# Video Transcript: Secondary Drivers of Hypertension

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**Sandra J. Taler MD, FAHA | Mayo Clinic, Rochester MN -** I'm Sandra Taler. I'm a nephrologist at Mayo Clinic in Rochester, Minnesota. I'm one of the moderators for a session this afternoon called Secondary Drivers of Hypertension. And so this is really a mix of a number of different topics that all contribute to hypertension and would be considered somewhat secondary causes. So we'll be having a talk about chronic kidney disease, really excellent update on new topics in that area. A second talk on prescription and over the counter medications, that impact, typically raise blood pressure. Then we'll move on to sleep issues, connecting sleep health to hypertension control and finally, really an update on new approach to primary aldosteronism. So you'll be hearing from each of the speakers with a little bit of the content of their talk.

**Dierdra C. Crews, MD | Johns Hopkins School of Medicine, Baltimore, MD** - Hi, I'm Deidra Crews. I'm a nephrologist at Johns Hopkins, and I spoke today about chronic kidney disease and hypertension and some clinical updates regarding kind of their intersection, including discussion of some updates around the guidelines around blood pressure targets for individuals who have both chronic kidney disease and have hypertension, particularly for those who also have albuminuria or protein loss in their urine. I going to also talk about some of the implications for the challenges that we see around control of blood pressure for individuals who have chronic kidney disease, including some disparities around that control. And then we spend some time as well discussing some approaches that can be taken in the clinical setting, including in the primary care setting, around advising patients, around dietary patterns that they may be able to follow, that literature is starting to support, may actually reduce their risk of developing chronic kidney disease and also seeing that disease progress to kidney failure. And so that summarizes what we were able to discuss today.

**John M. Flack MD, MPH, FASH, MACP, FAHA | SIU School of Medicine, Springfield, IL** - Hi, my name is John Flack. I am an internal medicine physician, hypertension specialist, from Southern Illinois University in Springfield, Illinois. I talked today on drugs and over the counter substances drugs, both prescription and non-prescription, that interfere with blood pressure, raise blood pressure. In clinical scenarios. this is a very, very common problem to encounter both in patients who come to you already on these drugs, as well as at times the pressure to prescribe these drugs, once they're under your care. The point that I try to make is is that simply identifying a drug that raises blood pressure doesn't necessarily mean that you don't prescribe it or that you advise the patient or try to pressure their doctor who did prescribe it, to discontinue it. It really has to have some context. So for example, if you're taking a tyrosine kinase inhibitor or an anti-angiogenesis drug for a cancer, you're going to treat that patient more intensively to control their blood pressure and not worry about whether that drug is raising blood pressure, per se. If you are a well-controlled hypertensive who has a cold and has a few days of symptoms you need to treat, we don't typically get too concerned about whether a drug they're taking or cough syrup they're taking has some sympathomimetics in it to control their drainage. On the other hand, there's certain drug exposures that you want to do your best to just avoid if you can. Drugs like sibutramine, a weight loss drug that substantially raises blood pressure and is not great at even weight loss. Other drugs like cocaine, methamphetamines. We did end up with a question about what about people with ADD who have amphetamine like prescriptions? What do you do? And again, it's not just one simple answer. You can either try to find a substitute that doesn't raise blood pressure or if you can't find a substitute, then you're going to have to over treat them in with their blood pressure to control their blood pressure. Since they're on the amphetamine like drug. So in summary, my presentation essentially said, it's a very common problem, it's pervasive. A lot of it has to do with the comorbidities that our hypertensive patients have that require treatment with other drugs, as well as multiple people treating these patients. the responses to simply finding a drug interaction that raises blood pressures is really a nuanced response. And finally, one of the strategies for dealing with this may be an information technology solution in helping us screen the wide number, large number, of drugs that can interact and raise blood pressure. Because for many people it's going to really cram their brain to try to keep all that in there, with all else we have to remember. So that's pretty much the gist of my talk today.

