

Alison Bailey: Hello, welcome to the American Heart Association: Getting to the Heart of Stroke Podcast series. My name is Alison Bailey and I'm a cardiologist in Chattanooga, Tennessee. And today I'm going to be joined by several distinguished colleagues, doctors John Witt, Rosalind Adigan and Mitch Elkind.

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Today, we're going to be talking about how to prevent stroke. It's really healthy living and your patient's resource to stroke prevention. We're going to review the common risk factors for stroke. We're going to discuss current goals for blood pressure, glucose, lipids, and weight. We'll also discuss diet recommendations as well as the role of physical activity in the prevention of stroke. So before we go any further, I want to ask each of our guests today to introduce themselves. Dr. Witt. Why don't we start with you?

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Dr. John Witt: Sure. Thanks, Alison. I'm John Witt. I'm a neurologist and neurohospitalist at HCA's TriStar Skyline Medical Center in Nashville, where I also serve as the director of the Comprehensive Stroke Center there and a neurology residency director.

Alison Bailey: Thank you so much, John. It's great to have you on the podcast. We'll move on to Dr. Adigan, would you please introduce yourself?

Dr. Rosalind Ad...: Thank you. Good morning. My name is Rosalind Adigan. I'm an adult heart failure transplant cardiologist at Mayo Clinic where I also function as a cardiographic imager. Thank you.

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Alison Bailey: It's wonderful to have you as well. And then Dr. Elkind, I'll ask you to introduce yourself last, but certainly not least.

Dr. Mitch Elkin...: Of course. Thank you Alison. And hello everybody. My name's Mitch Elkind, and I'm a stroke neurologist and epidemiologist at Columbia University in New York. And I'm also the Chief Clinical Science Officer of the American Heart Association.

Alison Bailey: Thanks. Okay. It's wonderful to have all of you on the podcast, and I think this is going to be so helpful for not only clinicians, but patients if they want to listen as well, who are trying to prevent either their first or second stroke. If it's okay with all of you, I think we'll go by our first names during this podcast.

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Dr. Mitch Elkin...: Sounds good.

Dr. Rosalind Ad...: Absolutely.

Dr. John Witt: Yes.

Alison Bailey: Excellent. Well, let's jump into the topic. So, we know that the overwhelming majority of strokes can be prevented through blood pressure control, healthy diet, regular physical activity, and smoking cessation. Although the benefits of healthy

[00:03:30] lifestyle and vascular risk factors are well-documented, we know risk factors remain poorly controlled among stroke survivors, and really Americans in general. Mitch, what is the American Heart Association doing to try to affect these goals?

Dr. Mitch Elkin...: Of course. Well, thank you Alison. I think that a good way for people to know what the things are that they can do to try to prevent stroke as well as other cardiovascular events is to think about what we call life's essential eight. These are essentially eight health factors and behaviors that can prevent stroke and other events. And people can learn more about them at heart.org.

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But they're essentially, it sounds like a lot, it's a big number, eight, but there are four factors and four behaviors. So, I think the four factors as the four numbers people should know, know your numbers. One would be blood pressure, one would be blood sugar, and one would be your cholesterol or lipid levels. And finally, your body mass index, which is a measure of body fat and obesity or not.

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And then there are four health behaviors as well, which are: eating a healthy diet, and we'll talk about that a bit, getting enough exercise or physical activity, not smoking. So, smoking cessation if you smoke already or avoiding it if you don't. And a new one that we added recently is sleep, so making sure to get at least seven hours of sleep a night would be important too. So, it's those eight measures that are important to preventing a first stroke, and they're also really good for people who've had a stroke or transient ischemic attack to think about ways to prevent another one. And I think we'll get into some specific targets for some of those numbers in a moment.

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Alison Bailey: Excellent. I think that's great. And I would tell all of our listeners, if you haven't looked at the information the AHA has available about life's essential eight, that's something you should definitely consider. There's really great infographics and information online.

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So let's jump into goals of therapy. So John, maybe we'll ask you this question, but maybe we can start off talking about what are the major goals for our stroke and TIA survivors, as well as those of us who don't want to have a first stroke?

Dr. John Witt: Sure. Well, I will talk about the four numbers that Mitch mentioned, so these are part of those life's healthy eight. So, blood pressure is by far the most important one. We know that probably half of the risk of stroke can be attributed to high blood pressure, and unfortunately it's one that we don't always treat as effectively as we could. And it's a bit confusing sometimes for healthcare professionals because if you've taken care of strokes in the hospital before, you know that we often let blood pressure run higher than typically we would otherwise. But for long-term health and reducing risk of stroke, the goal for blood pressure is less than 130/80, so that is really the goal.

