more steady state would be less likely to trigger headache and other symptoms associated with drinking.

**Carl Cincinnato** (00:38): Alcohol is known to cause tension headache in healthy people, and it's also widely considered to play a role in triggering migraine attacks. So, should we just stay away from it entirely, or is there such a thing as a healthy balance? To help navigate these controversial borders is Dr. Paul Mathew from Harvard Medical. Dr. Mathew, welcome back to the Migraine World Summit.

**Dr. Mathew** (01:00): Thank you, Carl. It's great to be back.

**Carl Cincinnato** (01:02): Do you think most people living with migraine drink more or less than the average population?

**Dr. Mathew** (01:07): In general, people with migraines do tend to drink less than the general population.

**Carl Cincinnato** (01:12): And in your opinion, is alcohol a proven trigger for migraine?

**Dr. Mathew** (01:17): I think many people feel that way from their own experience, but I will often caution them during office appointments: It's kind of dangerous to take any single trigger in isolation. So, for example, I'll give you a ridiculous example: A patient will have a slice of pizza and say, "Oh my God, I had a migraine. I'm never eating pizza again!" When they completely forgot that they didn't sleep all the night before, they're under tremendous stress from a new job, there are seasonal fluctuations, there was hormonal fluctuations going on. So really, it's not good practice to just look at a single trigger and say, "Well, this is what I'm going to modify," and kind of ignore everything else. Alcohol is very much the same way, as well. I often tell patients that everybody's response to different forms of alcohol will be different, and it's no different than food.

**Dr. Mathew** (02:00): For some people, aged cheeses will be a significant trigger. For others, it will be red wines, darker colored liquors. So, I often tell people, don't generalize because by generalizing, you're going to eliminate tasty foods from your diet — drinks that you may otherwise enjoy. But also, there's a certain stigma to it. In general, humans are social beings, and having a drink on occasion is a reasonable expectation for oneself. And I think, that being said, people shouldn't feel so pressured that, "Oh my God, I can never have alcohol again because there's a possibility of developing a migraine," is really not a good way to look at it. But rather, really focusing on how much should I drink, because certainly quantity can play a big role, and what exactly did I drink can play a big role, as well.

**Dr. Mathew** (02:50): I will say, when people order drinks, a lot of the time they will not specify brands. So they'll say, "I'll have a rum and coke," and sure enough, the bartender will take something that's a "well" rum — not very expensive, not very good quality — and the person ends up spending the same price. It doesn't taste as good, and [they're] more likely to have a headache. So one piece of advice I give, not only to patients but also to friends, is if you're



ordering a drink, make sure that you specify the brand, as well. That way you know exactly what you're getting, both in terms of taste as well as any potential aftereffects of headache.

**Carl Cincinnato (03:26):** There was a study done with around 600 people that suggested that people living with migraine could drink less but suffer more the following day than the average person. Do you think that we as people living with migraine are more vulnerable to these migraine-like hangover symptoms than other people?

**Dr. Mathew (03:42):** I certainly think so — and a couple things to think about — and you brought up this very important point. Related to alcohol, there are two types of headaches: There are people who get headaches very shortly after consuming alcohol. It can be as short as 15 to 30 minutes, or within an hour or two. And then there's the delayed headache, which you had mentioned, where it can be late that evening or the next day. And I think a couple of things to keep in mind is that alcohol does have a number of different effects on the human body, which can help precipitate a headache. Dehydration is one piece. Some of the things that are within alcohol, such as what are called phenolic, flavonoid radicals, these things, basically along with histamine, can be significant migraine triggers. Within alcoholic beverages, there is histamine, but it also triggers a response in your body to release histamine.

**Dr. Mathew (04:30):** And it's very well known that histamine is something that is part of migraine pathophysiology. So again, for all these things that kind of accumulate and fester can certainly occur later on either that evening or even the next day. The other thing that a lot of people don't realize is that alcohol can affect sleep. And I often tell people that sleep, as far as I'm concerned, is the universal migraine trigger. Whether it's not getting enough sleep, getting too much sleep, or having inconsistent sleep, they all raise that threshold of developing a migraine. And so, alcohol directly can reduce the amount of REM, or rapid eye movement sleep, which is critical for your brain to really function the next day.

