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## What Do the Guidelines Suggest for Prophylaxis, and How Do We Implement?

### Announcer:

Welcome to CME on ReachMD. This episode is part of our MinuteCE curriculum.

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### Dr. Tafur:

Hello, my name is Alfonso Tafur. I'm a physician at Endeavor Health, and I started the practice of vascular medicine almost 10 years ago here, and we've had a fantastic journey on changing the implementation process of thrombosis and thrombosis prophylaxis in the system. I'm happy to have Professor Alex Spyropoulos.

Alex, you want to introduce yourself?

### Dr. Spyropoulos:

Yes, thank you Alfonso. Yes I'm a professor of medicine at the Zucker School of Medicine and professor at the Institute of Health System Science at the Feinstein Institutes for Medical Research as part of the Northwell system in New York. And much like Alfonso, I've been a fanatic with respect to thrombotic disease disorders. I'm an expert in thrombosis, and I've been practicing for over a quarter century, especially in the advent of clinical trials in thromboprophylaxis as well as what we'll, I think, talk about today as implementation science regarding the most effective thromboprophylactic practices at a health system level. So glad to be here, Alfonso.

### Dr. Tafur:

You know, Alex, when I think about change management, it's very difficult, and one of the frameworks that I like the most, and perhaps we can have a conversation there, is the model in which you imagine a cube of ice that you want to transform into something else – that's my healthcare system. So we first have to unfreeze it, make our changes, and then freeze it again so it doesn't go away. On the unfreezing, let's share a bit of the experiences so that we create that urgency sensation in the model in the system. So what has been successful for you in the practice so that people start getting awareness that we need to change?

### Dr. Spyropoulos:

You know, those are all excellent points, and I really like the model that you just described. You know, the first thing in my view is to make physicians aware – again, this is hospital-based physician – that there's a problem; there's an issue. We know that thromboprophylactic practices are not optimized across health systems. We know that high-risk patients tend to be under-prophylaxed and conversely some low-risk patient profiles tend to be over-prophylaxed, thus subjecting patients to the harms of both excess risk of unnecessary bleeding in the low-risk case and unnecessary harms from inappropriate prophylaxis in the high-risk case. So the key is, number one, is to alert at a system level that there is an issue, and then secondly, I think maybe what you're getting at is educational efforts around that awareness.

### Dr. Tafur:

Increasing that awareness, indeed, at multiple levels, right? So sometimes the audits help the physicians understand that even though

they don't see the clot in the hospital, they actually get readmitted with it. Thrombosis is one of the biggest reasons for rehospitalizations. Out of the payer mix, I the corporate institution will be aware that we're going to have to be penalized for that interaction, and at the patient level, there's the patient necessity to have a preventable event that they have to be self-advocates for as well. I often spend some time educating my patients who have had a clot, telling them, you know, next time you're in the hospital, you are an opportunity. So we unfreeze the system to create that urgency. Now, in the area that we have and even some newest guidelines, actually, are finally putting efforts on giving over the hands. I mean, another model is the brain, heart, hands. So we're giving us the hands to make that change. And nicely, we are getting into that idea that pure education is not what is going to make a change. So you have a lot of experience on making changes at healthcare system using EMR. We have experimented with the Caprini score actually in our whole system. Why don't you share some of your experience there?

**Dr. Spyropoulos:**

No, it's a great point and I think the concept of a multilayered change is an important one, right? So there's institutional change, and usually it's from the payers and it's usually in the form of a stick, right? So there's quality metrics surrounding this that I think are very important to state. But there's also, I think, a more important change at the ground level, which is really at the provider level, and you mentioned audits, which I think are an important tool in educational efforts as well as patient educational efforts. And of course, there're societies like the World Thrombosis Day and other societies that really are clamoring for this patient education level. But I think, you know, Alfonso, to your point, what you're hinting at is to make true changes in terms of effectiveness, they're not enough. So just providing education, audits, feedback are really not enough and that, indeed, we have now multiple studies that tells us that just these models by themselves are not effective enough. So what we've seen, let's say in the last 10 years, are 2 types of other models that I think are very relevant in what I call the electronic health record era, right? And those 2 are the use of passive alerts, either electronic or human alerts, and more recently, really much more sophisticated, what I like to call active, you know, clinical decision support tools that are incorporated within EHRs. And what they do is 2 things. Number one, an alert system, especially if it's the right, what we call, point of care for the practicing physician really brings home that those educational efforts at the point of contact, point of care that is relevant. That's the first thing. And then number two, if it leads to an actionable item, I think that's really important. So it's not enough for providers to know, for example, a certain VTE risk score, whether it be the Caprini tool or the IMPROVE tool, or others. There needs to be an actionable item associated with that particular score. So what do we do about it?

