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VOICEOVER:

Welcome to ASA's Central Line, the official podcast series of the American Society of Anesthesiologists, edited by Dr. Adam Striker.

DR. ADAM STRIKER (HOST):

Welcome to another episode of Central Line. I'm Dr. Adam Striker, your host and editor. Today, we welcome Dr. Sheila Barnett, chair of the CPOM Committee and a general anesthesiologist and Chief Medical Officer at Beth Israel Deaconess Health Care in Boston. We also welcome Dr. Victor Davilla, also from the Committee of Performance and Outcomes Measurement. He's a critical care and ambulatory anesthesiologist at the Ohio State University Medical Center. They're going to talk to us about measures and specifically the new Intraoperative Hypotension Measure. Welcome to you both.

DR. VICTOR DAVILLA:

Pleasure to be here.

DR. SHEILA BARNETT:

Thank you, Dr. Striker. We're excited to be here and to share the work of our committee and this discussion. It's really a pleasure to be here with you.

DR. STRIKER:

Well, you're both on CPOM, the Committee on Performance and Outcomes Measurement. ASA has a fair number of committees, so it might be helpful if you guys outline the committee's responsibilities for our listeners. And let's start with you, Dr. Barnett.

DR. BARNETT:

Yes, our committee known as CPOM, it's a committee that was formed to address the need to measure our performance as anesthesiologists and our quality as anesthesiologists in a very systematic and objective way.

Our committee actually works really closely with government agencies such as CMS to implement different types of measures so that anesthesiologists can report them to those regulatory areas to assess patient outcomes. CPOM is a really active committee. It is a somewhat dry and complex, how you turn an experience into a measure, but we work very hard on that. And our primary goal of the committee is to work on measure development for anesthesiologists so that our members can participate, just like every other physician in the Medicare programs and also objectively look at the quality of their care.

We set up systems so that measures are validated and that they're systematically run so members can report back to Medicare as well as perhaps their own group or to other agencies. We are responsible to make sure our measures that we develop are approved through Medicare and through the government to monitor our performance and receive payment. And that's a really important regulatory aspect.

Fortunately, we have a great staff in the QRA and ASA and we work closely with them on measure development, with their experts, on testing and on advocacy. We regularly are in communication with CMS.

CPOM, we love our new members. We have a very active, a very committed committee. This is all volunteer. And it's just, I'm always just so impressed with how much work our members do on the quality measures. We have diverse expertise and also we really look to have practice locations from all walks of life in anesthesia. We represent all our ASA members. So we're always looking for rural, for private practice, for academics, from diverse cultures. So I think that's been a, a work of our committee.

As a committee then, we do look at and recommend measures for inclusion and working closely with the Anesthesia Quality Institute, National Anesthesia Clinical Outcomes Registry that most of you may know as AQI NACOR, as well as the Qualified Clinical Data Registry. Those are QCDRs. Another method and another place where our ASA members are probably reporting measures, and CPOM is fundamental in that and working with these agencies.

DR. STRIKER:

Well, that is a lot of information and thank you for that because I think that clarifies a lot of what goes into this for our listeners. Quality measures are one example of how

hospitals, regulatory bodies, insurers and patients access clinical performance, but, but how does CPOM decide what to measure? Dr. Barnett, can you tell us a little bit about how the committee reviews and selects measure concepts?

DR. BARNETT:

This is actually one of the most challenging areas I think our committee faces every, you know, pretty much every year. How do you measure what is you know, what, what really reflects my performance as an anesthesiologist and when all our anesthesiologists may be quite different and do very different work in different areas.

So pretty much every year we work with our membership, we send out emails and a request for measure concepts, measure ideas. We want to hear from our ASA members. What's the challenge in their particular practice, whether it's academic or rural or private, however it is, is what do they consider key? What would be valuable for them to hear, to be able to measure and have assistance with so they can say, this is my practice and this is how we're performing.

