

**Get in Rhythm.**  
**Stay in Rhythm.<sup>TM</sup>**  
**Afib Master Class**

**Featuring**  
**Dr. Eric Prystowsky**



## About This Afib Master Class

This complimentary master class comprises 33 questions with short, information-packed answers in which renowned electrophysiologist Eric N. Prystowsky, MD addresses some of the most common questions he hears from afib patients and their families. This is a unique opportunity to get this information from a doctor's perspective. This way, you can understand a doctor's thought process as he or she decides on treatment and leverage that new understanding as you work with your own doctors to make treatment decisions.

The questions and answers are broken up into four chapters: Rate Control, Rhythm Control, Catheter Ablation, and Stroke Prevention.

You can expect to learn about the difference between rate control and rhythm control, which one (or both) may be right for you, and how to choose the right medications for you. You'll also discover how to determine whether a procedure is right for you, and if it is, when to have it done. Dr. Prystowsky also discusses the latest research about procedures versus medications to manage afib. Finally, he discusses stroke prevention—including how to work with your doctor or clinician to determine when to consider a stroke prevention device and how to choose between drug options.

## About Dr. Prystowsky



At StopAfib.org, we consider Dr. Eric N. Prystowsky not only an afib expert, but also an ally and a true advocate for patients. He is now a member of StopAfib.org's Board of Directors and will again be a faculty member at our annual Get in Rhythm. Stay in Rhythm.® Atrial Fibrillation Patient Conference this year.

An electrophysiologist with St. Vincent Medical Group and Director of the Clinical Electrophysiology Laboratory at St. Vincent Indianapolis Hospital, Dr. Prystowsky has co-authored two textbooks, published more than 700 articles, sat on numerous guidelines committees and think tanks, is on the editorial board of 16 journals, and is the Editor-in-Chief of the highly prestigious Journal of Cardiac Electrophysiology. He is the most sought-out afib expert at medical conferences around the globe.

Perhaps more importantly for our purposes, Dr. Prystowsky has played an important role in getting the afib patient community a seat at the table with our doctors, which means that the people who make decisions about our care are able to consider our concerns, wants, needs, and desires. In addition to inviting afib patients to speak at medical conferences so doctors and nurses would understand the patient perspective, he also brought patients into think tanks and advisory boards, so the professionals caring for us could ensure treatment is more patient-focused.

# Chapter 1: Rate Control

Discover a doctor's perspective on the difference between rate control and rhythm control, which one (or both) may be right for you, and how to work with your doctor(s) to choose the right medications for you. You'll also learn why it's important to discuss these options as early during your treatment as possible, and which possible side effects to anticipate as you use rate control.

## What Are Rate Control and Rhythm Control?

Rate control and rhythm control are two different treatment options.

For rate control, the issue is keeping somebody who's in afib with a tolerable ventricular rate. The top chambers are always fast, like 400 plus beats a minute, and what gets through the conduction system to the bottom is what the patient feels or what's on the ECG. So, rate control means controlling the rate to a reasonable amount. Let's say, a mean during the day of 80 beats a minute.

Rhythm control, on the other hand, is the process of restoring and maintaining normal rhythm.

So, rhythm control means a process of maintaining the normal sinus rhythm. Rate control is the process of allowing afib to be there, but keeping the heart rate down.

## How Do You Decide on Rate Control, Rhythm Control, or Both?

One of the most frequent problems and questions that come up in patient discussions with afib is which treatment strategy do you select?

Do you look at rate control philosophy, or do you look at rhythm control? Remember, they're not always exclusive of each other. There are a lot of patients who, when they slip back into atrial fib, still need rate control.

So, you have to sit down with each patient, and you have to find out what their symptoms are, how frequently is their atrial fibrillation, what are the chances that you have of being able to maintain and restore sinus rhythm, and at what cost? Ablation? Drugs that may have side effects?

So, these are very individual decisions, but the critical thing is to make sure you discuss these early in the therapy, because if you allow someone to stay in atrial fib for long periods of time — I don't mean weeks, I mean months and years — you may lose the advantage of trying to get rhythm control.

## What Are the Types of Rate Control Drugs?

If you're going to select a rate control treatment strategy, you have several drugs to choose from, and they are in certain classes. For example, beta blockers.

In the class of beta blockers, there's lots of choices you could look at. You could look at a drug like propranolol, atenolol, metoprolol, nadolol — there are just many of them — carvedilol. And, whatever suits you best and the patient best. There's not a ton of differences in my own experience. What I do try to do is to move a patient to a long-acting beta blocker, if at all possible. It's easier for the patient to take.

The other class of drugs, which for me in many cases are actually more effective, are what's called the slow channel blockers. They work by a different mechanism, but they also control the heart rate during afib. Those are really two drugs: verapamil and diltiazem. I sometimes start at lower doses, and when I find the right dose of those drugs, I will give again a long-acting preparation.

And third is digitalis, but I would like to warn you not to use digitalis unless you absolutely have to. There are data in the literature that suggest that digitalis, in large groups of patients, can increase mortality. So, if it must be used because there are no alternatives, then you have to use it, but I hardly ever have a patient taking digitalis.

Last of all, the concept that you have to use high doses of a drug to get control belies the fact that you can get away with less side effects, and it's good rate control, by using more than one drug. So, sometimes I'll use a small dose of a beta blocker and a dose of a slow channel blocker, like verapamil or diltiazem, get excellent rhythm control without engaging the side effects that occur with high doses of both drugs.

## What Are the Side Effects From Rate Control Drugs or Poor Rate Control?

Side effects can occur with rate control. And, they occur with the drugs or with poor rate control, or actually poor rate control either too slow or too fast. So let's go through those.

First of all, the drugs. Beta blockers are well tolerated by a lot of people. They're not well tolerated by younger people very well, and they often can cause, you know, what some people call the beta blocker blues — a foggy sensation, just not feeling well. So, you have to figure that out. Not everybody's a good candidate for a beta blocker.

The slow channel blockers are better tolerated in that regard, but they can cause some constipation, some ankle swelling. And, I've had some women patients who when they get the ankle swelling, they're done. I mean, they don't want it. And, I understand, it's a cosmetic thing, so you have to kind of pick and choose.

So, those are the complications of the drugs, but there's also complications of inappropriate rate control. Number one, too slow a rate. So, you gave too much drugs. Okay. And, now the patient is sluggish because their heart rate during the day is 50 or 60 and they can't get a rate up high enough during exercise and then you have to peel back the drugs.

Or a worse situation, in my opinion, is inadequate rate control from too fast. If you have fast heart rates for long periods of time, you can develop a cardiomyopathy and heart failure. And, the hallmarks of that, in my experience, are the patient who really doesn't feel their atrial fibrillation. They don't know they're in it and they're blitzing along at 120, 30, 40 a minute all the time. And, they come in with things like shortness of breath because they slip into heart failure.

So, the drugs have side effects, and inappropriate rate control has side effects, and you just have to figure out the right combination for that patient.

### **How Can You Prevent Heart Failure in Patients on Rate Control?**

When one picks a rate control philosophy or strategy, what I discuss in the office with my patients is the following: the most important thing here is to prevent heart failure.

I must know that whatever therapy I'm giving you is controlling your rate, not overdoing it, but is controlling your rate, to the point that your heart rates aren't running rapid all day long because I want to avoid a situation of decreased heart pumping and heart failure. It's a condition called tachycardia-mediated cardiomyopathy. If caught early enough, in my experience, it's almost always reversible.

I'm currently putting together a series. We have almost 50 patients with this, and they are absolutely the same kind of patients. They come in not knowing they're in afib; it's picked up on an exam at a doctor's office, or they have shortness of breath. And, you can usually turn this around. So, the critical thing is to make sure you're controlling it.

