

FH podcast #4 Managing FH Transcript  
American Heart Association & The FH Foundation

Announcer: 00:02 Welcome. You are listening to a series of four familial hypercholesterolemia podcasts brought to you by the American Heart Association and the FH foundation. This series is focused on educating patients, caregivers and health care providers on ways to improve awareness, detection of FH and management of high cholesterol.

Cat Davis Ahmed: 00:24 Hi everyone. My name is Cat Davis Ahmed and I'm the vice-president for policy and outreach for the FH Foundation. I myself am diagnosed with familial hypercholesterolemia. Our fourth podcast in this series is all about managing familial hypercholesterolemia or FH. And joining me today, I'm very happy to say, is Dr. Seth Baum the immediate past president of the American Society for Preventive Cardiology and clinical affiliate professor at the Schmidt College of Medicine. His practice includes cardiovascular prevention and treating complex lipid disorders. Dr. Baum is also the FH Foundation Board secretary and treasurer. And thank you, Dr. Baum, for joining us for this discussion on managing familial hypercholesterolemia.

Dr. Seth Baum: 01:12 Well, thank you Cat. It's always great to speak to you about this or other things.

Cat Davis Ahmed: 01:22 Before we get started, could you just orient us a little and tell our listeners briefly, what is familial hypercholesterolemia?

Dr. Seth Baum: 01:32 Well, first of all, I want to take a step backward in time because had we been having this conversation 10 years ago, I would have been sitting here and going, "Wow! You know, it's an extraordinarily rare disorder and we don't really know much about it." But today so much research has accumulated over the last decade and with the FH Foundation's incredible work over the last five years, we now really understand FH or familial hypercholesterolemia much better than we used to. So, FH is a genetic disorder, typically the result of a mutation, one of several genes. And being a genetic disorder ... That means it's inheritable, that we just inherit it from parent to child, and it causes an elevation in LDL cholesterol. That elevation in LDL cholesterol translates into a significantly increased risk of atherosclerotic cardiovascular disease and that includes peripheral arterial disease as well.

So the reason for this is several fold but one thing that we've learned is that LDL unquestionably is causally related to vascular disease. We used to talk about the LDL hypothesis. It's no longer a hypothesis. It's the LDL truth. It is the LDL fact. High LDL

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increases risk of vascular disease and this is a disorder of LDL. Not only is it a disorder of LDL but it's a disorder of elevated LDL lifelong, even in utero. So before birth a fetus has been exposed to very high LDL levels and that lifelong elevated LDL conveys a significant elevation in cardiovascular risk. We now know that from a prevalence standpoint, approximately 1 in 200 to 1 in 250 people has FH and that's in the United States and it's worldwide.

There are certain founder populations with a much higher prevalence. The ones we often talk about are the French Canadians or the Christian Lebanese, South African Afrikaners and Ashkenazi Jews, so there are a number of different populations that have an even higher prevalence but you know, 1 in 200 or 1 in 250 is actually pretty common. So that's the difference between now and 10 years ago. We really have a very different sense of the disorder. So everybody in clinical practice, everybody who has an average size clinical practice, will have FH patients in his or her practice. I could go on Cat, but you know that.

- Cat Davis Ahmed: 04:20 Yeah, that's great.
- Dr. Seth Baum: 04:21 I'll let you jump in and ask something else.
- Cat Davis Ahmed: 04:24 Right. Well, I think one of the things that we really want people especially listening to this podcast to understand, is that a lot of people know that they have high cholesterol, very high LDL, sometimes they say, "Off the charts", and they know they have a family history of early cardiovascular disease. Early heart attacks, early sudden death, bypass, stents, but nobody ever said, "Oh, maybe it's familial hypercholesterolemia." What we do know unfortunately and this is the reason that we do the work we do and why we're so excited to work with the American Heart Association to get the word out about FH, is that 90% of people who have FH are not properly diagnosed. And that means that they don't have the opportunity to manage FH as early and as aggressively as they should in order to prevent heart disease. I think that the great opportunity here is for us to be able to share that information with our audience and today to get into what do you do if you do have FH? How do you manage it?
- Dr. Seth Baum: 05:34 Well, but to your point, the first thing that has to happen is one needs to be diagnosed. So we still have that massive problem with under diagnosis of FH and that's a problem not only for the patient but for the patient's family. If a patient doesn't know

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that he or she has FH, sometimes that patient is not going to be treated as aggressively with risk-factor modification. That includes lowering of LDL but other things as well. And then the family members, the children or other members of the family, will lose the opportunity to be treated at a young age. Losing that opportunity means that they have a higher risk of having vascular disease.

