

# The Beat

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## Meet our February 2020 Titan of Thrombosis



Elaine Hylek, MD, MPH



*Our Titans of Thrombosis series honors advocates and experts in the thrombosis field and showcases their important contributions.*

Dr. Elaine Hylek is a Professor of Medicine at the Boston University School of Medicine and the Director of the Thrombosis and Anticoagulation Service at Boston Medical Center (BMC). She oversees a busy internal medicine practice at BMC and is also an active researcher, focusing on safe anticoagulation and stroke prevention in atrial fibrillation (Afib). She currently serves on the executive steering committee for several clinical trials and for World Thrombosis Day. Dr. Hylek has worked tirelessly throughout her career to educate patients and clinicians about blood clots, stroke risk in Afib, and anticoagulant management. Dr. Hylek recently shared some reflections with us from her 25 years in practice.

### Q: Tell us a bit about yourself.

A: Well, I grew up in Pittsburgh and went to the University of Pittsburgh Medical School and then came to the Massachusetts General Hospital (MGH) for my internal medicine training. I really love the Boston area, and I've stayed here since my training. I'm now a Professor of Medicine at Boston University. One of the things that I most enjoy is my patient practice. I think caring for patients is a terrific way to give back to my community.

### Q: As an internal medicine physician, how did you become an expert in the thrombosis field?

A: My path was unique. I started out as a medical technologist and was working in a hematology lab. I got a bachelor's degree in medical technology and working in the lab exposed me to a lot of interesting aspects of bleeding and clotting disorders. I realized I really wanted to learn more and do more, so I applied to medical school. When I was at MGH, I was the medical director of what we called the Medical Consultation Service. That role was great because I was consulted on

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## Patients Are Asking: What's the "Right" Anticoagulant for Me?

For decades, warfarin was the only FDA-approved oral anticoagulant to treat and prevent blood clots, until direct oral anticoagulants (DOACs) came along.



Katelyn Sylvester, PharmD

Now there are four DOACs available to treat blood clots and

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## Upcoming Events and Support Groups

### In-Person Blood Clot Support Group

February 27, 2020

March 17, 2020

April 23, 2020

Brigham and Women's Hospital, Boston, MA

All support groups start at 7:00 PM. To register, email [info@natfonline.org](mailto:info@natfonline.org) or call 617-730-4120.

### NATF Summit on Women's Cardiovascular Health

October 7, 2020

Fairmont Copley Plaza, Boston, MA

For more information about any of these events, please visit [www.natfonline.org/events](http://www.natfonline.org/events) or email [events@natfonline.org](mailto:events@natfonline.org).



### PATIENTS ARE ASKING: WHAT'S THE "RIGHT" ANTICOAGULANT FOR ME?

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prevent strokes in Afib: rivaroxaban (Xarelto®), apixaban (Eliquis®), dabigatran (Pradaxa®), and edoxaban (Savaysa®).

DOACs are as effective as warfarin and are safer and easier to use – but they still aren't always the right fit for all patients. "Anticoagulants are not one size fits all. Patients should work with their healthcare teams to figure out which anticoagulant might work best for their particular condition and lifestyle, and there may be more than one best option," explains Katelyn Sylvester, Pharmacy Manager at the Brigham and Women's Hospital Anticoagulation Management Service.

#### **Q:** What should I consider when taking an anticoagulant?

**A:** There are several factors to discuss with your provider, including your medical history, lifestyle, medication preferences, and insurance coverage.

Before starting an anticoagulant, be sure to understand why you need it. Your healthcare provider may prescribe it to treat a blood clot, to prevent another one from forming, or to prevent stroke if you have Afib. Be sure to tell your provider about any personal history of kidney issues, bleeding, cancer, diabetes, high blood pressure, falls, or recent injury.













Your history is a key component in choosing an appropriate anticoagulant. For example, if you have a high risk of bleeding or a history of stomach bleeding, apixaban may be a good choice. (Patients have a higher bleeding risk when they're older, have high blood pressure that's not well controlled, have reduced liver or kidney function, or take other medications that increase the risk of bleeding.) If you have a history of ischemic stroke, you may benefit most from dabigatran. Some patients being treated for certain types of pulmonary embolism may be prescribed edoxaban. If you have a mechanical heart valve, DOACs are not recommended.

Your lifestyle and preferences also play a large role when choosing an anticoagulant. To have the best outcomes, you must take your anticoagulants as prescribed, which can be difficult if you're already taking multiple medications each day. Patients on apixaban, for instance, must take one tablet in the morning and one in the evening. It may be hard to stick to this regimen if you have a busy or inconsistent schedule, so your provider may choose rivaroxaban for you instead (a once-daily dose). Patients who take warfarin instead of a DOAC must be monitored closely to make sure that they're receiving the appropriate dose of medication. Warfarin also has several food and drug interactions that patients need to be aware of. Be sure to

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## ANTICOAGULANT COMPARISON CHART

Which anticoagulant is right for me? For more information, please visit [www.natfonline.org](http://www.natfonline.org).