So, it's not good enough to send the patient home with, here's your 50 milligrams of metoprolol a day. Not good enough. It is up to you, as a physician, to be sure that you get a follow-up Holter monitor, whatever you want to do, to see that their rate's truly controlled. That is a cardinal thing that must be done.

So, you can't just give a drug; you have to give a drug and see if it's working.

### **When Do You Consider Changing Someone From Rate Control?**

Often patients will come to me with rate control treatment, and maybe the doctor didn't know any other treatment options. Maybe they didn't tell the patient, "Hey, by the way, I could do something more sophisticated," or "Maybe if I send you to someone..."

So, they come to me with actually good drugs, good rate control, but they've been in persistent atrial fib. And, then you start to dig a little bit, and you say, "Well, how're you feeling?" "Well, I don't feel those palpitations, doc." I say, "Well, that's not the only symptom of afib. How's your energy level?" "Well, not so good lately."

And then you start to peel back the onion, and you find out actually this all started with the atrial fib. All these subtle signs, okay, of atrial fib. So, this is why you must discuss treatment options with the patient upfront. Patients need to understand that. They need to know what their options are.

So, if a patient has been in persistent atrial fib and is really not feeling that well, or has a question of are there other options, they should seek out an electrophysiologist and discuss the other options because the other options clearly are either a medicine or an ablation procedure to maintain sinus rhythm.

### **When Is It Time to Change From Rate Control to Rhythm Control?**

An unfortunately not uncommon consultation to me is a patient who comes with atrial fib. Now, they may be reading something, and they heard something about, "Hey, this afib isn't the best thing in the world. I need to check it out." Or, they may actually have some symptoms and are finally saying maybe I ought to see someone else. Or, they had a friend of theirs — these are often what happens — "You have afib? My God, you need to see your doctor." One of those sort of moments.

Here's the thing, even if your rate's under good control, the natural history of staying in afib is the concept of "afib begets afib." The myocardial cells in the top chamber, the atrial cells, will tend to die out. You will get fibrosis, some scarring in the top chambers. They tend to dilate up, and you get to a point of no return if you wait too long.

And you might say, "Well, who cares? Right? I mean, I feel fine, and I'm on a blood thinner, so who cares?" Well, you should care, because there are more recent data suggesting that patients in atrial fib, even though all those boxes are checked, may have other things.

Now they aren't hardcore data, but they are disturbing data. There are data from multiple sources saying there's an increase in cognitive dysfunction. So, brain things. People find these silent ischemic, you know, infarcts in the brain. There are all these little things that are starting to build up with multiple studies. There isn't like that one aha moment major study that's clearly nailed this, but there are a lot of studies out there all going in the wrong direction.

So, I'm not saying that you must be in sinus rhythm. All I'm saying is there are a number of studies that have shown you can have decreased heart function, even with good rate control.

That's one of the things we missed years ago, or certainly I did. The clinical saw was if you have decreased heart function due to atrial fib, it's because your rate was too high. Yeah, that's true. But, there were early signs a couple of decades ago that if you ablated these patients and restored sinus rhythm, their heart pumping function went up, called an ejection fraction, their squeezing ability went up.

And I remember reading that and thinking, "wow, that's kind of interesting." And, then I saw another article saying the same thing.

I've had my own patients who've had decreased heart function but are doing very well, and suddenly they'll call, they're short of breath. Their rate is well controlled. They've slipped back into atrial fib. Some patients simply need sinus rhythm to have adequate cardiac output.

So, all these factors have to be taken into account before any patient is allowed to be in permanent atrial fib. You really have to understand there are downsides to that. And, if you wait too long, you may be at the point of no return.

So, it's not just your rate is controlled and you're okay now. What about five years from now? Okay, it's like playing chess. It's not just your first move; it's thinking six moves ahead. Atrial fib is a years and years disease, and you've got to think forward.

### **Does Being Only On Rate Control Predispose You to a Stroke?**

One of the major unanswered questions, and it's one that I'll be honest has plagued me for decades, is "Does rate control – in other words, let someone stay in afib – predispose one to stroke if (now remember importantly) if you're adequately anticoagulated?"

So, I'd like to discuss this in a little more detail because first of all the answer isn't in, but there are a lot of intriguing data out there. It really, in many ways, depends on if you're prone to a stroke.

Let me give you an example. You could take a person in their forties who has persistent atrial fib, and for whatever reason, someone's allowed them to stay in it, and they have no risk factors for stroke. They probably won't get a stroke. And, then you could take somebody maybe in their seventies who has hypertension, diabetes, etc., etc., and they can be in afib for a short period of time and may wind up with a stroke.

So, you have to look at this as, "What role does atrial fib play, and there's no question atrial fib plays a role, and what role are the endothelial factors in the atrium playing?" And, it's complex.

So, if you have somebody that stays in afib for a long period of time, there are pretty good data now showing you change the architecture, the endocardium, the inner lining of the top chamber, and make it more prone to a thrombus.

So, the obvious next step would be to say, "well, if I restore and maintain sinus rhythm, I'm out of the doghouse; I mean, I don't have to worry about strokes now." I wish that were the case, and it may be the case, but it's not proved yet.

So, I'm not willing, at this point in time, to say categorically that that's true. But, I have to tell you my gut, for whatever that's worth and probably not much when you're worried about stroke, says that there probably is some truth to the fact that if we can maintain sinus, you are less likely to have a stroke. But, you need to know, there are no data to support that at this time and I think that's an area of active, ongoing research.

## Chapter 2: Rhythm Control

Discover the most important information you need to know about rhythm control. Dr. Prystowsky discusses some of the most common rhythm control medications and which ones are best suited for people who have heart disease. Learn why follow-up tests are essential if you're taking amiodarone, and how to manage medications when multiple doctors are involved.

### **What Is Important to Know in Choosing Rhythm Control Medications?**

Rhythm control, and I think this is the reason it's often skipped by non-electrophysiologists, is hard. Let's make no mistake about it. It is not easy to select the right drug for the right patient and the right follow-up and know when to call it a day on that drug and move on to a different drug or ablation. So, it's not easy.

Rate control is not that difficult — once you've got a person under rate control, they usually are fine, and you don't have to see them frequently.

So, let's say you have a patient who comes in who's a candidate for rhythm control. You have to sit down and make sure you've checked all the boxes. Do they have a thick heart? Do they have coronary disease? Any history of heart failure? All those things go into choosing the right drug.

So, now you pick the right drug. Do you have to start it as an outpatient? Do you start it as an inpatient? I'm okay starting a number of these drugs as an outpatient, but not like, "Take the drug, I'll see you in a year" type thing. I keep in close touch. Sometimes, I give them monitors that they can send me in daily rhythm strips so I can see what's going on. So, these are sophisticated treatment modules.

The problem is, in my experience, a lot of people who have been treated by either a generalist or even general cardiologists who don't have a lot of sophistication in this area are given a drug. Now, what do they tend to do? They tend to give the lowest dose possible because they don't want to necessarily give, for example, sotalol 120 milligrams twice a day. So, maybe they're on 80 milligrams once a day or 80 milligrams twice a day, which may be under-treating that patient. And, then the patient fails the drug, and they say, "that's it, you need rate control now."

So, the key is, if you jump into the rhythm control game, you've got to know what you're doing. You've got to understand each drug. You've got to understand drug-drug interactions, you need to know dosing, you need to know who starts in the hospital, who starts at home, and what's the appropriate follow-up. It's not easy, and that's why it's often not done well, or skipped altogether.