**Dr. Mathew (05:11):** But also, many people don't realize that a lot of the time people who drink will snore. What alcohol does is it actually relaxes some of the muscles in the posterior pharynx. And these are muscles that when they lose tone, they get very floppy. And when air moves, that's what's generating the snoring noise. And when you're snoring, you're actually moving air less effectively. And you may have hypopnea, which is decreasing oxygen saturation in your blood, and obviously, your brain's getting less oxygen. Or even full-on apneas, which are full pauses in breathing where you're just not getting oxygen at all.

**Dr. Mathew (05:45):** The other thing, Carl, I will mention — and this is kind of near and dear to my heart — is there are so many people, we often talk about people that aren't diagnosed with migraine. I think just as often people are not diagnosed with sleep disorders, particularly sleep apnea. There are so many people in the population where they will have no symptoms, but then in their 30s, 40s, and 50s develop memory issues, concentration issues, mood issues, irritability, but also an exacerbation of their headache disorder, whether it's migraine or another disorder. And then lo and behold, they have sleep apnea. So again, these are things to think about in these patients where when they drink, they're more likely to have headache. Is it just migraine or is it some of these other things that are kind of swirling together to create the perfect storm?

**Carl Cincinnato (06:26):** So, if alcohol contains histamines, and also as you mentioned, causes the body to produce more histamines, would having an antihistamine before drinking alcohol help prevent an attack?



**Dr. Mathew (06:38):** It's hard to say. What we do know about histamine is that there are medications like cyproheptadine, which is a medication which blocks histamine, which is used off-label for the prevention of migraine, particularly in children. And some people do report that taking an antihistamine, commonly Benadryl, can be useful for suppressing migraine symptoms when they're actively having an attack. Whether something like Benadryl could be used preventatively to prevent an alcohol-induced headache from coming on, that I don't think has been well established. But what has been well established is things to do to really avoid getting alcohol-related headache: Limiting quantities is one strategy. Hydrating is also an important thing. So, making sure to consume enough water after drinking does make a lot of sense. The other things to keep in mind would be to have a drink with some food in your stomach — having food in your stomach does alter the rate at which alcohol is absorbed into your system — and obviously not hitting a peak alcohol dose. And kind of having a more steady state would be less likely to trigger headache and other symptoms associated with drinking.

**Carl Cincinnato (07:43):** So, looking at some of the ingredients in alcohol that could potentially be a trigger factor: We spoke about histamines just now. Another one that comes up commonly is sulfites. Can you explain what they are and how they may be playing a role?

**Dr. Mathew (07:56):** Yes. So, sulfites is commonly cited. Sulfur dioxide is actually something that's used in the fermentation process of wines, particularly red wines. And, you know, there is some debate of low-quality wines and high-quality wines. Really, you need to allow fermentation to follow the process that's intended and any natural slow process. Anytime you rush that process and introduce things that speed up the process artificially — sure, you might ferment the wine faster, but it may not be as high of a quality in terms of taste — but also maybe more likely to trigger headaches. Which actually brings me to, you know, one other practical piece of advice that I give patients. It's very difficult to go to a restaurant and say, I would like a bottle of pinot noir from this particular vineyard, or I want this particular beer, which may not be on tap.

**Dr. Mathew (08:43):** So, really asking for wine or beer by vineyard or brand can sometimes be challenging. On the other hand, if you're at a bar and you're able to request a particular spirit, chances are reasonably good that they'll have it. And at least as far as I'm concerned, I will usually kind of have a pecking order of, OK, these are the particular kinds of spirits and the brands that work for me, and typically don't give me a lot of those issues. And I like the taste versus, OK, these are brands that typically give me problems, and I should probably avoid these.

**Carl Cincinnato (09:14):** Another ingredient is tyramine, which has been reported to be present in wine but has very low qualities. Is this a trigger factor, in your opinion?