Brand name: What's the name of the drug I'm taking?	 <b>Warfarin</b>	 <b>Dabigatran</b>	 <b>Rivaroxaban</b>	 <b>Apixaban</b>	 <b>Edoxaban</b>	 <b>Betrixaban</b>
Generic: Is there a generic available?	Yes	No	No	No* <small>*The FDA approved a generic in December 2019, but it's not available yet.</small>	No	No
FDA approval: What conditions is this drug approved for?	Stroke prevention in Afib Stroke prevention in those with heart valve replacements VTE prevention and treatment	Stroke prevention in nonvalvular Afib VTE treatment VTE prevention in patients already treated for a blood clot VTE prevention after hip replacement surgery	Stroke prevention in nonvalvular Afib VTE treatment VTE prevention in patients already treated for a blood clot VTE prevention after hip and knee replacement surgery VTE prevention during hospitalization and after discharge in adults with acute medical illness Prevention of major CV events in patients with CAD and PAD* <small>*In combination with aspirin</small>	Stroke prevention in nonvalvular Afib VTE treatment VTE prevention in patients already treated for a blood clot VTE prevention after hip and knee replacement surgery	Stroke prevention in nonvalvular Afib VTE treatment	VTE prevention in hospitalized acute medically ill patients
Drug image and available dosages: What does this drug look like and how many different doses are available?	Doses vary 	75 mg, 110 mg, or 150 mg capsule 	2.5 mg, 10 mg, 15 mg, or 20 mg tablet 	2.5 mg or 5 mg tablet 	15 mg, 30 mg, or 60 mg tablet 	40 mg or 80 mg capsule 
Onset: How long does it take for the drug to work?	Slow: Several days	Fast: A few hours	Fast: A few hours	Fast: A few hours	Fast: A few hours	Fast: A few hours
Kidney function: Should my kidney function be considered before starting this drug?	No	Yes <i>Kidney function affects the dosage</i>	Yes <i>Kidney function affects the dosage</i>	Yes <i>Kidney function affects the dosage</i>	Yes <i>Kidney function affects the dosage</i>	Yes <i>Kidney function affects the dosage</i>
Food effects: Do I need to take this drug with food? Will the food I eat affect how the drug works?	Yes <i>Speak with your provider about vitamin K intake and warfarin</i>	No	Yes <i>The 15 and 20 mg doses of Xarelto should be taken with food</i>	No	No	Yes <i>Bevyxxa should be taken at the same time each day with food</i>
Drug interactions: How many other drugs may interfere with the way this drug works?	Many	Few	Few	Few	Few	Few
Routine lab monitoring: Do I need to take a blood test to monitor the medication?	Yes	No	No	No	No	No
Reversal agents: Are there medications to reverse major bleeding?	Yes <i>Vitamin K, fresh frozen plasma, prothrombin complex concentrate</i>	Yes <i>Praxbind (idarucizumab)</i>	Yes <i>AndexXa (andexanet alfa)</i>	Yes <i>AndexXa (andexanet alfa)</i>	Not yet <i>Reversal agents are being investigated</i>	Not yet <i>Reversal agents are being investigated</i>

**Acute medical illness:** Conditions such as pneumonia, stroke, heart failure, infection, or inflammatory disease.

**Atrial fibrillation (Afib):** An irregular heart beat that can increase the risk of stroke. Nonvalvular Afib affects patients without artificial heart valves.

**Coronary artery disease (CAD):** Develops when the major blood vessels that supply your heart with blood, oxygen, and nutrients (coronary arteries) become damaged or diseased.

**Major cardiovascular (CV) events** include CV death, heart attack, and stroke.

**Peripheral artery disease (PAD):** A condition where narrowed arteries reduce blood flow to the limbs.

**Venous thromboembolism (VTE):** A term used to describe a blood clot that forms in a vein. VTE includes deep vein thrombosis (DVT) and pulmonary embolism (PE).

This chart is for informational purposes only. Always consult with your healthcare provider before starting a new medication.



many issues, especially those involving patients on the surgical floor. I had a lot of exposure to patients with blood clots during those 7-8 years.

I was also doing a lot of research at the time and decided to get a master's in public health with an emphasis in quantitative methods, which gave me the skills and expertise to conduct studies. I became very interested in warfarin management, especially looking at how it can prevent strokes in patients with Afib. Now I devote a lot of my time to looking at the risks and benefits of anticoagulation.

**Q:** We're just starting a new decade. What do you think is one of the most important findings from the last decade relating to blood clots?

**A:** The realization that there's a high risk of stroke associated with Afib tops the list in my opinion. Now that the medical community knows that, patients need to know it, too. About 30% of patients with Afib either aren't taking medications to prevent stroke, or they aren't taking them properly, and that needs to change.