We also reach out to our specialty committees as well, and those Chairs as well, to say, hey, you are the experts on this area. Do you have suggestions for measures from specialty areas? And then the committee literally, we collate those. We don't mind if they're very much in lay language or very casual. We will ultimately turn them into measures if they're appropriate. But meanwhile, we take every concept and we review that with the, the CPOM every year. We spend a couple of hours or more at our committee meetings, as well as in different meetings during the year, looking at those.

And then we need to work with our regulatory staff and our experts on measurement development, on what is an appropriate measure. What is going to make it all the way through the different measures we have to use? Because we have to, for example, weed out measures that might be outside of our control as an anesthesiologist. We have to remember that what Medicare is looking at is they want to know what do I control as an anesthesiologist for my patients outcomes, and how can we measure that?

Then once we've teased out what we consider good concepts, then we work with our CPOM regulatory staff on what is, you know, which doesn't pass the sniff test of this is a meaningful measure, we feel, as clinical ASA and our ASA membership, we have to then research what is the evidence. We want it to be as best evidence as possible. Can actually be collected by most of our practices in the country? And does it demonstrate some sort of a gap? If everyone's doing something that we're trying to measure perfectly right off the start, it is going to be hard to show that we can show improvement

there. So we do look for gaps with our concept measures to see what can we work on that we can actually measure that mean something to our clinical folks and actually does have a gap.

DR. STRIKER:

Ok, well, CPOM has completed four new quality measures for 2019 and 2020. What are the measures specifically, and why did the Committee choose those particular measures?

DR. BARNETT:

You know, we do look for measures from all types and we do ask all our membership to suggest concepts. And when we reviewed them, we came down to these, that's what I consider the sort of final four for us. And it's really hard to pick out the best measures. But we felt that intraoperative antibiotic re-dosing, prevention of arterial line related bloodstream infections, ambulatory glucose management, and perioperative anemia management were all good measures that do reflect upon a anesthesia practice. And we felt this for several reasons.

We really chose these measures because, first of all, they're scientifically proven. You do need to prevent infection, for example, antibiotic re-dosing to prevent infection through bloodstream infections, using appropriate sterile technique for arterial lines. Managing a patient's glucose before and after their surgery, and also managing somebody hematocrit before and after surgery or during in evaluating and see if there's any management strategies.

The other important thing about these being, they're scientifically important measures and they're important for our practice. But there's also a gap, which means there's some room for improvement. Not everybody is handling glucose measures the same in every practice. Not everyone is handling hematocrit, the same in every practice. And in addition, and this is, you know, quite challenging, is they can be recorded. We can get these from the anesthesia records, from our anesthesia members so that we can actually look at them, record them for the patients that are involved and get some quantitative data.

And what we do is that we, we put these forward and then we will review, we already went back and reviewed, well, what are the measures that are already out there? What has already been used or thought of, or can be used? And we felt that these measures were new enough and that they identified something that's important to anesthesiologists' clinical practice.

We did have multiple facilitated discussions with CPOM and our staff and other committee experts, as well as a technical expert panel of physicians participating from AQI and NACOR. And those are experts basically that can provide some real basic evidence based data, discuss the measure, look for the flaws, look for the positives and really thrash it out.

We do also something called, we measure all our measures for face validity. This is kind of the sniff test. Does it make sense? And we fortunately had a QCDR partner with this, and a large group that contributed the data to support these measures. So we were able to get some sneak preview data for these measures for CMS. And I think that's really important that we really, and then we do reach back to our members as much as we can, committee experts and Chairs and using our QRA staff to really look at, we think these are good measures, we know, we try, we get some measurements on them and we follow them closely. And we were happy that these four (sic) were accepted. And we're now measuring the data on them.

DR. STRIKER:

And that leads us to the new intraoperative hypotension measure. But the committee did not develop the new IOH measurement, correct? My understanding is that it was developed by Cleveland Clinic ePreop and Mathematica and was funded by Edwards. I also understand that this measure is fundamentally different in some ways. So let's dig into this new IOH measure. Dr. Davilla, what is it and why is it important here?