So the first thing we have to do is make the diagnosis. Anybody with LDL off the charts, at least raise the question to your doctor, your clinician, raise the question, do I have FH? Do I have familial hypercholesterolemia? You have to actually start that conversation sometimes with your doctor because your doctor may not start it with you. So that's the first thing that I think everybody should come away with.

Once that diagnosis is made, then we have to talk about treatment. So how do you treat somebody? Well, the treatment will often depend upon where you stand in the spectrum of FH. So, Cat, you just mentioned the higher risk of premature vascular disease. If somebody has not yet had a vascular event, a stent, clinical peripheral arterial disease or an ischemic stroke, things like that, then we sometimes will treat them a little less aggressively, meaning get their LDL under 100.

Now there are those of us ... I am one of them ... Who think that we should get the LDL as low as possible in everyone with FH. So I definitely would say, get that LDL under 70 if you have FH or if you can, get it under 70 regardless of whether or not you've had vascular disease. But if you now take the person who has had vascular disease, unquestionably everybody would agree, get that LDL under 70. And there are some people like people in the American Association of Clinical Endocrinology who put such individuals in an extreme risk category in which they get the LDL under 55. And I frankly would agree with that.

And then there are other aspects of this as well. So if you have FH and you know that you have a very high risk of developing vascular disease, you don't just go for the LDL. You go for every single cardiovascular risk factor there is. We always start, our foundation always is, therapeutic lifestyle changes and that means exercising regularly, maintaining an optimal weight, eating a healthful diet. These things are essential. Although the diet will not correct the LDL in an FH patient, the diet is essential because it helps other aspects of cardiovascular disease prevention as well. So don't forego the diet. Don't forego the exercise.

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And then there's also hypertension and diabetes and other what we call co-morbidities and these things have to be managed very aggressively because if you start piling on risk factors, especially unmanaged risk factors, the risk goes up exponentially for an individual patient and we don't want that to happen.

- Cat Davis Ahmed: 09:17 I think that's such a great point that we all need to do everything in our power to lower our risk no matter where that risk comes from and then to focus also on the FH management. Are you saying, is there like an FH diet? Is there something very specific that people with FH are supposed to do with their diet or is it similar to what the rest of America and the rest of the world should be eating?
- Dr. Seth Baum: 09:46 Well, you know, it really depends on what you read with regard to what diet is recommended. The AHA and ACC may recommend one diet, another group may recommend another. My personal feeling is the diets need to be sensible. So with FH we know that this is a problem of LDL. We also know that consumption of saturated fats, although not as bad as we used to think, they do increase the production of cholesterol. They do that, or of LDL I should say, of LDL. So they do that. So if saturated fats increase LDL cholesterol and LDL cholesterol is your problem, then you want to curtail the consumption of saturated fats. So that's one thing for a patient with FH.
- Cat Davis Ahmed: 10:39 Like a lower saturated fat diet.
- Dr. Seth Baum: 10:42 The lower saturated fat. So that would mean hard cheese you would avoid. You would avoid fatty cuts of meat like a rib eye steak. That would not be on your diet. Hamburgers, hot dogs, things like that you would avoid. So you'd really head toward fatty fish, lean cuts of chicken, filet mignon ...
- Dr. Seth Baum: 11:00 ...fatty fish, lean cuts of chicken, filet mignon occasionally. But with the mainstay of your diet being vegetables, but now we start creating a diet that personally, I would recommend for everyone. That's really the optimum in my view, the optimal diet anyway, Nuts, seeds, vegetables, nothing processed, small quantities of protein and in nature, things come in two forms, protein and fat or a carbohydrate.
- So the protein/fat part of your diet should be small. So small piece of fish, small piece of chicken, small quantities of seeds and nuts. Those are also protein and fat and then the

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carbohydrate part from nature which is vegetables and fruits, that can be large quantities, especially vegetables.

So that's really in my view, the most healthful diet.

Cat Davis Ahmed: 11:57 That's great. But I think what you said and what we hear from people all the time who contact the FH Foundation and say, "What am I supposed to be eating?" And we try to say as artfully as you just have, "Eat a heart healthy diet, that's what everybody needs to do, lower in saturated fats, but the diet if you have FH is not going to be enough."