### **What Are Rhythm Control Medication Options?**

Well, since we're going to talk about rhythm control, let's talk about our drug choices, and let me just in no particular order talk about the drugs.

So, you have a drug like dofetilide. Dofetilide can markedly prolong the QT interval in some patients. This is the reason it's mandated to start in the hospital. There's a lot of literature on all these drugs, so I've treated hundreds of people with drugs for afib. I'm going to give you some of my own personal experiences. Dofetilide has a unique property for me when I have a patient who has a slow heart rate when they're in normal rhythm. Most of the other antiarrhythmic drugs kind of pile on because their ionic effects also affect the sinus node, so it gets slower and slower, and you get an issue of should I need a pacemaker now to keep the heart rate up.

Dofetilide doesn't do it that much, so it's one of the drugs that I use to try to get out of that conundrum. It also has a wonderful ability to actually cardiovert the patient. In our experience, 40 to 50 percent of people will be spontaneously cardioverted, and you can avoid a direct shock cardioversion. But, you have to watch for drug-drug interactions. That's a big thing. I like to use that drug when I'm looking to get cardiovert a patient when I have a patient with a slow sinus rate. They can't have a thick ventricle, but they can have coronary disease, and they can have even heart failure. So, that's a drug that I sort of look at in that situation.

Sotalol is another common drug I use. It's both a beta blocker and an antiarrhythmic. And, at the lower doses, there tend to be a little more beta blocker effects. So, if you have somebody whose heart rate is 45 to 50 when they're in normal rhythm, I'm just telling you, you're not going to get away with sotalol, because if you give sotalol, now they're going to be 35 to 40 beats a minute, and they're just not going to feel good.

Now, maybe you could add a pacemaker, that's a brady-tachy syndrome, and now you can advance the dose. The problem is, you use too little of it, it doesn't work, and then you say, "Ahh, the drugs don't work." Well, the drug isn't working because you didn't use the appropriate dose, but I get it.

But, if a person has reasonable sinus rates, and they have a normal heart, I often will start it as an outpatient if they're not in atrial fib. I know that some people don't like to do that, so if you don't, you can start it in the hospital. But, I don't start it as an outpatient at 120 milligrams twice a day. I start low, like 80 milligrams twice a day. I either have them come back for an ECG or I have them send me in rhythm strips. If they do fine, and they're keeping a normal rhythm, I stop. If not, I might up the dose.

Dronedaron? It's an interesting drug in my experience. It's safe to use as an outpatient in multiple situations, not heart failure, but I've used it in coronary disease. It's an interesting drug because, for me, it's like a yes or no drug. I do not know why this is so, but in my own experience, it either has a remarkable ability to suppress someone's afib, or it does almost nothing, and you usually figure that out within the first week or two of using the drug. The patient will call and say, "nothing's happening, Dr. P." and I say, "okay, we'll switch to something else." Or, I'll call them, or they'll call me and say, "Wow, I don't have any more episodes!" I'm not exactly sure why that happens, but at least in my experience, it's almost like a switch. It either works, or it doesn't work.

Then, you have the drugs like flecainide and propafenone. They're kind of similar in my experience. They're excellent drugs. I use them mostly in patients who have, almost in fact exclusively in patients who have normal hearts. I also want to make sure those patients have a beta blocker or calcium channel blockers, so they don't go real fast if they go into atrial fib or flutter. But, they're safe to start as an outpatient, if you're in normal rhythm.

They don't have a lot of drug-drug interactions, and they're quite successful. And, I sometimes will start flecainide even at low doses, at 50 milligrams twice a day. It's amazing to see how some people are so sensitive to the drug that you can get away with a really low dose.

Last of all, you have amiodarone. So, amiodarone is the kingpin of drugs in the fact of effectiveness; it's also the kingpin in side effects.

So, amiodarone has multiple ways it can affect atrial fib. It affects a lot of different channels in the heart. It's extremely effective. It can be started safely as an outpatient in almost any situation. The downside of amiodarone? It does have a lot of drug-drug interactions. You have to check what else patients are on — warfarin, certain statins — you've got to be aware of that. And, it can have a [something strange here] three to five percent chance of causing toxicity to the lungs, liver, and thyroid.

So, you can see, you have a lot of choices. You've got to know the drugs, you got to know the patient, you got to know the doses, but you can usually, with a little time and effort with each patient, pick the best one-two-punch for that patient.

And, if that's not working, in my experience, if you fail a couple of drugs, you might as well go on to ablation, unless you haven't tried amio. If you fail one or two of the non-amio drugs, my experience has been the third one's not going to work, and either go amiodarone or ablation.

But don't forget, ablation could also be used as an upfront therapy.

### **What Rhythm Control Medication Options Are There for Those With Heart Disease?**

You have less choices of selecting an antiarrhythmic drug when you have certain heart conditions.

First of all, if you have a very thick heart, and it has to be pretty thick, most of the drugs haven't been proven safe there. Amiodarone is probably the only drug I feel comfortable with there, so I don't really use most of the other drugs in that situation.

If you have coronary artery disease — and I don't mean, and this is a problem, you know everyone now is into the era of I'm going to go get a calcium scan, well, and you find a little calcium in your vessel — that's not what we mean by coronary artery disease, okay? Or, a huge swath of the population will be labeled that way.

I mean, you have had clinical coronary disease. The drugs that are considered safe there are sotalol, dofetilide, dronedarone, amiodarone. They're okay to use in that situation.

If you have heart failure, you're pretty much looking at amiodarone. With some people, I'll use dofetilide, but mostly amiodarone.

### **How Should Amiodarone Be Started and Managed?**

Amiodarone is truly in a class by itself. If you are a fan of Dickens, you might say, "It's the best of times, it's the worst of times." So, let me explain that to you.

I started using amiodarone early in my career, in the early 1980s, before it was actually an approved drug. There are a whole bunch of us who were investigating it. We were fortunate enough to write some of the early papers on it. But, we were using it back then mainly for life-threatening ventricular arrhythmias, and by the way, to the best of my knowledge, that's still its indication.

Okay, so guidelines clearly tell you you can use this drug, but if you actually look in these package inserts, you'll probably find out, for the most part, it'll still say it's for life-threatening rhythms. So, here's what you need to know.

It's a drug that's extremely effective. Often will work where no other drugs work. It's a drug that has to be handled with care, and not everybody is a candidate for it. So, knowing that some of the major side effects have to do with lung toxicity, liver, and thyroid, but not as high as in the old days when we used larger doses. Don't go by this 10 percent, and five — all those numbers. I've been using this drug for decades, and my numbers aren't anywhere near that high, but we're using lower doses than we used to.

Every patient should undergo pre-amiodarone testing: a chest x-ray, pulmonary function tests (including what's called a DLCO, which measures diffusion capacity in the lungs), liver enzymes, and thyroid testing. We do all that as our pre-amiodarone screen. Every now and then you find a person, and you feel bad about it because you know what you have to tell the patient, actually has severe lung disease they didn't know about, and they're not a candidate for amio. That'll be clear, but then the patient, unfortunately, has to deal with this other problem they didn't know was there. So, once we clear a patient, we will start them on the drug, but we review carefully with everyone, before they start, all the risks and the benefits. And, we don't use it unless other options aren't available to us.

You could do ablation, but some patients would rather take amio than ablation. That is a patient preference. That's not my preference. Patients have a right to choose what they want, and if they choose that, then you have to make sure there's no drug-drug interactions. For example, some statin's doses, not all — depends on the metabolism of a statin — have to be lowered.

So, what occurs is the following. First of all, you do preliminary testing, make sure it's safe to use.

Second of all, you've had a discussion with the patient — they know risks and benefits.