DR. DAVILLA:

So let's start with what the measure is. It's a measure of the percentage of general anesthesia cases in which the mean arterial pressure falls below 65 millimeters of mercury for 15 minutes or more. That's a cumulative 15 minutes. So it doesn't distinguish between, you know, 15 one-minute bouts and 1 fifteen-minute bout.

Now, this is considered to be an intermediate outcome measure, so although the pressure itself is the stated goal, ultimately, the goal is to have improved outcome measures that matter more to the patient directly postoperatively, and, and ultimately that's why this measure is so important.

There is evidence that bouts of intraoperative hypotension affect the patient's outcomes postoperatively, but those postoperative events are very difficult to use as, as outcome measures in and of themselves currently.

Now, one of the major differences between this measure and measures that have come before it is that this intermediate outcome measure attempts to risk adjust for the likelihood that the patient will become hypotensive during the intraoperative period. And that's really important and really different. So for that reason, it's, it's a very expensive measure to develop and it takes a lot of time and understanding to kind of figure out, a lot of mathematical sophistication, to try to sort out this risk adjustment. So in that sense, we're really grateful to have Mathematica in particular help us out, along with the rest of the teams at the Cleveland Clinic and ePreop. And Mathematica in particular, has been developing measures for CMS for other payers for years, so, so it was really nice to have their input. And it's important to mention that this measure was first included in the Payment Program in 2019, but there were some issues related from our members and, and whether it should be included in the QCDR, but the measure in its current form really is groundbreaking in the way that it approaches quality measurement for practicing anesthesiologists.

DR. STRIKER:

Well, you use the term groundbreaking. Can you tell us a little bit more about why this measure is groundbreaking?

DR. DAVILLA:

Well, as I mentioned before, first, it's a risk adjusted intermediate outcome measure. OK, so that risk adjustment really is something very new for us. Second, it's based on physiological measurements taken throughout the operative period as opposed to any particular point in time. And, and it's in this intraoperative period where anesthesiologists have the most control over patients' care. That's not to say that there aren't issues that fall out of the control of the anesthesiologist, that's why there's the risk adjustment, but it is a measure that attempts to give the anesthesiologist credit for the quality of the attention given to the patients' intraoperative hemodynamics.

Also, it's captured in real time during objective measurement, which is a little bit different as well. Because of that, we're measuring the anesthesiologists' control more directly, whereas a lot of other measures really do need, you know, kind of a collaboration with the entire care team. Importantly, the CMS is really, really interested in these kinds of measures, measures that are collected objectively and that are recorded in some sort of digital structure and, and kind of more to the point that they track patient outcomes. And, and even if it's a more intermediate outcome, instead of, say, the, the ultimate outcome that you'll see three or even up to 30 days after the surgical procedure.

Further, most measures are a lot more static than this. So instead of being concerned with an outcome at a particular point in time, you know, for example, what the patient's temperature was at a particular moment, it really does operate and incorporate measurements throughout the entire intraoperative period. And that's, that's really something different. That's something we haven't really done before.

DR. STRIKER:

Well, my understanding is that the IOH measure is collected through NACOR's Quality Concierge subscription and that the ASA is currently recruiting sites interested in participation. So I'd like to better understand what you guys expect to learn from the IOH measure.

DR. DAVILLA:

Well, first, there's a lot to learn about the care patterns themselves. How commonly do patients have these episodes of hypotension? I mean, you have some data, but in the broad operative universe, we have very limited data in terms of how commonly these, these are actually issues.

Second, we get to test kind of the implicit assumption that intraoperative hypotension is something that can be improved. You know, that, that this increased vigilance will actually lead to fewer episodes of hypotension. And further, as anesthesiologists, and to a large extent, people that actually do these studies see the data come in from this measure. We'll get to see how these intraoperative decisions impact how a patient does postoperatively. And eventually, we'd like to have, you know, more evidence gathered from measures like these in the OR so we can see how intermediate stuff like maintaining a blood pressure can affect the outcome goals, like renal injury or post-operative nausea.