And so what do you move to next, maybe we've talked

Dr. Seth Baum: 12:27 But Kat, that's a really important point because that becomes distorted and I've seen patients who do this. They say, "Well diet's not gonna improve my LDL because I have FH, so I'll just take the medicines and eat whatever I want," and that's not good.

So again, diet is more than just a means of correcting LDL. It's a means of becoming healthy and the healthier one is, the better off you'll be, FH or not. So just because you're on a medication to lower LDL does not mean you should be going out and having hamburgers, hot dogs and potato chips. So that's really important.

Cat Davis Ahmed: 13:12 It's not a free pass.

Dr. Seth Baum: 13:14 It's not a free pass.

Cat Davis Ahmed: 13:18 So let's talk then about FH treatment and what medications are available and how do you decide and move through the options. Where do we start?

Dr. Seth Baum: 13:28 The statins are always the mainstay of therapy. We always start with statins okay. Statins have been studied over the last 30 years, they're effective drugs at lowering LDL cholesterol. They're effective drugs at decreasing risk of heart attack, stroke and death. They're effective in FH patients. So there is no reason not to start with statins.

There unfortunately is a lot of bad press and I call this the fake news on the internet about statins. Every one of us who treats patients with FH and frankly every one of us who treats any patients with the lowering therapy, will experience the phenomenon where a patient comes in and says, "I'm not

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gonna take that statin because it'll cause me to have ... I won't be able to walk again and my memory's gonna fall apart," and every other possible side effect. And these drugs are actually extraordinarily safe. Now that doesn't mean that some people don't have side effects. We watch you and we watch patients carefully when you're on a statin and when you're on any medicine and if there's an issue, then we'll try another statin.

If you fail statin therapy, meaning you can't tolerate the highest dose of a statin or there's a problem with the highest dose of a statin or you can't tolerate any statin at all, then we start moving onto other medications and it depends on where your LDL is starting.

Now let's imagine that you're a patient with FH and you can't tolerate a statin. Well your LDL's not gonna be sitting at 100, it's gonna probably be close to 200 or higher. So we have a couple of options that are non statin drugs. We have Zetia or Ezetimibe, which will lower your LDL on average somewhere in the 18 to 23 percent range let's say. So if your start point is 200, 20% of 200 is 40 so you get down to 160, that's not good enough.

Other drugs, the bile acids, sequestrants, Welchol is the most common one used and that also will not lower your cholesterol that much. The one drug that will lower your cholesterol significantly are the PCSK9 inhibitors and the PCSK9 inhibitors are indicated for patients with FH and they're indicated for patients with FH who either require the drug in addition to maximally tolerated statin therapy because their LDL's not low enough. Remember, we want to get it under 70 if we can. Or those patients who can't tolerate statins and have FH, it's indicated in those patients as well.

So those drugs can drop LDL cholesterol on their own 50 to 60%. Now when you hear that 50 to 60% figure, and you know that a statin can drop you 50%, some people say, "Well wait a second, they both drop you 50% or 60%. I'm gonna take the PCSK9 inhibitor instead of the statin," and that's not really the right way to think about this, because first of all statins have much more data behind them. They're much less costly. They're very well tolerated, and the other thing is you get an initial 50 to 60% reduction with a statin and then on top of that, you get an additional 50 to 60% reduction with a PCSK9 inhibitor.

So the sum total of a PCSK9 inhibitor plus the statin gives you a far better benefit in LDL reduction than would a PCSK9 inhibitor

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alone. So that's pretty much the way I would approach the patient who has FH.

Cat Davis Ahmed: 17:22 You start with the ... If you can and many people can take the high intensity statin. There are I think seven different statins available on the market, six of which are generic. Is that correct? So people sometimes do better on one than another and they may have some side effects on one and not on another so the process of finding the right one that might take a little while, is that right?

Dr. Seth Baum: 17:50 It's true. But here's the thing. So most of us will start with the two most effective statins, rosuvastatin or atorvastatin and we'll give those a try. If patients can't tolerate those two drugs and you start moving to the less effective or less intensive statins, you're gonna get less bang for the buck. You're basically gonna get less LDL reduction and at some point you say, Uncle, enough, this is not really worth it.