**Dr. Tafur:**

And facilitation, right? So in our system, using a similar experience to yours, we created that model of the nudges, so looking for behavioral economics. So alerting the person at the moment that it was important. A transitional system because, as you know, the risk that I end up in the hospital with is not the same risk that I end up being discharged with. So that has to be a continuum. And then facilitation. It doesn't serve me to say, hey, Alex, you need to actually do prophylaxis and then you have to scramble your hair, go back to the books. I can actually give you a little nudge with a system saying, for this patient, given the things that are already in EMR embedded, these 2 are the better choices, choose one. So that facilitation is really making a change, and we've seen it in outcomes that you have as well.

**Dr. Spyropoulos:**

Yes, absolutely. So, you know, the key elements I think we're describing is the educational component, right? But then the usability component. So, you know, we've developed this sophisticated usability lab that tests exactly what you mentioned across time. You know, what are the key nudges and where should those nudges be placed to maximize optimal workflow for a particular hospital-based physician? And then, at the end you have to attach, I think, a validated VTE risk score. So, you know, in 2024 we should be moving away from universal or intuitive approaches and moving towards validated VTE risk scores such as, you mentioned, the Caprini score or the IMPROVE tool, because really that's where we are. I call it kind of the CHAD scores for hospitalized medical patients. We've been using CHAD scores for a long time. I think we're at that point, you know, in terms of VTE prevention. And then lastly, an actionable item. And I think the beauty of something like active clinical decision support, right? Which is, I think, where we're heading, is there are now clustered randomized trial data that tells us that if used correctly, the use of clinical decision support could not only increase appropriate prophylaxis via very high tool adoption rates, but reduce major thromboembolism. So these effects actually have effects on hard outcomes, which is major thromboembolic disease. And number two, that there appears to be no increased risk of harm in terms of increased major bleeding as well, which is an important point. So those are the aspects, yeah.

**Dr. Tafur:**

I will argue one extra important point. So you create an actual outcome, hard outcome, but facilitating to the clinician is also not going to increase burnout because we are all sick and tired of these BPAs that keep on flashing the computer, but you can be smart enough on the design so it's not a burden to the clinician either.

And then finally, the refreeze model, right? So probably one of the hardest, things get forgotten. How do you make this stick?

**Dr. Spyropoulos:**

Yeah. And I think the most important is exactly what you said, is on the usability side, is how do we automate it as much as we can so that all of the risk scores essentially auto-populate? And where do we put these scores in the workflow so that they're easy for the clinicians to do? I think that's the part of, kind of, implementation science and intervention science that we're moving forward. And in terms of the freezing, I think the easiest thing to do is what we did, is a cluster randomized trial that randomizes hospitals to usual care versus the use of new tools. And then we can see outcomes in stages, how these outcomes improve, how we can improve workflow adaptation, how we can improve implementation, and ultimately, if we attach it to thromboprophylactic practices, whether in hospital or post discharge, I think we can improve outcomes.

**Dr. Tafur:**

In my practice, what we ended up doing for reinforcement, it had to come all the way top down and bottom up. So a bit of an encounter. And we introduced the VTE metrics in our scorecard. So the scorecard actually gets fed back to you, so we can see the initial trends when we're starting to fail again, and we have to go hands-on. PDSA cycles, quality improvement, is a never-ending process and we never forget that.

**Dr. Spyropoulos:**

Absolutely.

**Dr. Tafur:**

So, Alex, thank you very much for this great insight, and it's always beautiful to have this personal approach to what the journey has been for you. I'm hoping that the audience also took a little piece of that, and I appreciate the attention to keep on making this change together, so a change for the better and for better outcomes of our patients.

Thank you much.

**Dr. Spyropoulos:**

Thank you, Alfonso. It's my pleasure being here.

**Announcer:**

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