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And we do that by using of course, diet and lifestyle measures, but also medications. Currently, the preferred medications would be diuretics, angiotensin-converting enzyme inhibitors and ARBs. But really any medications that are

[00:07:00] effective and those that the patient will adhere to are the ones that would be preferred. So that's the goal.

Now, as far as, well, it's sugar control. So diabetes in particular, the typical goal for most patients is a hemoglobin A1C of less than seven. Now, that corresponds to an average glucose of about a 154, so clearly there could be even better control and I shoot for better control, but most individuals with diabetes would do well to keep that A1C under seven. There are exceptions to that based on age and other medical comorbidities, but seven is a good rule of thumb.

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For lipid management we focus on cholesterol, especially the LDL or so-called bad cholesterol. And there, typically we treat anybody that has an LDL cholesterol above 100. A good goal for most is an LDL of 70. And to achieve that, we usually use statins. So, statins are effective both for cholesterol control and for improvement of blood vessel lining. And so, high-intensity statins are generally preferred. The best evidence is available for Atorvastatin at 40 or 80 milligrams per day. But again, tolerance and individual numbers are part of what goes into that decision.

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As far as weight goals, typically a body mass index, a BMI, somewhere between 18 to 25 is recommended. And we know that that's a combination of diet and exercise and other lifestyle factors to achieve that. So, I would say those are the important numbers. Blood pressure, 130/80. A1C, seven. LDL cholesterol less than 70. And weight, BMI 18 to 25.

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Alison Bailey: [00:09:00] John, I'm really impressed you did that really fast and very succinctly, so that was fabulous. As a cardiologist who does a lot in the world of prevention, I think I agree with that totally. And it's such an exciting time in the world of prevention because we have way more drugs and tools than we've ever had before to get to these goals.

Mitch, maybe I'll ask you if there's anything additional you want to add to this conversation?

Dr. Mitch Elkin...: [00:09:30] Yeah. Well, Alison, I would echo what you just said about this being such an exciting time. And I guess one thing it's worth mentioning are the new agents that we've been using for diabetes, for obesity. I'm a neurologist, a couple of us here are neurologists, you're a cardiologist of course, and I think we've seen evidence in the last few years of how these new drugs, like for example, the GLP-1 agonists and the SGLT-2 inhibitors can be effective in heart failure. And I think it's super exciting that we now have evidence that for patients who are obese and have cardiovascular disease, which included stroke in the big select trial that was just presented at Scientific Sessions, the American Heart Association's meeting in November, patients with obesity and cardiovascular disease, including stroke, had evidence of about a 20% reduction in risk of recurrent events on Semaglutide.

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[00:10:30] And so these weren't necessarily people with diabetes, they were obese. Many of our patients are obese, certainly overweight. And so, I think we are gaining that

evidence and have some already that these agents are going to play a role in stroke prevention as well. So super exciting to see that happening, I think, and we have more to learn about that going forward.

[00:11:00] Maybe one other thing I'll just add is that it's exciting to think about how blood pressure control that John talked about so eloquently reduces stroke risk. And I would say there's also good evidence that it can reduce the risk of cognitive decline and dementia in folks as well. And probably that's because of the impact that hypertension has on brain health more generally. So, just I think lots of interesting information coming out and a lot more for us to do in the future.

Alison Bailey: [00:11:30] Well, Mitch, I'm so glad you mentioned the select trial. I have to say, at Scientific Sessions when it was presented, there was applause in the audience. I think everyone was really excited that we actually have efficacious medicines that not only treat obesity, but also show reduction in atherosclerotic disease event rates and are well tolerated by our patient populations.

[00:12:00] And then I think in the world of lipids, we also have lots of new drugs. We didn't even touch on those. Statins of course remain our mainstay, but there is that percentage of our population that either can or choose not to take a statin, and now we have more available options that we've seen efficacy in disease rates as well. Maybe we can move on now to the other common risk factor that we see so frequently in the United States and across the world in relation to atherosclerotic disease, but smoking or tobacco use. Rosalind, maybe you could answer this question for us and tell us what are your strategies to discuss smoking cessation with your patients? And what have you found that works?

Dr. Rosalind Ad...: [00:12:30] So, cigarette smoking has clearly been identified as a modifiable risk factor associated with worse outcomes, first stroke and recurrent stroke. And despite our increased awareness, unfortunately the prevalence of cigarette smoking and tobacco use continues to remain a public health issue. And not only that, we also have increased awareness of the effects of secondhand smoking with the increased risk for stroke in patients who are exposed to smoke from a family member of a loved one.

