



*Photo courtesy of Dr. Westafer; graphic by Getty Images*

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## Thinking harder about heparin

Hospitalists, ED physicians, and interventionalists could benefit from a chat about how they treat pulmonary embolisms.

*By Stacey Butterfield*

4-min read



**W**hen patients with pulmonary embolism (PE) are prescribed an anticoagulant, they likely imagine that the drug has been carefully selected for them by their physician, based on the latest evidence of harms and benefits.

Not so much, according to a recent study in which Lauren M. Westafer, DO, MPH, MS, and colleagues interviewed 46 emergency medicine, hospitalist, interventional cardiology, and interventional radiology physicians about the factors they consider

in choosing an anticoagulant for patients with PE.

The researchers did find some explanations for why unfractionated heparin is still so widely used for PE, despite no longer being the recommended option for most patients. Driving factors included “agnosticism regarding choice of anticoagulant, the inertia of learned practice, and therapeutic momentum after anticoagulation initiation” [↗](#),” the authors reported in study results published by *JAMA Network Open* on Jan. 3.

To learn more about why this is and how to fix it, *ACP Hospitalist* recently spoke to Dr. Westafer, an assistant professor of emergency medicine at the University of Massachusetts Chan Medical School–Baystate, in Springfield, Mass.

**Q: What motivated you to study anticoagulation choice in PE?**

**A:** The guidelines for several years have said low-molecular-weight heparin or any alternative to unfractionated heparin is preferred in most cases (there's always exceptions). A couple of months ago, we published an article looking at the trends in anticoagulation use. We looked at almost 300,000 hospitalizations for pulmonary embolism and found that unfractionated heparin use actually increased from 2011 to 2020 [↗](#). I thought it would at least stay stable, if not go down. That's a problem, because it's really labor intensive for nursing staff. It's more blood draws for patients, more pokes for them. They're tied up to a pole. And it's associated with more harms like bleeding. I wanted to know, why is this happening?

**Q: What did you think of physicians' explanations of why they were doing this?**

**A:** Some of it was surprising. ... We thought people would really go to bat for what they chose. And we found that most people were more like, “I don't know. It's what I do. It's what I learned in training.” And then we noticed this interesting circular

pattern. ER docs would say, “I’m going to go with the unfractionated heparin, because it leaves the door open for whatever the hospitalists want to do.” Then when we talked to hospital medicine doctors, they were like, “Well, the path of least resistance is continuing what the ED started.” Some were like, “I would only change it if it were grossly wrong.” There’s that momentum across the hospital. ... It’s more of a hassle to transition and there’s the idea that you don’t want to second-guess somebody else.

**Q: What else should hospitalists take away from this study?**

**A:** The other interesting part is that there are these big myths. People said over and over again, “I want to choose unfractionated heparin in case the patient gets worse and needs an advanced therapy.” There was this idea that the interventionists wanted [unfractionated heparin] among hospital medicine and ER doctors. ... But when you talk to the interventionists, which we also did, they were like, “No, we don’t actually care which anticoagulant. We keep them anticoagulated [during a procedure]. We definitely don’t turn it off.”

So for hospital medicine doctors, one big thing is understanding your consultants. Let people know that you’re fine with low-molecular-weight heparin. Let your ED docs know, because they’re trying to predict what you want. Don’t predict what your interventionalists want. Talk with them, because many times they’re fine with low-molecular-weight heparin. We’re often anticipating and deferring to other people without understanding what they actually want.

**Q: Should hospitalists consider switching patients who come to them on unfractionated heparin?**

**A:** Most of these patients leave the hospital on an oral agent. I think the next step is figuring out which of these patients actually need the subcutaneous injection. Are there patients that can go straight to an oral medication without waiting until the

day of hospital discharge or the day before? Figuring out which subset of patients that is might also make the transition for hospital medicine easier.

**Q: Why do you think there hasn't been more adherence to recommendations in this area?**

**A:** This is not an industry-funded thing. These are two relatively inexpensive drugs. None of this is really new. We see this over and over again—people are really excited to adopt new technologies and medications. That is easy for us. What is very hard for us is to do anything that involves the perception of de-escalation. If people perceive unfractionated heparin as stronger, in their minds, giving a patient low-molecular-weight heparin or a direct oral anticoagulant is giving the patient a “less strong” drug. In contrast, it is oftentimes the opposite, and they may actually be more therapeutically anticoagulated on low-molecular-weight heparin. The data is there, the guidelines are there, but just cognitively making that perceived “step down” is hard for us.

**Q: How do you fix that?**

**A:** I wish I had an easy answer—the field of de-implementation is somewhat new. We have a lot to learn about how to make people feel comfortable with giving appropriate care when it is perceived as doing less. It's going to take a team approach, whether that's hospital medicine and interventional radiology, or interventional cardiology, to really get together to make sure that the people that are starting the therapy understand that giving an alternative to unfractionated heparin is not doing less and it's not taking away future options. Help champion that we can anticoagulate these patients with the appropriate medication, and if something happens, we can still take them to the cath lab and remove that clot.

**Q: Would protocols help?**

**A:** Perhaps. People are going to default to the easiest thing, the path of least resistance, whatever they perceive that to be. That may be one way to get this to work, to create some protocols, but it's got to leverage that path of least resistance, because the hassle bias of more steps, more clicks, that generally doesn't work well. You have to figure out how does it fit in their workflow and make it the easy thing to do.

**Q: Is there any other advice you'd want hospitalists to take away from this?**

**A:** The only other thing that I think is worth highlighting is the misunderstanding of the pharmacology. One thing we heard over and over again was that unfractionated heparin is quick on, quick off. That is true to an extent, except they also said, "Then you're chasing these blood values that are never in the right range." Doctors are often shielded from that because it's a nursing-driven protocol. I wonder if capturing all the work that pharmacy and nursing do, all that labor for these heparin protocols, may help get people on board with alternatives to unfractionated heparin.

We're training the next set of people that are going to practice how we practice. We have got to figure out how to disrupt that cycle. ♦



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