The evolution of anticoagulation has also been huge for patients. While there are still many reasons to use warfarin, the DOACs have been a gamechanger because now patients don't need to be so concerned about lab monitoring, food interactions, etc.

**Q:** What do you tell patients who are hesitant to take anticoagulation?

**A:** Well, it's super easy for me to have that conversation because my mother has Afib, so I'm living and breathing these decisions every day. I find that patients (and many providers) fear the risk of bleeding that comes with anticoagulation. I think it's very important to realize that even if you have stomach bleeding, or even if you see blood in the toilet bowl, of course it's frightening – but we can fix it most of the time. Strokes associated with Afib are known to be devastating, though. As a doctor, it's very hard to see a patient who isn't taking their medication be admitted for a stroke and be unable to speak or move their arms or legs.

Deep vein thrombosis (DVT) and pulmonary embolism (PE) can also be deadly, so I work hard

to help my patients understand the importance of taking anticoagulation. I always try to help them weigh the risks and benefits of the medication.

**Q:** February is American Heart Month. What's some key heart-healthy advice you pass along to your patients?

**A:** I encourage people to have some moderate level of daily physical activity, and to be clear, that doesn't mean buying a gym for your home or purchasing an expensive membership. It means getting out and walking. Get out there and walk 4 or 5 days a week for 30 minutes, put a couple hills in your walk, and it will make a difference. I also think it's important to understand what a healthy diet really is. I like my patients to know that they can have control over their health and bodies. If you want to be a 90-year-old who's still able to get up every day and walk around, a lot of that is up to you! I think patients need to put some skin in the game.

At the same time, I tell patients to listen to their bodies and to take unusual symptoms seriously. A relative of mine actually had a PE but didn't appreciate that it was a PE at first. She thought she had a viral illness and had a little wheezing, but it just wasn't going away. Her husband was the one who insisted that she get it checked out and sure enough, the doctor confirmed a PE. So, these are the things that are sometimes overlooked when we aren't in tune with our bodies. Younger people especially overlook some of this stuff because they're "not supposed" to get sick.

**Q:** You're devoted to teaching and educating patients, but what's the most important thing that a patient has taught you?

**A:** My patients have taught me to listen. One of the most rewarding things as an internal medicine physician is to get to know patients on a real human level. In today's hurried environment, it's important for me to spend time with my patients, even if I'm running late. I want to help them come to the best care decisions. I want to understand their barriers and challenges. It's a privilege to be able to sit down, close the door, and have a conversation with a patient. ■



tell your provider about all medications that you take (including nonprescription medications and supplements) before starting an anticoagulant.

The cost of anticoagulation is another important consideration. In general, patients are less likely to start or continue taking a prescribed medication if it's very expensive. The cost of a DOAC with or without insurance may be as high \$600 a month, and in that case, warfarin is likely to be much cheaper.

**Q:** Why are DOACs so expensive and why do some patients pay more than others?

**A:** Your medication costs largely depend on the structure of your insurance plan and the plan's "preferred" medication list, known as a formulary. Insurance will cover medications listed in the formulary but will typically categorize medications into tiers or buckets. Medications in a preferred tier usually don't require additional paperwork from the provider, but you may have a small copay. "Non-preferred" medications often have a higher out-of-pocket cost and your provider may need to fill out paperwork stating why this medication is necessary. (These documents are called prior authorizations or formulary exception forms.)

Some insurance plans have low monthly fees but high deductibles, and the insurer will not contribute to the cost of the medication until you hit your required deductible. Other plans may have high monthly costs, but little or no deductible and would

only require you to pay a small copay. To complicate things further, if you have a Medicare Part D plan (prescription insurance), you may encounter a coverage gap known as the "donut hole." The coverage gap begins once you and the insurer have paid a certain amount of money towards prescription drugs over the year. At that point, you'd be responsible for a percentage of the prescription cost until another limit is met; the insurance company will then cover medication costs until the end of the year. Because of the donut hole, the cost of your medication could change multiple times in a calendar year.

Medications are also more expensive when they first become available since only one company is producing them. After a drug has been on the market for a while, other companies can manufacture similar products (generics), which creates market competition and results in lower drug prices. Warfarin has been available in a generic form for years. In December 2019, the FDA approved a generic form of apixaban, but it is not available yet. The other DOACs don't currently have generics. The good news is that many drug companies have patient assistance programs that can help with medication costs. You can access these resources by calling the patient assistance line found on the drug manufacturer's website. ■

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*For more information, please see our anticoagulation comparison chart on page 3.*

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### STAFF

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Executive Director  
KMikkelsen@natfonline.org

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Associate Director  
CJohnson@natfonline.org

#### **Claire Galvin**

Associate Director, Events  
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CGalvin@natfonline.org

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Director, Content Development  
Managing Editor, *The Beat*  
ASchwartz@natfonline.org