[00:13:00] With these risk factors, I think it's important each time we screen patients to evaluate smoking habits as well as their readiness to quit smoking. Sometimes these opportunities present when we see patients in the hospital, and unfortunately sometimes these may happen after an incident stroke. And part of these is to assess readiness, if a patient is ready and has a plan for tobacco cessation.

[00:13:30] So, in patients who have stroke or TIA counseling about readiness to quit smoking is always a very important step to assess the patient's readiness to smoke. And some of these patients might require additional assistance with pharmacologic interventions to assist in their quitting efforts. Additionally, when a patient has had an incident stroke, it's important at the time to reengage the patient on their readiness to quit and to continue to counsel them by educating them on decreased

risk for recurrent strokes if they continue with their smoking habits.

[00:14:00] And I think also it's important at each visit to continue to discuss with patients because we do know that most patients might have multiple failed attempts before they're successful with quitting smoking. Some of these include opening discussions about the method for quitting and to have a plan for after they start on their quitting journey to make sure that they have adequate support in their community and with their healthcare provider and healthcare team to ensure that they're successful. Thank you.

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Alison Bailey: That was excellent. And I think it's something that we all struggle with when we see our patients that have these addictions. And I don't know that there's one correct way as you mentioned, but I think having all of these different tools available. One of the things I've found is that most states, in the US at least, have some assistance available, whether it's a text message system or a nurse line that you can call, and some even offer tobacco cessation therapy for individuals if they're ready to quit, like you said, made their planning and got that.

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I know we've all discussed that antiplatelet and anticoagulant therapy is really important in our post-stroke patient, and that's really a discussion I think we agreed is too large for this podcast. But we have additional podcasts in this series if you're interested in that topic that we would invite you to listen to.

Before we move on to our next topic of diet, I'll just ask John if you have any additional comments to add.

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Dr. John Witt: I think Rosalind did a great job on describing smoking cessation. I think it might be worth mentioning that vaping or e-cigarettes are also a concern, and so that is not a safe alternative to tobacco products. So I just want to emphasize that.

Alison Bailey: Very good point. Very good point. I forgot that one too. Mitch, anything additional from you for tobacco?

Dr. Mitch Elkin...:  
[00:16:00] I might just add that passive cigarette smoke exposure is also a danger, and so getting those in the family or workplace to quit smoking as well is super helpful. And one other thing that's worth knowing is that the American Heart Association is launching a new certified tobacco treatment cessation professional certification program. So we're hoping that people will be able to offer certified approaches to tobacco cessation.

Alison Bailey: Oh, that's great. I didn't know that. Thanks for sharing that.

[00:16:30] Okay, so we spend a lot of time thinking about optimal diet, not only in our stroke and cardiovascular patients, but really for our families and ourselves as well. What do you think we should be telling our patients to focus on who want to reduce their risk for either a first or second stroke? Mitch, maybe we can start with you for this question.

Dr. Mitch Elkin...: Sure. So, what I usually tell my patients about diet is to try to stick to a diet that's close to what we call the Mediterranean diet. So, it's a diet that's high in monounsaturated fats, which is a long technical term, but just think olive oil and healthy fats like from nuts for example, are good for that. Lots of fruits and vegetables, of course. In general, plant-based foods rather than meat. Fish is considered healthy, it has healthy fats in it as well. Whole grains and cereals are good for people. And little alcohol may be okay, but really try to limit that. The evidence on alcohol has shown, we used to think that a little bit of alcohol was good and a lot was bad, and now the evidence suggests more and more that even a little bit may not be so good. So I recommend really moderation in terms of alcohol consumption.

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Moderate dairy is okay and really try to limit the amount of red meat. And certainly sodium is a major contributor to blood pressure, and that is a major risk factor as we heard for stroke too. So, trying to limit the sodium in your diet primarily by avoiding prepared foods because we know that food you get in restaurants or in the prepared food aisle in the supermarket are going to have a lot of salt in them. So prepare your own food and limit the salt that's put into it. So Mediterranean diet is great, I think, and is easier for people to follow in many ways.

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Alison Bailey: I think that's great advice. And I really love the way most of our guidelines have come in sync now for no matter what the disease process is, and have really gone away from just these macronutrients to overall eating patterns. I think it's easier for me to think about, and my patients certainly appreciate that.