**Dr. Mathew (09:24):** Tyramine is another one. There's another one called congeners. That's another product that has been speculated that may be a headache trigger, and congeners tend to be more in darker red wines, brandies, and whiskeys. Again, I think it's so highly variable in terms of how it's made, how it's consumed, how many drinks you're having, and again, from person to person, there's quite a bit of variability, as well. So, I think it's good to kind of keep those components of the beverage in the back of your mind. And it's certainly something to think about, “OK, this particular spirit or this particular wine worked well for me. Let me look at the tyramine content. Let me look at the sulfite content. That might give me a good index of what other things might work for me and what other things I should avoid.”



**Carl Cincinnato** (10:11): We know that tannins are present, and often they are mentioned as a good thing. Could they be a trigger?

**Dr. Mathew** (10:17): I think tannins are less of a culprit in general, but again, that's just based on my experience with patients and the literature. As you know, there has been a lot of research showing that small quantities of alcohol, particularly wines, can be beneficial from a cardiovascular standpoint. And so, as I had mentioned before, I'm someone who believes: everything in moderation.

**Carl Cincinnato** (10:39): So, one thing I did a couple years ago was take a blood allergy test and looked at different ingredients and foods that were sort of sparking a result in blood reactions. And it came up that I was having a reaction to yeast, which is in both wine and beer. Is that a common allergen that people may not know about?

**Dr. Mathew** (10:58): Well, you raise a good point. There is a fine line between an allergy and a sensitivity. And I'll give you an example. I have patients who are tested for celiac disease, or being allergic to gluten. And the test is negative. But then they come in presenting with chronic migraine. They also have IBS, whether it's more the diarrhea or more of the constipation. And I'm not one that proposes extreme solutions, like elimination diets or things like that, but I also know the benefits of certain dietary restrictions. So, you know, to get back to your question, in terms of sensitivities and allergies, I think allergy testing can be useful. But certainly, there are people that don't have positive allergy tests but do have a certain degree of sensitivity. And if avoiding certain things fits their lifestyle and there's other benefits like regulating their GI system, or even weight loss, by cutting out carbs and having a little bit more of a ketogenic diet, I think that makes sense. And again, by ketogenic, I don't mean strictly ketogenic, but just limiting the amount of carbs that you consume.

**Carl Cincinnato** (11:59): So, moving now to some of the major types of alcohol and how they might affect people living with migraine. You've mentioned a few before, but we'll start with wine. What should we know about wine itself and potentially cheaper wines?

**Dr. Mathew** (12:13): Yes, so you know, the old saying "You get what you pay for" does apply to a certain extent, but again, I don't think people who have migraines need to buy extremely expensive bottles of wine either. I think really testing different wines and seeing what they like in terms of taste, as well as balancing that with headaches makes sense. They also might realize that a half a glass of wine suits them just fine and they have no problems at all, but it's when you cross a certain quantity threshold, that's when they start to get into trouble.

**Carl Cincinnato** (12:43): There's been a few wines now that have, you know, come out with organic labels. Have you heard from patients that, you know, organic wines seem to be any more effective at reducing the negative outcomes later on?

**Dr. Mathew** (12:58): I, unfortunately, find organic — just like with any other food product — it's not exactly clear what that may or may not mean. And I think a lot of the time you're paying more money for something that may not necessarily be a superior product.

**Carl Cincinnato** (13:10): So, when it comes to spirits, there's lighter spirits, like gin and vodka, and there's darker spirits like whiskey and brandy. Is there one that's perhaps less damaging for people with migraine?



**Dr. Mathew (13:21):** You know, I can't really cite too much evidence on this. As I had mentioned to you, congeners, which are byproducts of alcohol that are darker in color, there's some speculation that those cause headaches a little bit more than the clearer spirits that don't have them. But again, everybody's different. What I will tell you with the, you know, thousands and thousands of patients I've seen over the years, they have told me that clearer spirits tend to be safer and less headache provoking. And again, brand is a big issue, but vodkas and tequilas, things like that — if they tell me that a really, really top-shelf clear spirit gives them a headache and they've kind of tried different ones, particularly vodka — I am a little leery that there may not be a spirit that really doesn't trigger headaches for them.