Third of all, you tell them to stay out of the direct sunlight because you can get really photosensitivity with the drug. You have to prepare the patient for all these.

Then you look at their drug list, make sure there's nothing you have to alter. Get them off a certain statin, lower the dose of a statin. If they're on warfarin, you have to manage through that.

And then, you follow them. Everybody, I shouldn't say everybody, people have different ways of following them. My own way of following patients is every six months to repeat those tests, not the pulmonary function test. Chest x-ray, liver, thyroid function tests, I repeat every six months, and I usually get an amiodarone level. But I get that level often in the three month period. You'd be surprised how variable the level is for the same dose.

Remember, it's not a dose of amio, it's a level you try to get to. And, if you've given someone just a pill a day, but their level's too high, you cut back on it.

So, you have to just manage them over time, and you tell them to let you know if they have any shortness of breath, or a cough. These are early signs of lung problems. And, you'll find, if you do that, honestly, the drug will be a very safe to use, realizing some people will have problems with it.

The concept that no one should get amio is absurd because there are some people that that's the only drug that works, and who are you to tell them they should be miserable their whole life. You know, it's a patient choice. It's a risk-benefit discussion with the doctor and the patient, and patients have a right to make a decision there.

### **What Do You Need to Know if You're on Amiodarone?**

When I've been to some of these patient conferences that Mellanie True Hills puts on, that are really terrific, I've had the opportunity, and also the sadness at times, to hear what's going on around the country, because you sit there and you chat with patients that aren't your patients. And, they tell you right up front, "Here's what I'm on. Here's what my doctor's doing. What do you think Dr. P.?"

I've had a whole bunch of them who are on amiodarone with absolutely no follow-up. And, I'll say, "Well, how often does your doctor do follow-up tests?"

"What follow-up tests?"

"Well, does he do a chest x-ray?"

"No. Why should he?"

Look, if you're the patient, and someone put you on amiodarone, make sure you know you're supposed to have follow-up tests. That's all I can tell you. If somebody did it, and didn't have follow-up tests, go seek another doctor, frankly. That means that person either doesn't understand or forgot to tell you.

The point is, you need your follow-up tests. It's just not the way you handle the drug.

### **When Do You Combine Rate and Rhythm Control Medications?**

Often, you need more than one type of therapy for a particular patient.

Let's say, you've chosen a rhythm control, so your primary objective is to maintain sinus rhythm. But, you live in a realistic world for the patient that that's probably not going to happen 100% of the time. So, you want to be sure when they go into atrial fibrillation, that they're not putting themselves at risk because their heart's too fast or too slow. So, they're typically going to be on a drug for rhythm control and a drug for rate control. And, what you have to do is make sure you don't pile on, so you have to look at the drug you selected.

For example, if you chose dofetilide, it has very little effect to slow the rate. So, there you might want to be sure you've got a good rate-controlling drug with it if the person has recurrences. Otherwise, they'll come in with 130, 140-beat-a-minute afib.

On the other hand, if you have a drug like sotalol that has beta-blocking effects plus primary antiarrhythmic effects, you've already got a beta blocker on board. You may not want to add more beta blockers or calcium channel blockers to that patient because if they go into afib, they may go at a really slow rate and get into trouble.

So, you've got to balance the two out, and you have to figure which drug you're on and how do the two drugs interact. Obviously, you want to avoid any kind of drug-drug interaction, but that's not usually a major problem with the classes of drugs we're talking about. Now, they can interact with some of the blood thinners, for sure, and other drugs, but that's not usually a major thing.

So, it's usually, you're already on a drug that slows the rate.

And, I'll tell you, pharmacists are forever a pain in my you-know-what because I'll put a patient on a drug like flecainide with verapamil. Okay? Which is fine. And, I'll get a call from the pharmacist — I'm using two drugs I shouldn't use together because of some, I don't know, computer program they have. You have to have some blocking of a drug. So, I can tell them, "Fine, I'll switch to this one," but they're not happy. And, I'll tell him after that, "Please read my textbook, or just fill my prescription."

### **Which Rhythm Control Medications Have Beta-Blocking Properties?**

You need to know, with some antiarrhythmics, which drugs also have what's called antisymphathetic effects. They're not all traditional beta blockers, but it doesn't really matter how. They are antisymphathetic.

So, for example, amiodarone can really have a major beta-blocking-like effect. It's not classic beta blocker, but it's antisymphathetic.

Sotalol clearly has a major beta blocker in it.

There is some AV node blocking ability to a drug, dronedarone. It's not dramatic; it's not as potent as the other two I've mentioned.

And, surprisingly, propafenone. Propafenone does have beta-blocking effects. And, in fact, there is a genetic abnormality in some people who can't break the drug down. And, one of the classic things that we want our trainees to know is, if you start somebody on propafenone, and they call up because their heart rate's really slow, or they're wheezing, you can be pretty sure that they're not metabolizing the drug properly because the metabolized component does not have a dramatic beta-blocking effect. So, it depends on what kind of metabolizer you are. But, you've got to remember, it does have some beta blocker activity. So, if you're supposed to avoid a beta blocker, let's say you have some really significant asthma, then you don't want to be using propafenone. At least, I wouldn't. You might get away with it, but you should avoid drugs that could exacerbate their underlying lung problem.

And, I always ask those things, "Do you have wheezing components?" before I start any of these drugs because there are alternatives that don't have problems with the lungs. And, you should select those drugs instead.

## What Can You Do When Insurance Companies Refuse to Pay?

One of the sad things, without getting too political about our healthcare system, is the fact that doctors and patients don't always have the last say in what's the best therapy for a patient. It is not uncommon that I'll make a decision what's best for that patient, in a discussion we've had on a particular drug, only to have an insurance company say no. I don't think insurance companies have the right to do that, frankly, but I don't make the rules, right? And, you get into those situations.

So, if there's a legitimate alternative, that's the road I usually take. And, maybe drug A and B were close, and they wouldn't pay for A, they'll pay for B. Fine.

But, if they needed A, and there really isn't a good alternative, and sometimes, that's a drug called dofetilide, in our area at least, where insurance companies, for whatever their reason, it's not on their plan. Or, they won't pay for it, or the patient has to pay a huge amount of additional money. And, that may be, in that patient, really the drug I want them on. Then, then, the war starts, okay?

Then, we have to call the insurance companies. Sometimes, they listen; sometimes, they don't care, you know, uh; but, we try. We try our best.

If nothing works, I guess a patient can change companies, maybe? Or, just have to pay for it.

So, we do our best to make sure that patients get what we think is best for them, and what they've chosen, as far as their choice. But, you know, a doctor can only go so far. We can't force an insurance company to pay your bills. We just can't. So, we can do the best we can, but we don't always win. But, we do try.

## How Should We Manage Medications When Multiple Doctors are Involved?

A major problem for patients is multiple doctors and multiple drugs, and the doctor who prescribes a new drug not bothering to look at what drugs the patients are on.

If you're the patient, and you're on a drug that might interact in a very negative way with a different drug, it is not your job to know which drugs to watch out for. You can't possibly know that. I can't either without a program I keep on my phone.

All my patients get the following messages from me when I put them on a drug that has those properties. I tell them, "You never allow a new drug, over the counter (sometimes, over the counter drugs can do it) or prescription, to be taken by you without either calling our office first or checking with the pharmacists because, I will tell you, the other doctor who's prescribing something, you can bet they haven't looked at your drug list."

I'm just telling you, from years of experience, they haven't gone down and said, "Oh, look at it this! You're on sotalol, atorvastatin, and clopidogrel. Oh, well, let me go look up the drug-drug...."

They say, "You know what? You came here. You're nervous. Take this drug." Or, "You came here, and oh, you have a sore throat. Let me put you on an antibiotic."