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I did read a statistic recently that surprised even me, is that 70% to 90% of the sodium in our diet is in the food before we ever touch it. And so really that adage of put your salt shaker away probably isn't what we should be telling most of our people. But really what you just said, focus on eating different types of food and preparing as much of your food as you can. I think that's great dietary advice. I'll open it to Rosalind if you have anything additional to add for diet.

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Dr. Rosalind Ad...: Thank you, Alison. I think it's important also just to help educate our patients that sometimes just because it doesn't taste salty doesn't mean it doesn't have high levels of sodium in it, because there are a number of products that we don't typically think of their sodium content when we consume. So, being familiar with reading labels also is quite helpful, is quite helpful in their journey to making more healthier choices.

Alison Bailey: Great advice. And then John, I won't leave you out on that. Any last pearl on diet?

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Dr. John Witt: The only other thing I might add is that it's not the flavoring that makes Mediterranean diet important, but the contents. And so somebody may say, "Well, I don't really like the cuisine when I eat Mediterranean food," but it's not the cuisine, it's the components. So prepare them the way you like that are flavored

well, but the ones that Mitch mentioned are really the important components to focus on.

Alison Bailey: Great advice and very important.

[00:20:00] Okay. So, the last thing that, last big topic we'll cover is physical activity. So much like diet, we know physical activity is important to prevent many diseases. And what should your recommendations be here for preventing stroke specifically? And Rosalind, maybe I'll ask you this question.

Dr. Rosalind Ad...: Thank you, Alison. I think we can all agree that sedentary lifestyle is a big risk for adverse events, so I think it's important that we continue to encourage our patients to move. It doesn't have to be a very complex effort or task, but even moderate activity daily has been associated with improved outcomes. And these activities can always be dispersed over the course of a day.

[00:21:00] I think it's also important that we modify these, especially for our patients who may have suffered a stroke because their physical activity may be compromised. So, even observed exercise programs under supervision of healthcare providers is also equally important. So, I think the important here is to minimize sedentary behavior, to encourage small little changes that improves our level of activity over a day. And also to educate patients that increasing our physical activity is not only associated with a reduced risk of stroke, but it also has other benefits, like improving their mood, and it also helps with weight loss, it also helps with blood pressure reduction.

[00:21:30] So, a lot of the risk factors that we try to minimize our patients with stroke here can also be benefited by increasing our level of physical activity. And I think this is very important in trying to get our patients motivated, which is a big component of having them engage in a healthier lifestyle that is very paramount in increasing our level of physical activity.

Alison Bailey: I think that's such good practical advice. And I remind myself most days as well that one minute of exercise is better than zero minutes of exercise. And I talk to my patients a lot who aren't exercising about the biggest change that we see in health outcomes is going from no physical activity to some level of physical activity. So any amount is better than none.

And then maybe Mitch, maybe I can ask you, for our patients who have physical impairments post-stroke, do you have any specific recommendation for those individuals?

Dr. Mitch Elkin...: I guess I would like to just double down on what Rosalind said, which is it's not only about getting a lot of physical activity, it's about avoiding sedentary behavior. It's about, let's say sitting on the couch or not doing anything at all. So, anything you can do, if you can't walk, then using the arm, do some kind of ergometry, a rowing exercise, something like that is important.

[00:23:00] What I usually tell my patients is that they don't have to go to the gym, they don't have to work out with weights or anything. I mean, that's nice if they can, and I encourage that, but just for elderly people who are the most likely to have strokes, even just going for a walk in the neighborhood, a walk around the block, 10, 15 minutes daily has health benefits. There's good literature showing that walking is a great way to prevent stroke. So you do what you can, but even if you can't run a marathon, you can still get a lot of benefits from mild exercise. And certainly working with physical therapists if necessary for people who have more severe deficits, I think that can be super helpful.

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Alison Bailey: Very good. John, I don't know that there's anything left to add, but I'll just see if you have any additional comments on exercise before we move on to our last question.

Dr. John Witt: No, I think that's great. Maybe the only thing I'd add is if you're unsure what to do, work with a physical therapist or a physical trainer who knows some of those exercises or options that might be appropriate for you.

Alison Bailey: Great. Well, and this is sort of I think our last big topic we'll hit, but behavior change in general. We know that this is a really difficult topic. How do we motivate people to change behavior? If we look in the United States, we know that 70% of adults are overweight or obese, so we're clearly not doing a great job at overall health. I'll ask each of you if maybe you have any important tips you've learned along the way for motivating change? John, maybe we start with you on this one.