**Dr. Mathew (14:08):** So, you know, those situations, I would just encourage them, "Hey, listen, you may want to limit how often you drink and when you do drink, it may not be a bad idea to really limit the quantity you're drinking." The other thing I do suggest to people is that if you are having a clear spirit, that's actually a great strategy to avoid social awkwardness. So, I do tell patients have a vodka and Sprite, and then when you need a refill, just ask the bartender to top off the Sprite and not put additional alcohol. Or the other thing to do would be, you know, just order a soda of some kind without any alcohol and just have them put an olive in there or, you know, a fun umbrella in there — it looks the part.

**Carl Cincinnato (14:51):** Yes, absolutely. And it's probably worth reiterating, as you mentioned earlier, that not all spirits are the same. Not all drinks, in terms of quality, are the same. You can get a nasty, cheap vodka that'll give just about anyone, you know, migraine symptoms the following day.

**Dr. Mathew (15:03):** So, when people who have migraines tend to be very sensitive, I do also advise them to try to avoid mixed drinks where there's multiple types of alcohol within that single drink. Because again, it's like playing roulette.

**Carl Cincinnato (15:16):** What about beer?

**Dr. Mathew (15:17):** As you had mentioned earlier, there is yeast as part of the fermentation process. Survey studies have shown that people are more likely to get headaches with wine than with beer. But again, I don't think that's an absolute for everybody. Beer, just like wine and any other form of alcohol, can be very dehydrating. I guess one thing about beer is that — well, any alcohol — will also cause diuresis and make you have to urinate, as well. Which is part of that whole dehydration process. But beer tends to be pretty filling, as well. So, when you talk about quantity, you know, depending on the event, people may be less able to drink more beer because of the carbonation of it.

**Carl Cincinnato (16:00):** And with ciders and mixed drinks, a lot of these drinks have quite a bit of sugar added to it. Can sugar exacerbate things for someone with migraine?

**Dr. Mathew (16:10):** I think the jury's still out on that one, but there are people that swear by sugar outside of alcohol situations: "I have, you know, too much cake, too much chocolate, I can feel the sugar rush, and then I get a headache." So, I think those same people are probably susceptible to sugary alcoholic beverages, as well.

**Carl Cincinnato (16:29):** Let's just talk about, more broadly, sort of the toxic effects of alcohol, like it's called intoxication when you drink too much. What's happening here? What are the toxic effects?



**Dr. Mathew (16:40):** Well, alcohol does cause brain damage if you're drinking too much. So, that's really something important to keep in mind. When you consume alcohol too frequently or have chronic alcoholism, that damages your liver. And when you have liver damage — your liver is a very resilient organ, and it is able to regenerate to a certain extent. But every time it regenerates, it actually forms some scar tissue. And really, the way to think about the liver, it is a series of canals that are kind of running in parallel with each other. And if you have scar tissue start to develop — the flow of all the liquids, whether it is bile to help digest foods, blood that's having some of the toxins removed from it, all these things — the liver cannot function optimally. And when that happens, you'll have myriad different problems.

**Dr. Mathew (17:27):** So, a lot of those toxins that the liver usually gets rid of now are freely floating around in your system. And that can actually lead to alcohol encephalopathy, where you have kind of an early dementia, and your cognitive function starts to really fade. So really bad chronic alcoholics, their brain is shot. In addition, if you continue to consume alcohol, when you start to develop the scarring of the liver, you can develop what's called ascites. So basically, that fluid that usually flows through the liver is now obstructed, and that fluid collects in the abdomen. And that's what the term beer belly actually is, it's someone who has fluid within their abdomen, around their organs. And it's amazing, I still remember being a medical student and tapping the belly of a chronic alcoholic, and just liters of fluid being pulled out of this person's abdomen.