Really? What if that antibiotic prolongs your QT interval, and you're already on dofetilide, and it's a contraindication, and you go into a life-threatening rhythm? Seriously?

You need to know that. You need to remember that. Do not depend on every doctor doing that. You need to take charge of that.

### **Should Afib Patients Know About Ion Channels?**

When I have my initial discussion with patients in my office, I walk through the three pillars of care: rate control, rhythm control, and anticoagulation.

When we get to the part about drugs, just in a general discussion, not uncommonly, a patient may say to me, "Well, how does that drug work, Dr P.?"

And, it's a moment where you have to make a decision in how your day's going, quite frankly, because honestly, if the person has no knowledge of cardiac electrophysiology, try to explain to them the following: "This is an IKr-blocker that affects the action potentials in the atrium and the ventricle, and under certain conditions, you could get a life-threatening rhythm, and it interacts this way with certain other drugs, and you have to be aware of that."

Or, try explaining amiodarone that affects calcium channels. It's got anti-sympathetic effects, it affects sodium channels.

I mean, if I will turn to a patient at that point and say, "I don't mind discussing this with you if you have a background, if you have a biology background, I'll be happy to do it. But, otherwise, it's not even worth going into because you'd have to know an enormous amount of information to make it understandable. I'll be happy to give you a source where you can go read about it, but we're not going to spend all of your valuable time today on that because there are other issues."

Sometimes, patients are okay with that; other times, they're not. But, I'm sorry. To be frank with patients, my role is not to describe the electrophysiology of the heart. My goal, with you, is to help you understand your disease, the treatment options, and help you get to what's best for you. That's my goal.

This is really arcane stuff. It's hard to understand, even for cardiologists.

## Chapter 3: Catheter Ablation

Discover some of the considerations your doctors make when deciding whether an ablation procedure should be part of your treatment plan, including the concept of whether there is a “window of opportunity” to have a successful ablation, and what your other options might be.

Dr. Prystowsky shares his insight on how to choose a provider if you and your doctors decide an ablation is right for you. Finally, he shares his insights on the important and influential CABANA Study and its implications for people living with afib.

### How Do You Know When to Consider an Ablation Procedure?

In the rhythm control portfolio, you have drugs, and you have ablation. Years ago, we made it clear (and I was part of this; I was on the initial guideline writing committees), the data on catheter ablation was in its early years. We didn't feel there were enough data to support as a first line option. When we say first line option, we don't mean you need to do an ablation. We mean, it's part of your initial choice of therapies. But, there are substantial data published now, to in my own opinion, and I think of many of the current guideline writers, that if you have a center that does good volume, good results with ablation, it should be in the mix, and it should be part of the initial discussion with the patient.

So, let's say having said all that, the patient says, "I like that. Thanks, Dr. P, I want to try that flecainide." That's fine. Have your flecainide.

You know, in three months, they come back in the office. "How you doing?"

"Well, you know, I've been having a lot of episodes. And, you know, I'm already taking it. I'm already getting a little side effects, a little dizziness. I don't really want to go up on the dose."

Well, then you have a choice to make. Either, they stay miserable, which is to me not a good choice, but it is the patient's choice if they want. Usually, that's not a choice. Let's try a different drug, or let's move on to ablation.

If somebody comes out, let's take that same patient, and now every year I see him twice a year. They've been on 100 milligrams of flecainide twice a day, zero side effects, feeling great. Now, it's three years later, and they're coming to see me. I never tell the patient, "You know what? You ought to move onto an ablation."

That is, to me, inappropriate. I'm not saying you couldn't do it. I always remind patients they still have another option, if they so choose. And, then if they say, "Well, is there a reason I should do it now?" My answer is no. I mean, if a patient is tolerating a drug, and it's effective, there is no reason that they have to go on to an ablation.

I think ablation is a patient's choice more than a doctor's choice. That's a personal opinion. I always offer it. I mean, sometimes, I will say, "Look, we're getting to a point where I think you need to consider ablation because your only choice is amiodarone, and you're 55 years old. Do I really want you taking amio for years? Not really. I think that the better choice there for you is to consider an ablation." So, ablation can be up front.

I have a patient recently who saw me, who's an athlete. Now, I'll promise you, an athlete is not going to take drugs. Okay, end of story. They never take drugs. They don't want beta blockers; they don't want any drugs. I mean, even anticoagulants are a struggle with athletes, and they sure as heck don't want antiarrhythmic drugs. I mean, his rate in my office was 45. Okay. He's fine. Any drug I give him is going to lower it, and he's set up for an ablation. There's no question, those kind of folks just need right to the ablation lab.

So, I think it's an individual thing. But, if you're not doing well on the drug, either effectiveness or side effects, move on to ablation. That, I think, is an easy path for a patient. If you're doing great, with no side effects, and great efficacy, if you want to get off the drug and take an ablation, fine. If you don't, then don't. I think there's no compelling reason to do an ablation.

### **Is There a Window of Opportunity to Have a Successful Ablation?**

One of the most disheartening consults I get is the following: 64-year-old gentleman comes in to see me. He's been in atrial fibrillation, by his reckoning, at least four to five years. We're not exactly sure. Yeah, he has some symptoms. He's been a little fatigued, and he's getting a little worse. Right. Okay. His wife tells me, "By the way, you know, he's not remembering as much."

And, he says, "You know, Dr. Prystowsky, the reason I'm coming to see you is I know you guys have a big ablation center. I need to be ablated."

Okay, so then you say, "You've had four-plus years of constant atrial fib." I know right away what I'm going to get into. I can bet money his left atrium is dilated and fibrosed, which is going to make any ablation much, much harder to do. And, then you go get your studies. You get either an MRI, or you get echo[cardiogram]s, and it confirms everything. And, then you just have to be honest with the patient, and say, "Look, I'll do it because drugs almost surely won't work, but you need to know a single procedure success rate is low. If somebody told you it was 60 percent, either they were drinking something they shouldn't have been drinking, or they're just trying to build business, but they're not telling the truth. Okay?" You don't get a 60-percent one-procedure success with somebody who's been in afib for four-plus years, and has a huge left atrium.

So, prevention is the issue. Do not let somebody stay in afib four years. If they don't want sinus rhythm, and you've had that discussion four years ago, fine. I think they made a decision.

This is why every patient who has afib needs to see some specialist early on to figure out what their options are now and in the future. Atrial fib is a lifelong disease for most people. Okay? And, therefore, decisions made today will affect your life for decades, sometimes, to come. So, try to avoid that situation.

We're happy to try the ablation, if you go into it, eyes open, realizing that we have a likelihood of success that's low. Some patients will say anyway, that's fine. That's okay. As long as we've been honest with the patient, we'll do it. But, once the patient realizes what they're up against, sometimes they just say, "You know what? Forget about it."

But, you don't want that to have to happen. That could have all been avoidable if the patient had this discussion four years ago.

## What Are Other Options Besides a Catheter Ablation?

Let's take a patient who's had years of afib with an enlarged left atrium, with a clear-cut reduction in success rate with a routine catheter ablation, no matter which technique you like to use. There are alternatives if they really want to get more aggressive.

There are surgical procedures. There's a mini maze, or there's a hardcore get-in-there and do a regular maze procedure.

But, I want to tell you something with these patients. I've had some of the patients say, "I want to do the surgery." Surgeons often don't see them back, and they quote very high success rates. I'm here to tell you their success rates aren't that high in those patients because I see them back after they've gone through an atrial reduction procedure and lines all over the atrium, you know, sliced and diced and the left atrial appendage removed, which is great to have them do, for sure. And, then they come back and see me a couple months later, and they're either in atrial fib or in atrial tach.