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Dr. John Witt: Thanks. Well, for better or worse, having a stroke or a TIA may prove to be a self-motivator because people need some internal motivation really to make these work. But some of the things that I've found helpful are writing down goals, so put them on paper. Maybe you want to do that along with your healthcare provider, but just having them written down so you can refer back to them is useful. Finding an accountability partner or a group. So this is common, for instance, with weight loss and exercise in particular, but I think having other people that can hold you to task. Logging your progress, so along with those written goals is keeping track of the progress. And then also consider short-term rewards. So, don't just look at the final goal, but celebrate the intermediate successes that you make. And lastly, involve professionals when appropriate. So consult your doctor, your dietician, those exercise specialists, I think all those can help keep us on track.

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Alison Bailey: Great advice. Rosalind, I'll see if you have anything additional to add about motivating change in our patients.

Dr. Rosalind Ad...: Yes, thanks, Alison. I always encourage patients to engage in activities they actually enjoy because sometimes that serves as a motivator. If you enjoy dancing, I think go dancing. As long as it's safe, I think it's important for patients to engage in activities because that's sometimes in itself, it's motivating for them to be able to sustain these activities on a long-term.

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[00:26:00] Additionally, trying to start a complicated process, a complicated regime sometimes sets patients up for failure. So I encourage embedding activities in their daily routine. Take the stairs, for example. If you're going one floor up or down. Park further away from the grocery store, that increases the number of steps that patient gets in a day. Take a class in your community. But ultimately, I remind my patients that free things are also equally effective, so they don't have to go join a gym if it's cost prohibitive, but they can also engage in free activities that also are associated with improved health benefits. Walking their pet, cycling, joining a family member. I think these all have benefits and I think these are helpful to patients. Thank you.

[00:26:30] Alison Bailey: Great advice. And again, finding something you love is probably important for many aspects of our health, not only in our post-stroke patients. And then Mitch, I'll ask you if you have anything to add with this topic.

Dr. Mitch Elkin...: Well, that's just such great advice and thoughts from Rosalind and John. It's tough to add to that. But I guess I might say in addition, consider engaging family members and others close to you, close friends for example, in the process. We know certainly there's benefits to, as we said, walking, getting exercise, eating healthy. But I think all of these things are much more pleasurable and likely to happen if we do them with people we care about and love. And there are benefits to that too, apart from the physical benefits, there's benefits on the brain from social activity. So, if you walk alone or if you walk with somebody, you're probably getting more benefit if you walk and talk with somebody you care about as well. So make it into a social activity, engage others as much as you can. I think that will add to the likelihood that it will stick, that behavior.

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Alison Bailey: Wonderful. Well, you guys have all been amazing. So this has been a great discussion today. We've hit our goals. We've talked about strategies to improve exercise, diet, lifestyle, everything that increases our risk for not only stroke and TIA, but cardiovascular disease, heart attack, and heart failure as well.

[00:28:00] And maybe we'll just go by and quickly ask each of you for your top takeaway from today's discussion. John, maybe we'll start with you first on this one.

Dr. John Witt: Well, it's hard to pick one thing. So, I'm going to say focus on incremental change in your behavior and in your numbers. So we heard about all the numbers. You might be overwhelmed by all the things that one needs to do to improve stroke risk, but small changes in each of those are important. And so that's where I would focus.

Alison Bailey: That's perfect advice. Rosalind, I'll ask you next.

Dr. Rosalind Ad...: Thank you. I think one of the things I would take away is having a plan. Having a plan is very important because a lot of these goals might seem daunting when you think of them all at once. But if you have a plan and writing it down, just as John has said, I think it's very helpful and sets the patient up for success. Thank you.

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Alison Bailey: And then Mitch, I guess you're last again, you get the final key takeaway.

Dr. Mitch Elkin...: Oh my goodness. Okay. Well, I would emphasize something that an old friend and colleague, Hank Wasiak, who used to chair our stroke Advisory committee for the American Stroke Association, used to say. So, Hank would always say that we should all remember that stroke is preventable, treatable, and beatable. And by that he meant that it doesn't have to serve as some kind of death sentence or necessarily lasting disability. People can beat a stroke, but as we've heard, it takes some effort, some planning, some support from loved ones to make it happen, but people should think about how they can beat that stroke and prevent the next one. Certainly, it's doable.

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Alison Bailey: Excellent advice. Rosalind, Mitch and John, thank you all so much for being on the podcast today. I hope you all listening learn some important things that you didn't already know about preventing stroke. As you know, the AHA has a wealth of information that you can access online as well as these podcasts and webinars, in particular as part of this Getting to the Heart of Stroke series.

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