**Dr. Mathew (18:14):** Again, this is just free fluid within their abdomen, nestled amongst their organs. So, that's a big issue. And then also when blood cannot flow through the liver, the blood kind of pools in the veins and can rupture and cause internal bleeding and even death. So alcohol — it causes a lot of problems. And chronic alcoholism kills many more people than they'd like to think. You know, oftentimes when we think of alcohol consumption, we think of intoxication and, you know, unfortunately, the sad stories of vehicular manslaughter and people dying in car accidents. But it is much more than that, and it is a very sad, sad disease.

**Carl Cincinnato (18:53):** You mentioned the liver a couple of times there. And for people with migraine that are taking medications, particularly oral medications, we know that we are giving our liver a good workout already, before we've even had a single drink of alcohol. Is that something that people should be mindful of, as well?

**Dr. Mathew (19:08):** My big concern when people are consuming a lot of alcohol is acetaminophen. Acetaminophen is processed through the liver, and you can certainly also develop liver toxicity from consuming acetaminophen, which is branded as Tylenol. The other thing that concerns me in particular about acetaminophen is it is over the counter. And as we all know on this program, people assume that things that are over the counter are safe and effective. So, people will go to the discount warehouse, they'll buy a barrel of Tylenol, and assume this is safe to take. And these megadoses eventually do cause liver problems. And if you combine that with alcohol consumption, it really, really goes badly. And that's why we encourage people acutely to avoid acetaminophen if they're in a situation where they're drinking larger quantities of alcohol. Certainly, triptans are a safe option. And NSAIDs — depending on how much you're drinking — I'd be a little cautious. But certainly, triptans are a safe option.

**Carl Cincinnato (20:07):** And NSAIDs you know, ibuprofen is the active ingredient, right?



**Dr. Mathew (20:10):** Yes. NSAIDs are nonsteroidal anti-inflammatories like ibuprofen and naproxen, things like that.

**Carl Cincinnato (20:15):** So, we've spoken about the toxic effects of alcohol. We spoke about sleep as well, and particularly if you're someone who doesn't have a migraine attack right when you're drinking alcohol, but the next day, or even the day after, you're walking on eggshells. Sleep could be playing a role because we know that sleep disruption is a significant factor. You mentioned dehydration could also be playing a role. We know that is a common migraine trigger, as well. And you've also spoken about other foods that we eat at the same time, you know — when we're at things like weddings, there's cake. There are other trigger foods, there's ice cream, there's noise, there are late nights with this. You know, all of these factors could be all adding up, I would imagine, to create this pressure cooker for someone who has migraine. What about medications that we're taking? We just spoke about NSAIDs and acetaminophen. And you mentioned triptans are OK. Are there preventive medications that we need to be aware of that are perhaps turned off by alcohol or interact with alcohol?

**Dr. Mathew (21:16):** Yes, in general, you want to be careful with any medications that are processed through the liver. So, valproic acid, topiramate, those types of medications. Again, people live their lives, they'll ask me, "Oh, can I drink on this medication?" And I try to give them a very reasonable answer of, you know, "everything in moderation." I probably would not drink the whole box, but certainly a glass of wine should be OK. There are so many different variables when they're drinking. One piece of advice that I give all of my patients — and whether it's in relation to eating, drinking, sleep — what I would recommend to patients is: if you suspect something is a trigger — let's say, for example, you suspect that vodka is a trigger. The next time that you are not under significant stress, you slept well, the weather is stable — basically any other triggers that you know are issues — are all pretty stable, go and have a drink with vodka in it. And take note of the brand. And I typically tell people, if consistently three or so times you have this brand of vodka and you don't have any issues, you could safely say, "OK, this is pretty safe for me."

**Carl Cincinnato (22:23):** So, we've been beating up alcohol for a fair bit of this interview so far. And we know that it's consumed in social settings as we've just discussed with, you know, the weddings example. Many of us with migraine, we feel a little bit isolated from the world and sometimes having a glass of wine or beer with friends just helps us feel normal and fit in again. And we know that being with friends and feeling normal is a good thing. So, how do you guide us to determine what's the right balance here?