It's just hard. I don't care what technique you use.

But, again, it's all about patient education. Patients should know there are alternatives. If you have a competent surgeon who can help them, they should talk to them, but they should be honest discussions.

Again, maybe other groups are seeing much better success. But, in my experience, you have someone who's been in long-time atrial fib — they just have scarred-down dysfunctional atria — and they're very hard to cure, no matter what technique you use.

## How Do Patients Select the Right Provider for a Catheter Ablation?

Patients will, not infrequently, come see me just as a second opinion regarding ablation. If they've already decided they want an ablation, but they're struggling with the literature on it — websites, you know, chit-chat with other patients.

I tell you, the worst thing for me are other patients, because if another patient had a good result with whatever that procedure was, that's all they talk about. "You must have a cryo. You cannot have anything but a cryo." You meet somebody else who didn't have a good cryo experience, and they'll say, "Don't ever do a cryo." That's all nonsense. The literature's out there and most of these procedures, in good hands, are comparable in paroxysmal afib.

Persistent afib is a little different animal that we're dealing with.

So, I would say to anybody who has decided to have a procedure (ablation) who has paroxysmal afib, don't get hung up on if somebody does cryo or if somebody does radiofrequency. Get hung up on who's doing it, and what their numbers are, and their success rates. And, ask them. You know, you sit there and say, "How many of these things do you do a year? What's your success rate been? What's your complication rate?" And, if they're doing 20 or 30 a year, find someone else. I don't care who it is.

And, if they tell you they almost never get complications, find someone else, because no one's God in this business. Okay? There's no 100-0.

And, I have people sent to me sometimes who have been told, "This is a no-big-deal procedure." Guess what? It's a big-deal procedure. I mean it has risk, it has benefits. There's some serious complications. It is a big-deal procedure. It's not, it's not open heart surgery, but it's still a big-deal procedure, and patients have to be educated on the procedure.

Now, there are certain circumstances where I simply know that there are some better people, and not necessarily even in my group, but in the country, to do some boutique-type things. There are patients who have mechanical valves, and not everybody's comfortable doing a patient like that. So, what you have to do is make sure that, with your situation, whoever you're going to see has experience.

And, if you have persistent afib — you've been in it a long time — sometimes, just isolating the veins isn't enough, and that's where you really need to get a sophisticated person.

So, I wish I could tell you exactly what you should do. I would tell you that, sometimes, asking that question to your electrophysiologist won't get you anywhere because, if they're preparing to do your ablation, they're not necessarily going to say, "Hey, Bill down the road is who you should see." I mean, let's be honest, you know, if you're going to buy a Mercedes, the Mercedes dealer is not going to say, "Hey, by the way, did you check out the Porsches down the road before you buy my car?" I mean, hey, let's be reasonable.

But, you can find out. I mean, you can take a search. You can see some additional things. And, you could go to places like the Heart Rhythm [Society], and just make sure you get a second opinion.

So, let's say you're not sure. What should you do? It's your life, it's your procedure, and you're just not sure. Get a second opinion from a different group, and then compare and see what you want.

But, above and beyond everything, make sure your operator is doing a sizable number of these every year — more than 50 a year — and has good results and good complication results.

That's the best I can advise you without specific instances.

### **What Should Patients Look for in a Doctor To Do a Catheter Ablation?**

What you want in your doctor who does your afib ablation is somebody who's smart, who's capable, and who has a good track record, in afib ablations. Not, like they do VT all week long and do an occasional afib. The people who do multiple afibs a week.

So, you have to sort of take their word on it. I mean, if you ask your doctor how many afib ablations do you do a year, and they say hundreds, I mean, I don't know. Maybe they don't do hundreds, and maybe they had a lapse of memory, or maybe they think they're doing hundreds. I think you have to either believe them or not. I don't know how to verify that without getting into billing records, which you're not going to be privy to. Right?

And, you have to accept their results. If they say, "I have a 60 percent result success," I guess if you say, "No, you don't," you have to prove that. I mean, they know what their results are.

Be careful of the outliers. If somebody quotes you less than one percent complications and a greater than 90 percent success, I'm going to tell you to look elsewhere. I mean, would that be the one person that you lucked into that beats the entire world's literature? Maybe. Maybe you have that one jewel at the bottom of the ocean that no one knew about, but I kinda doubt it. So, there is a lot of data out there you can look at that tells you the average success rates.

If you're not sure, get a second opinion. Patients will come to me. And, get it from someone who has a national profile, who has no iron in the fire that they're trying to steal anyone's patients.

It's not uncommon I get second opinions. And, I know what a second opinion is. A second opinion is not me to take over your care. Second opinion is to give you guidance. You know, sometimes patients may want to go to you. That's not a second opinion though. It's to give you guidance, and I kind of know who does what, you know.

So, sometimes, I'll hear them out, and if somebody has quoted a ridiculous number, I'll be gentle about it, but I'll just say, "You know, he must be, or she must be, the only one in the world getting those numbers. Don't you think that's a little strange? While I'm not going to call them a liar, that would be wrong. I just want to tell you; nobody else is getting those numbers. So, you should think about that."

So, if you're not sure, ask around. There's just no registry I know of that says Bob down the street does this many, and Billy does that many. I don't know of any such registry. So, I guess you sort of have to take them on their word.

### **What Is a Fellow of the Heart Rhythm Society (FHRS)?**

One of the things you can do, and people ask me this about trying to find a good doctor in your area, is to go to the Heart Rhythm [Society] website, [hrsonline.org](http://hrsonline.org). There's a section on there that says "Find a Specialist," and then you can kind of look at your area, your area code, and you can figure out kind of a geographic area you're comfortable looking for someone. There's codes in there; one of them is Fellow of the Heart Rhythm Society (FHRS).

Now, I'm going to tell you that doesn't guarantee, you know some, it's like a stamp of approval; you know, the Good Housekeeping seal. It does tell you they have at least a certain level of accomplishment.

They're not going to tell you how good their hands are. They're not going to tell you if they think through every problem right. But, they do tell you they've at least become a Fellow of the Heart Rhythm Society, and certainly, not everyone gets to that point. So, if you don't know anything, you at least know that you're dealing with somebody who's been given a designation that says they passed a certain hurdle. And, that's a good starting point if you don't know anyone.

### **Is Radiofrequency or Cryo Ablation Better for Afib Patients?**

Probably the most common question I get. We do both of these procedures at our institution, but we do more radiofrequency (RF) than cryoablation. That's just because of how we grew up at our place.

Some places are sort of enamored with cryo. But, the thing you need to know is they both work in people with paroxysmal afib if done correctly, with someone with experience with the procedure. I don't see a difference.

Now, I'll sometimes send a patient of mine for a cryoablation based on what I see in that patient. And, sometimes, if you held my feet to the fire and say, "Why exactly that patient," it's kind of a gestalt.

But, if you said the cryo wasn't working that day, I'd say do the RF. I don't think there's a difference, in my opinion. The world's literature would tend to back that up.

Again, both techniques are good. It's not the technique; it's the hands and mind behind the technique that's going to ensure your best outcome.

### **What Can We Learn From the CABANA Study?**

CABANA is in the air. Okay. And, the official article isn't published, but I know a fair amount about it for a couple of reasons, not the least of which, at the Heart Rhythm Society Late Breaking Trial section, I was asked to be what's called the discussant, which meant I got some of the results early and was able to sort through them and think about them.

Also, [principal investigator] Doug Packer happens to be a close friend of mine, so it's not that he's broken any rules, but once the CABANA was out there, he and I had a chance to talk about it in more detail.