Now, it's important to note this is not perfect. OK, there's a lot of issues with this measure and, and, and you know, we've done the best we can, but there are some issues. But, you know, it's going to be really interesting to see how these intraoperative tweaks, you know, really do lead to better postoperative outcomes and see if that's even true.

On a separate lane, there's also a lot to learn about the logistics related to a measure like this. So we'll get to see, for example, what the limitations are to collecting this kind of data in the real world, the more we use it. And that'll provide a lot of experience with kind of collecting these kinds of physiological measures. So we expect to find a lot of room for improvement, you know, which is something very useful in a measure, you

know, we expect to see that, you know, that as people start measuring these intraoperative hypotension, we'll see how people improve. A good measure ultimately has to change practice. If we're not changing the way we do things then we're not improving. And it also makes us better at developing other intraoperative measurements because we'll have that experience on the logistics.

So we've never really done anything like this before. You know, one of the limitations of this measure is the risk adjustment, and it is definitely more limited than we would want it to be. However, it is one of the most thoroughly developed measures that we've ever used, and we're really excited to see how this ultimately pans out. There's definitely room for improvement. Anesthesiology measures, however, are really hard to gather, especially for outcomes. So in a way, the development of this measure really needs to be, you know, kind of cutting edge in the sense that, you know, we are going to continue to improve. That's what cutting edge ultimately means, is that because you're kind of at the limit of what you can do, there's always going to be room for improvement. But as we start learning more from this measure, we're going to get more sophisticated about how weighting should be done and how risk adjustment could be done on this measure and other measures in the future.

DR. STRIKER:

Is there a reason it's happening now? I mean, what is changed to make these kinds of measures possible?

DR. DAVILLA:

The electronic medical records. The use of an electronic data gathering device really does make it possible to extract this kind of data. It's not really that feasible with, you know, the traditional ways that we used to track patients intraoperative course. So there's a lot of integration here. So because it's not handwritten and it's extracted, there, there's a lot of room for kind of data analysis and, and very increased resolution in terms of what's happening in the operative period. There's still a lot to learn, but this is a really exciting start. I mean, we're really looking forward to more intraoperative measures. But like I said, this is, you know, learning how to extract this data and how to use it properly really is, is important. But having that data in the first place is really what makes it even possible to start doing these measures.

DR. STRIKER:

Well, as you say, this opens the door to new frontiers and other measures that we can impact through direct care. So where do you envision this going?

DR. DAVILLA:

So let's start with where we are. For the most part now, our measures are, are binary. You know, the anesthesiologist gave the antibiotic or not. Either they, you know, did something or they didn't. And so we can abstract, and you know, that's all we can really get out of the data. But with the intraoperative hypotension, we're really opening a new frontier to what's going on intraoperatively for, for that patient. And I really think this is kind of opening up a whole new set of possibilities for anesthesiologists, which will ultimately be easier for them to track.

So, for example, process measures and outcome measures can be equally challenging to institute, but for different reasons. The process measure is one in which patients fall into a certain category, and then the difficulty kind of lies with establishing something that an entire group of patients must undergo. So, for example, you know, all patients must receive a pregnancy test or et cetera. But, you know, with an outcome measure, the entire process is up to the clinician. So, you know, there's a lot less administrative work to do. But now we have this kind of outcome risk. So outcomes are challenging because here we're having to figure out how two different individual patients should have done, as opposed to, you know, whether a patient fits in a particular category prospectively.

And so, that's kind of intrinsic to the type of measure that this is. So in a process measure, we kind of have to decide ahead of time whether a patient falls into a category or, or doesn't. But in an outcome measure, it's all about determining how well the patient should have done. And so having these kind of continuous measurements of a patient's intraoperative course, really will kind of provide a whole new frontier for, for rewarding anesthesiologists for their intraoperative vigilance and everything that they do so well.

I'm really looking forward to seeing what kind of intraoperative measures we can develop, but it's also something that we will see how, for example, this intraop, once we establish, for example, that intraoperative hypertension can have an effect on, you know, certain post-operative outcomes, you know, we can start potentially even start tracking those specific outcomes. For example, the rate at which people get postoperative nausea and vomiting or other kinds of potential outcomes that, that we will be more sophisticated at risk stratifying as a result of gathering some of these intraoperative measures like intraoperative hypotension.