**Dr. Mathew (22:51):** Yes, so I think, as we had mentioned before, the whole tactic of ordering a mixed drink and then when you want a second drink, just topping it off with whatever you were cutting it with. So, for example, if you were having a vodka Sprite, when you need a second drink, just saying, can you top me off with some Sprite? You could take that right to the bar so you're not making that order in front of everybody that you're with. Also, I think it's perfectly reasonable to say, "Hey, listen guys, I'm driving so I really abstain from drinking while driving." Which, you know, is extremely smart. And that's something everybody should do. So, I think having those types of ways to avoid judgment makes a lot of sense and still allows us to be social and kind of outgoing.

**Carl Cincinnato (23:37):** When would you recommend an outright ban of alcohol? In what type of patient?





**Dr. Mathew (23:42):** I don't think I would recommend that permanently. I wouldn't make that a life sentence. But I think in patients who are really just trying to get a handle on chronic migraine, I think that could be useful. You know, it's interesting, we talked about alcohol, but I use the same parallel in sleep. I tell patients, listen, we're not making any adjustments to your medications right now, both in terms of preventative or acute treatments. You're in a stable job, everything else is pretty stable. Now might be the good time to play with your sleep and see, you know, is my sleep number five hours? Is it five and a half? Is it six? And I often tell people, you know, adjust your sleep by just a half-hour. Do that amount of sleep for a week, and then make a decision of, "OK, I need a little bit more or a little bit less." And I use sleep as an example of, you know, really that's how we should be looking at food. That's how we should be looking at alcohol consumption, as well. Really making sure there's no other significant triggers around before making a final decision.

**Carl Cincinnato (24:36):** I think it's really sensible. Like if you have chronic migraine and you're struggling, and you feel like you're just treading water, alcohol's going to be probably adding insult to injury. But it's not a permanent life ban. Moving now to the hangover. Is there any migraine medication you can take for essentially symptoms that resemble a migraine? I mean, the only thing that's different about it is that you had alcohol the night before. But essentially, you've got light sensitivity, you've got head pain, you've got nausea, potentially vomiting. And what do you do in these situations?

**Dr. Mathew (25:06):** I think continuing to hydrate does make sense. When you're hungover, you probably are still dehydrated. You know, it's debatable whether or not you'll make a better recovery by consuming something that has more electrolytes, like a sports drink. But I have heard that from patients. They'll say, "After a long night of drinking, if I have a sports drink, I tend to make a faster recovery than just drinking water." Some clinics will actually offer IVs along the same lines, and you know, I leave it up to people to make decisions like that, whether they think that might enhance things.

**Dr. Mathew (25:37):** In terms of symptomatic treatments, again, as far as I'm concerned, the alcohol is triggering their underlying genetics for migraine. So symptomatic migraine treatments will probably work pretty well for patients who are having hangovers or having over-associated headaches. You know, the only difference I would say is that if you wake up the next morning and a hangover headache is present, as we all know, the earlier you take a migraine abortive treatment, the more effective it's going to be. So chances are, taking your migraine abortive treatments, you know, upon awakening when you feel hangover headache symptoms, it may not work quite as well as it would for treating a traditional migraine that's kind of just blooming.

**Carl Cincinnato (26:16):** Is it true that a glass of wine each night may confer cardiovascular benefits, or is that a myth? I've heard mixed reports.

**Dr. Mathew (26:24):** I've similarly heard mixed reports, but you know, based on what I've read, there still seems to be some validity there. A lot of people will say I'll take half a glass of wine with my dinner. I think if that's something that you tolerate and doesn't give you any negative symptoms, I don't think that's unreasonable, while we are continuing to sort out the details and really definitively say whether or not that benefit is strong enough to outweigh any potential negative consequences.

**Carl Cincinnato (26:52):** Dr. Mathew, thank you so much for your time today. I'm going to feel much more confident going into these social situations with some real tactics that I can apply



and still wake up hopefully migraine-free on the following day. So, I know a lot of other people would be feeling the same way, so thank you very much.

**Dr. Mathew** (27:08): Well, part of me is a little reluctant to say it, but I'll say it anyway: Cheers, Carl!