And, it's an unbelievably important trial, and I'm going to tell you, hats off to Dr. Packer, who spent what a decade-plus of his life doing this trial.

So, now CABANA is finished, and CABANA is presented. And, as with many trials, you get two sides ready to go. I don't know why people can't just simply accept the data and wait til the full manuscript is out. But, no, that's not what happened.

So, let's talk CABANA for a second. Let's talk the intention-to-treat analysis because this is what's created most of the fervor. Trialists are off-the-charts upset by some of the comments that were made, what's called secondary analyses. But, I was a discussant, and let me tell you how I tried to put it into perspective from my view as a consultant electrophysiologist who sees lots and lots of patients with afib.

First of all, the intention-to-treat analysis, which for people who don't know all the statistical things, means that 20 people get into Group A, 20 people get into Group B, you send them on their way. We don't care what you do — we don't care you never did the ablation; we don't care that you decided to go party for four years; we really don't care what you did. In the end of the analysis, we're going to look at both groups, and we're going to say, "What were the endpoints?" Even if you didn't get the procedure done, or even if you didn't take the drug you were supposed to, we don't care.

The intention-to-treat limb is what we're looking at. So, if you look at that, there was no difference — statistically, no difference between drugs and ablation in major outcomes.

Now, you can look at that as a glass half full, or as the glass half empty. I look at it, frankly, as the glass half full. For years, people have said, "Don't do ablation. Do drugs. Only do ablation when drugs fail." Well, how do those people now feel? Some of those people were the loudest voices out there screaming about CABANA, but they've been anti-ablation for years. They're druggies, frankly, from their careers — that doesn't mean it's bad — I'm just saying that all their career work has been in the drug area.

Well, let's look at the data. If there's no difference, shouldn't I be able to — in my office, with any patient I see — offer upfront a choice of drugs or ablation? You've got to at least give me that. Okay, and that was part of what my discussion was. That major outcomes were the same.

If major outcomes are the same, then at the very least, it should be in the initial discussion, or it's not fair to the patients because you didn't see one was better than the other with major outcomes. And, that's how I've interpreted it.

Now, dig deeper. I know I'm going to hear from people. This video presentation will be seen by somebody who will undoubtedly write me a negative note, or do some tweet, or whatever people like to do that don't like what you have to say.

But, as a doctor, and as a patient you should ask the following. "Well, how did the people actually do who received therapy, whether it be drugs or ablation?" Well, guess what, gang? The people who actually received an ablation did pretty well, okay, in many metrics.

Now, that wasn't the primary outcome of the study, and I'm not going to present it as such, but it's still worthwhile information on my part. I mean, there's a group of people who got the ablation, and they actually did well.

And, there's also an analysis that's been published, been presented in the European meetings, that show quality of life was better for the ablation group than the drug group, although both seemed to do better than neither having either one of them, which supports what I've been yelling for years that sinus rhythm, I think, is better than rate control. I mean, that's not the outcome of the study, but that's one of the things I took away from this regarding symptom control, at least in this study.

So, I'm waiting for the final manuscript to come out. So, until that time, here's what we know.

We know that major outcomes were similar (i.e., if you're the patient, you should be allowed to pick either one in your treatment strategy.) Why not? They were no different as far as complications, as far as anything.

Number two, you should know, that of the group that received ablation, actually received it, they did pretty well. They had much less afib than the drug group.

You need to know that. What, are you supposed to hide that because it wasn't the intention-to-treat analysis? A 10-plus year study and you're supposed to say, "Oh, I'm only going to look at one figure?" Well, if you're a sort of anti-ablation person, yeah, I guess you are going to hide it. If you're the patient, would you not like to know that fact?

Forget ablation versus drugs. Let's say, it was a surgery on your back issue. And, let's say you found no difference in two metrics. Okay? So, you could either do the surgery or conservative treatment. But, then they also found, but the people who got back surgery over the course of the year had less mobility problems, had less this, had less that. Do you not care to know that?

So, I think, for the people who only want to see one figure, fine, don't turn the page. But, for the rest of us who want to see the full dataset, I'm looking forward to the article.

### **What Do You Tell Patients About the CABANA Study?**

The intention-to-treat analysis in CABANA showed no difference in major outcomes for ablation versus drugs. So, now I have changed my discussion with patients. I explain CABANA to them when I see them at the first visit. And, I say, "Look, if you're going to go rate control, I just want you to know a major study has shown these two pathways, drugs and ablation, for major outcomes were comparable. So, you should think about that if you want to pick a drug or ablation. It's still your choice, but you should know that piece of information."

# Chapter 4: Stroke Prevention

Dr. Prystowsky shares his advice on how to manage stroke risk (with your doctor), as well as how to weigh the risk of stroke against other risks, like falling or bleeding.

He also discusses stroke prevention devices and how to know whether they may be something to talk with your clinicians about.

## What Do You Have to Consider Regarding Stroke Prevention?

There are three limbs to treatment for people with afib: rate control, rhythm control, and prevention of stroke. I'd like you to forget the first two for a moment because if you get the third one wrong, I don't really care what you do with the first two.

Without a doubt, the most important thing is to get the third one right, preventing a stroke. And, this is the one patients struggle with the most because their initial reaction is, "A blood thinner? You know Doc, when I, when I just breeze by a door, I cut my... Look at this. I get, I get bruises all over the place."

So, here's the thing, the obvious downsides of anticoagulants are there. You see them all the time. I hit my hand; I got a bruise. I nicked myself; I had a cut, it bled a little longer. But, the protective effects of a stroke aren't looked at unless you have a stroke and you didn't get the protection, right?

So, you always see the downside of blood thinners, and that's absolutely the way it is. You've got to look past that and look at the upside, which is you didn't get a stroke.

So, you never know that though, right? Because a patient can say to you, "Well, how do you know it was the drug, Doc? Maybe I just was lucky, and I didn't have to take blood thinners, and I wouldn't have had a stroke anyway?"

You're right. You don't know it's protecting you until it's not protecting you. Okay? And, do you want a stroke?

So, here's what happens. This is the longest part of my discussion in the office with a patient. I sometimes take 10 or 15 minutes just on this. But, I cheat a little bit because I was a part of a team a long time ago that put together afib videos that are available to anybody. And, one of the most important videos I put in there shows what can happen if you make a mistake. It shows a clot in the heart.

And, I show it to patients on my iPad that I use in the office, and I say, "Just watch this." And, I don't say anything. And, what you see is a clot; you see the clot dislodge; you see the clot go out of the aorta, right up to the brain, and boom, a stroke takes place. And, I say to them, "I'm not here to scare you. I'm telling you why we worry about this issue." And, it's powerful.

I'm just going to tell you, very few people turn down blood thinners after that. But, I don't show that video until I've had a full discussion of blood thinners, and if they meet criteria.

So, it's not up to you to push anybody into a blood thinner. I think that's the wrong thing to do. I think it's up to you, as the doctor, to be as open as you can in your discussion about risks and benefits of blood thinners. What is the actual risk to this patient? What is your CHA2DS2-VASc score? What is your actual risk of bleeding?

But, I think it's important, at that point, to also show them why we're concerned. And, that's why I show the video. It's not to scare them. It's to say, this is not some abstract theory. Here's what we're actually worried about. These are data that had been proved; this is not made up stuff. And, then I let the patient decide, with me, which way to go.

The hardest decisions are people who are in that mid zone, we call it CHA2DS2-VASc of one. There, the patient could have almost the same, you know, stroke risk as a bleeding risk, and it's hard to figure that out. So, honestly, I just tell them the following, after we've had a thorough discussion, they're often not sure. They always say to me, "What would you do Dr. Prystowsky?" And, you know, I'm happy to tell them that, but you know, I'd rather them come to a decision on their own.