So usually we'll try two or three and not all seven statins. That's generally the way people practice and that's also what is in statements written by organizations such as the AHA.

Cat Davis Ahmed: 18:38 So, I mean I like what you said, I know from the FH Foundation's research that you're a part of in the cascade FH registry we, before PCSK9 inhibitors were available, only about 25% of people in the registry were able to get their LDL down below 100. So we know that in the FH population when you're starting, you know, you've said, people with LDL's over 200, but of course, my own experience and what I hear from many people with FH, were starting much higher than that even at 300 or higher.

Dr. Seth Baum: 19:14 Or 4 or 500 absolutely.

Cat Davis Ahmed: 19:17 Right, sure. So that a 50% lowering is not gonna be enough to get you where you were saying at the beginning, we needed to go and you may need to add, an additional therapy. That some people might get where they need to go on the first statins or the statin Ezetimibe but I know I feel very grateful that there are additional treatment options to help people get where they need to go and reduce their risk.

Can you also talk, I did say it, but I hear a lot from people, "Well, we're just talking about lowering a number." Does it really prevent heart attacks?

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- Dr. Seth Baum: 19:58 Yes and yes I can talk about it. We've shown it with the statins and we've shown it with the PCSK9 inhibitors. So both types of lipid lower therapies will decrease risks of heart attack and stroke and death. So this has been documented.
- But why is that? Well it's because of the direct connection between LDL and the formation of plaque. LDL causes plaque formation and multiple genetic studies have proved that. So we have our highest level study which is called an RCT. Those studies have demonstrated uniformly frankly, that lowering LDL lowers risks and when I say risks, it's heart attack, stroke and death.
- But we've also shown genetically that those people who have mutations such as patients with FH that mutations that impact LDL adversely. So you have a higher LDL, have a higher risk of developing heart attack, stroke and death. Whereas those people who have mutations that lower LDL and the classic mutation that does that, it effects PCSK9.
- So those people who don't make much PCSK9, will actually have a much lower risk of heart attack, stroke and death. So those two lines of reasoning and understanding have really proved to us that it's not just lowering a number, it's actually lowering risk and everybody needs to understand that. You lower your LDL, that's equal to you lower your risk.
- Cat Davis Ahmed: 21:50 Well that's good news. Just in case this isn't clear for FH or for anybody lowering their cholesterol with medication, is it...
- Cat Davis Ahmed: 22:00 ... bring their cholesterol with medication. Is it a one time thing or is it a lifetime thing?
- Dr. Seth Baum: 22:07 What? Taking medication you're talking about?
- Cat Davis Ahmed: 22:11 Yeah. Like how long ... Sometimes there are antibiotics, you're on them for seven days and then you're done.
- Dr. Seth Baum: 22:17 Right. So patients often ask that question, also. How long do I have to take this medication? Whether it's the statins or the PCSK-9 inhibitors. My answer is always, until another perhaps better medication comes along that fixes it. Because the LDL is lowered only as long as you're taking the medicine. Once you stop taking the medicine the LDL starts rising again. Once the LDL goes up, your risk goes up as well. These medications are to be taken indefinitely. That's the way I like to put it, indefinitely.



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- Cat Davis Ahmed: 22:54 I think it's so important with people with FH and for the healthcare professional to treat them and other decision makers to decide what medication is available. It's a genetic condition. You're born with it. You're born with that high LDL. It's not going to go down on its own in spite of your best efforts with diet and exercise, as important as those are. And so, taking our medication every day, or every two weeks, or whatever medication it is, it's so important. It's something I try to remind myself of every morning, to take my medication. Some people take them in the evening. Does that matter? Actually a lot of people ask that question. Do you take your statin in the morning, take your statin at night, does that matter?
- Dr. Seth Baum: 23:45 It doesn't matter with some of the statins like Rosuvastatin and Atorvastatin. But Simvastatin, it does matter. Some of the shorter acting drugs, it does. But most people are using, and certainly in patients with FAH, or other patients with very high LDL cholesterol who are at very high risk, we're using the Rosuvastatin and Atorvastatin, and it does not matter.
- Cat Davis Ahmed: 24:09 Whenever you're more likely to take them every day.
- Dr. Seth Baum: 24:10 Whatever, yeah.
- Cat Davis Ahmed: 24:11 Whatever works.
- Dr. Seth Baum: 24:13 Right.
- Cat Davis Ahmed: 24:15 What would you say, what does the future look like for people with FH? I really want to make sure we walk away feeling hopeful and empowered, because we do have these treatment options available to us today.
- Dr. Seth Baum: 24:29 I'd like to answer that with two lines of thinking. The first, I think I should mention the genetics, genetic testing. We had that publication in the Journal of the American College of Cardiology, a consensus statement that was convened by the FH Foundation on the use of genetic testing in familial hypercholesterolemia. I bring that up because I think that's going to be happening much more frequently. The advantage of genetic testing in sum really, in summation, not some people is that genetic testing would be twofold. One is, if you identify mutation in an individual, we know that particular person with FH has an even higher risk than if you didn't identify a mutation in a patient with FH. Two, you can use that mutation to cascade screen, to screen the family members, and it makes it easier to identify other people and lower their risk through identification