**S. Justin Thomas, PhD |University of Alabama, Birmingham, AL** - Hi, my name's Justin Thomas. I'm a clinical psychologist in the Department of Psychiatry at the University of Alabama at Birmingham. My topic was on sleep health and blood pressure control. I think the tide of sleep and hypertension is pretty well-established in the area of sleep disorders and sleep deficiencies. We know that obstructive sleep apnea, insomnia and other sleep disorders are associated with incident hypertension and make hypertension more difficult to control, if the underlying sleep disorder is not treated. So we know a fair amount about sleep disorders and their association with hypertension and control of hypertension. We know a lot less about sleep health and that's an emerging area of interest in sleep research and in sleep medicine is to shift our focus from sleep disorders or deficiencies in sleep, and really focus more heavily on sleep health. One thing that I really tried to hammer home with my talk is that sleep is multidimensional and therefore sleep health is multidimensional. We can't just look at one facet of sleep like duration. We look at the depth of sleep, the quality of sleep, the timing of sleep is extremely important. We can talk a lot about sleep duration, but if somebody gets six to eight hours, the recommended amount of sleep, 6, 7, 8 hours of sleep, but they're getting it at the wrong time of day, like occurs during shift work, then that may not be healthy either. So really focusing on some of these different dimensions of sleep. I introduced a measure called the SATED questionnaire. That's used to assess for sleep health. Something that's being used more and more in clinical and population studies looking at sleep. And I think that's something we can really tie to sleep and blood pressure. And some of the research questions I've proposed are can we track people's sleep health over time and does that adhering to good sleep health prevent the onset of hypertension or delay it or if we take somebody who's hypertensive, can we use these different dimensions of sleep, then be able to lower their blood pressure that way? And I think this really ties nicely into sleeping added into the American Heart Association's essential eight. Something we in the sleep community are extremely excited about. So those were the topics I wanted to cover and appreciate everybody paying attention to sleep.

**John W. Funder, MD, PhD | Monash Medical Centre, Melbourne, Aust.** - My name's John Funder. I'm the last of the speakers in that session. I'm from Melbourne in Australia. And my remit was to talk about who and how should we screen for primary step primary aldosteronism. Primary aldosteronism is too much aldosterone for the body and it interacts, retains sodium. And that's a no-no. You get into all sorts of strife. By and large, people who look after hypertensive patients think, well, if we can get their blood pressure down into a normal range, that's it. that's no longer the case because in fact, between 30% and 50% of patients with elevated blood pressure in fact have also got primary aldosteronism. And that's double jeopardy because if a patient who's got elevated blood pressure, and primary aldosteronism has three times the risk profile of somebody who's just got hypertension and that needs to be done. The other important thing, I think, is that the current ways of trying to find out if a patient's got primary aldosteronism are really very clunky, so that fewer than 1% of all hypertensives are screened for primary aldosteronism. And that's almost an ethical issue. It's certainly a public health issue. And I talked about that. So I probably raised a few eyebrows, but anyway let a thousand flowers bloom.

**Eugene Yang, MD, MS, FACC | University of Washington, Bellview WA** - Good afternoon. My name is Eugene Yang. I'm a professor of medicine and cardiologist at the University of Washington. I just wanted to thank the speakers for their excellent presentations today. I think many of the things that we heard today are very important for clinical practice. I think discussion about chronic kidney disease and looking at new ways to measure kidney function and moving that forward is I think very important. Talk on sleep health also was very enlightening and really maybe a new metric that we need to maybe incorporate. And we need further studies perhaps to sort of define what sleep health metrics we need to measure and how they might impact outcomes such as blood pressure or long-term cardiovascular risk. Dr. Flack's presentation on looking at over the counter and prescription medications was really informative. I think he provided really great tips for many of us in clinical practice on how to deal with situations where people need medications for treating their various conditions. But then where are the opportunities potentially to try to de-prescribe those medications or choose other alternatives? And then finally, I think the last talk on primary aldosteronism was really excellent. I think it is clearly underdiagnosed and we really need new mechanisms to try to make it cheaper and more cost effective, in terms of our screening strategies. And the recommendations that were offered were really insightful and can really be used in clinical practice in the future. So thank you again, and I want to close the session and thank everybody for their attendance.