And, I just say, "Well, let me explain this to you a little differently. If the risks are about the same, would you rather have a bleed, or would you rather have a stroke? I know you don't want either, but what would be more important to you because the risks are about the same."

And, looked at that way, most people say, "Whoa, I never thought of it that way." I say, "Well, that's how you have to look at it this way because I can't tell you you're going to have a better outcome versus not in that category of risk."

And, usually, they'll side with a blood thinner. Strokes scare all of us, and certainly patients. And, once you have a stroke, game's over, or it's usually over.

So, honestly, I do everything I can to avoid strokes in my patients. It's the first thing I talk about, and it's the last thing I do before they leave.

### **How Do You Weigh Fall Risk Versus Stroke Risk?**

One of the toughest decisions patients and doctors have to make is the issue of a person falling and hitting their head and getting an intracranial bleed, for example, versus preventing a stroke. And, as people age, and they get more frail, and their abilities to not fall down are not as good, this issue rises up.

My approach is pretty hardcore. I do everything I can, if someone's at high risk for stroke, to find out exactly what their fall risk is.

Often, when you dig into it, you'll realize they never fell and hit their head. They've been unsteady of gait a couple of times; once or twice, they tripped. And, that's not enough to take someone off a blood thinner.

And, I know that very much from a patient of mine who I've been taking care of for almost 25 years. I tried my darndest to tell the doctor not to take — she was a high stroke risk — and he stopped it because he thought she was "falling."

She had a major stroke. She's been in a wheelchair for over a decade. I see her twice a year. Every time I see her, I'm reminded what a mistake that was to stop her warfarin.

So, if you truly are at risk, and if you're truly falling, and you've documented that you've fallen and you've hit your head, okay, let's try something else. Maybe they need some left atrial appendage occlusive device or something.

But, just because someone is "unsteady" is not a reason to stop blood thinners.

### **When Do You Consider a Stroke Prevention Device?**

A lot of patients read about these new devices we have; they can go plug up the left atrial appendage and minimize the stroke risks. And, you know, they're on websites and afib sites, or they know someone who had it. And, I'm glad they're up on the data, and up on the concept that they exist. But, what they don't know is they have very limited clinical use right now.

First of all, they don't work in everybody; I mean, just like blood thinners. I mean, not every stroke comes from the left atrial appendage. So, they need to know there's still some residual risk.

And, they're not for everybody. So, if you can take a blood thinner, and you've been doing well on a blood thinner, usually you're not a candidate for it.

I reserve them — I don't put them in, but I've sent them to be put in by one of my partners — I've reserved it for people who absolutely worry me as far as the stroke risk, but are either contraindicated, or relatively contraindicated, to a blood thinner.

I have a patient, not long ago, who had three gastrointestinal bleeds on one of the DOACs. That's enough. I mean, it required six units of blood. That person cannot be on a blood thinner long-term, and I've referred that person for consideration of one of these devices.

But, at the moment, they're not for everybody. They have to be used selectively, but they are valuable, and they should be part of your armamentarium.

### **How Do You Choose Between Warfarin and DOACs?**

During the discussion of anticoagulation, it's important to talk about two different roads. One is the classic warfarin that requires, usually, monthly INR checks. And, the other are these new drugs, so-called Direct Oral Anticoagulants, or DOACs.

They should both be brought up in the discussion, with risks and benefits, and advantages and disadvantages, mostly, of discussion.

So, I usually tell a patient, "If you want to take warfarin, we'll be able to track your actual blood thinning. We'll know, from a lot of experience, if you're in the range or not. And, we can adjust accordingly. You do have to have monthly blood checks. There are foods and other things that interact, but it's fine. I mean, there's nothing wrong with being on warfarin.

If you take one of these DOACs, you need to know they're dose-related. And, no, there's not a blood test I can do to say how protected you are. You just have to accept the fact that you're protected because all the studies showed, at this dose, you had at least as good of an effect against warfarin, and sometimes better."

So, what's the downside of them? It's usually cost, quite frankly; and, if you get into a Medicare age group, they can be cost prohibitive. So, you just have to discuss both.

Some patients actually like the idea of knowing that they're protected. They know an INR number. I'm okay with that. That's fine with me. We teach them how to do warfarin. Some people have bad kidney function, and then they have to be on warfarin. Okay? Or, some people have artificial valves, and they have to be on warfarin.

But, if you can take both, my own bias is I like to give you one of the newer drugs. Compliance, in my experience, is better. They're easier to take. They're more user-friendly. If your wallet doesn't get diuresed — you know, and you can't afford them — then I would prefer some of the newer drugs. I don't see any downside to them regarding that.

But, if you're in a group that can't afford them, I would suggest warfarin, and not say it's terrible. I mean, you will get patients come in and go, "That's rat poison, Prystowsky. I'm not taking it." Actually, it is rat poison, you know? So be it; I mean, but it works.

So, I think the discussion has to be made, benefits and risks of both; cost has to be taken into account; and then, let the patient make a decision.

### **How Do You Stop or Change Warfarin or DOACs?**

Two issues occur that require alteration of anticoagulant therapy.

The most common is the patient is going to undergo a procedure, often a colonoscopy, and the gastroenterologist will not do it without stopping the drugs, whether it be warfarin or a DOAC.

We have a standard reply to that. We tell them that there is a risk of stroke; it's very small, but there is a risk, and you have to accept that. They won't do the procedure, in my experience, unless we stop it; or, they're undergoing surgery.

So, those situations are black and white. Either you stop it and get the procedure, or you just keep going on and the procedure's not going to be done. And, that's a decision you just have to make.

My guidance to both the patient and the doctor is, there is a small risk — it's very small, but there's a small risk — and to please minimize time off the anticoagulant.

A different issue is when you have to switch from one anticoagulant to another, and there are guidances on this.

If it's a DOAC to a DOAC, let's say, apixaban to rivaroxaban, okay? One is twice a day, one is once a day, but the guidance is, when your next dose is due, you just switch over. And, usually, this is a smooth transition. I've done that many times with patients.

You do have to make sure there's no drug-drug interactions with the new drug. Sometimes, there are. Not all drugs work through the same elimination pathways in the body. So, you have to check that.

The biggest one, that I actually don't keep in my head, I look up, is the warfarin to a DOAC, or a DOAC to warfarin. Sometimes, for whatever reason, patient decides I'm off of this, I want to be on that. Those are different depending on the drug. And, what you have to do, and it's in a lot of programs that doctors can get on their phones, they'll give you instructions. They'll say, "Stop this, check this, start this when this is this," and I just follow the rules.

I mean, they're not all the same, so it's not something I personally commit to memory. I just look it up when a person has to switch, and I give them the rules.

### **What Do You Do When Patients Forget Medications?**

One of the issues that comes up occasionally in the office is a patient who is more elderly and is starting to forget things, and I always try to, and they're on warfarin, let's say, but they could be on a DOAC, too. And, I'll have a serious chat with the family members because, not infrequently, they're living at home still; I mean, they're living in their own home.

If they're in a controlled environment, like a nursing home or assisted living, where there's somebody who can check their medicines, it's a little different. But, not infrequently, they're still on their own. And, one of the concerns I have, and the family members have, is are they taking their medicines? Because this an area you can't mess with. If you're in persistent afib, and you're more elderly, and you have a bunch of risk factors for stroke, either you take too much, and you have a major bleed, or not enough, and you have a stroke.

These are tough questions to ask. And, I've actually made some recommendations at times to family that either they have an aide come in daily, and make sure they get their meds, or they consider moving them to a different facility because this is a dangerous situation and you must take these medicines. They're protective of your brain, and you can't mess this one up.