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and treatment. It should be understood from the genetic testing standpoint that if you don't identify a mutation that does not exclude FH. That's really important. I'll say it again. If we don't see a mutation on genetic testing that does not mean a patient doesn't have FH. The patient can certainly have FH in the absence of an identified mutation. That's one thing-

Cat Davis Ahmed: 25:57

That's because we don't know all the genes yet?

Dr. Seth Baum: 26:01

That's because we haven't identified all the mutations. We probably don't know all the genes. Then there are certain things that can occur epigenetically, beyond the actually gene coding, but to the gene outside of the coding that can impact the functionality of the gene, if you will and the ability of the gene to produce a viable and good protein. That's the problem. We're still early in genetics. The absence of the mutation doesn't mean you don't have FH, but the presence of mutation does mean you're at higher risk. We always treat to risk, so the higher the risk, the more aggressively we treat.

But the second way that I would look at the future and say to patients with FH, that boy, is this the right time to have FH, if you can have it, is that there's so many medications in the pipeline. The PCSK-9 inhibitors have just revolutionized the management of LDL. They are, in my view, the PCSK-9 inhibitors, the greatest advance of lipid lowering therapy in three decades. There's a lot to be thankful for. There are drugs in the pipeline. We have drugs available now, and we're learning more and more. Who knows, maybe down the road genetically we'll be able to hopefully cure this disorder. I don't think that's out of the question. It's not in the near future, but we don't know. Those are things I would say, and the patients could feel hopeful that we have those things available.

I'd also, because I can sense we're coming to the close, I'd also say once again, I would encourage everybody who thinks that he or she may have FH, to speak to your doctor and raise the question. Start the conversation, because otherwise that conversation may not be started, and FH could become undiagnosed.

Cat Davis Ahmed: 28:10

I totally agree. I think that one thing we've learned at the FH Foundation, listening to the people who come to us through our online discussion group, or through our website, or even calling the office is that sometimes if you raise the question with your current healthcare provider, hopefully you've got someone who is aware of FH and willing to work with you. But if you have LDL

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cholesterol that's over 90 and a family history of similar high cholesterol or early cardiovascular disease, that if you don't get the response from your current healthcare provider, you can contact the FH Foundation and ask us for a specialist in your area, and at least consult with somebody who understands FH and can evaluate you and your family. Because if you don't know you have FH then you are not likely to get the care that you need, and the goal being to live a long and healthy life, free of heart disease. That is really possible, right? Wouldn't you say?

- Dr. Seth Baum: 29:24 Absolutely. I think it is possible. As you know, that in the Netherlands they've determined that if we identify and treat FH at an early age, that patients with FH have the same life expectancy as patients without FH, and they're not rated on an insurance basis. That's really encouraging. That's older evidence. Now with the PCSK-9 inhibitors, boy is that more clear that we can do that. Raise the question. Be aware. Push the issue if you're really convinced that you have it, and then treat it, and treat it aggressively.
- Cat Davis Ahmed: 30:08 The future can be very bright. We have other podcasts on the topic about diagnosis, about management of FH in women, and management of FH in children which is very important. But I think that we'll wrap up there, Dr Baum. I want to thank you so much for your time today.
- Dr. Seth Baum: 30:30 Well, it was fun, Kat, and thank you for having me.
- Cat Davis Ahmed: 30:33 Always. In case you missed any of what we discussed in this podcast, please visit the FH Foundation at the [FHFoundation.org](http://FHFoundation.org), and the American Heart Association at [Heart.org/cholesterol](http://Heart.org/cholesterol). Thank you for listening.
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