DR. STRIKER:

Well, I suspect there's been some pushback. Dr. Barnett, can you tell us what criticisms you've received and how you've addressed them?

DR. BARNETT:

You know, I think we tend to receive criticism or pushback in measurements in general. You know, there is the implication that if we're measuring you, that perhaps we're judging you or that you're not doing something as well as you should be, is kind of implied. So it makes it a sensitive area to measure someone's performance and practice. And I think in this measure in particular, a lot of it is really under the control of just the anesthesiologist. So I expect that it will, might make some people somewhat defensive. And frankly, for a measure to be effective, we do have to reach for those measures that not everyone is scoring the same. Not everyone can be getting an A plus because then we can't ever get any better or show improvement.

So from, for a, a measure to be truly effective, practice has to change over time. And this, and like I said, you know, most, this doesn't imply that somebody wasn't doing as well as they should have done before we measured it. We're all very competitive in anesthesiology and in medicine in general. So we generally want to get 100% before we, you know, if we're going to be submitting scores. And that's a big challenge with all of our measurement developments is convincing our members that it's a safe space to put your real scores in. And how can we work together to develop better practices and measure it quantitatively?

And frankly, most people do also gravitate towards measures you do well. If you're really good at making sure, for instance, that you've complied with smoking cessation, you have a very good streamlined preoperative assessment practice. You might be really good at the smoking cessation or the, you know, preoperative anemia management type measures, but we really want to see how practices are doing things that they may not be scoring 100% in, that, that we can really see how they can use that to improve.

And then we gotten a lot of pushback because the IOH measure was associated with industry, because even though they funded it, Edwards, they had a measure, but they were entirely hands off on. So we just really wanted, had to spend a lot of time reassuring first our committee members and then other groups that we, you know, ran this by in terms of the membership as well as other committee experts. And I want to be really clear here, because the stewards of this measure put up a firewall and we had members of a technical expert panel and others who reviewed this measure objectively with no input from industry at all. We really were looking for their, their scientific expertise, their guidance and assessment of this measure from our experts in

anesthesiology. And I think it was really good that we did that and we were very transparent in how that worked to, to really look at this, the state of the art measure. This was not an easy measure to develop. And, and frankly, it was also very expensive to develop. And I think this is a great example of how keeping industry hands off, a firewall between us, but they were able to support our efforts without influencing us, but to support this expensive development of the measure. So I think that was really important. I would say that was one of the biggest pushback areas we got.

The other area was, this is really ideally suited, as was stated for the EHR, for the electronic medical record. It's tough for practices that have paper records. So we did get some pushback there. But we're going to work with all our members on that.

And then there's also the group who's going to be the denominator of this measure. Is that all patients or is it particular types of surgery where a hypotension or swings of blood pressure may be more evident? So there's also some discussion there and some pushback on what is the inclusion group from minor versus major surgery.

But we're excited. We're going to give people the opportunity to use it, to collect data and let's see how it works. It's an iterative process. We're going to learn from every set of data that's submitted to us. We're going to be able to learn something from that.

And what was really great, too, I think, is there was a lot of discussion on this measure. This hit us to the core in anesthesia. People are really passionate about it. We had some great discussions, a lot of back and forth about, you know, the appropriateness of the measure, different features. And I think it was really great. No data so far, but we've released it into the wild and we're really excited to see how it will go and expect it will adjust over time. And we'll be looking forward to that.

DR. STRIKER:

Dr. Barnett, let's wrap up with a question to you. Why is it important that members submit measures? Or to put it another way, what's the importance of these metrics for the specialty?

DR. BARNETT:

I don't think we can underestimate how important these different metrics and measure submissions are for our specialty. We depend on our Society to tell us what's important from their different perspectives of either specialization or different practice types. And then that way, we can work on measures that are meaningful. Our committee is about twenty or thirty people, we can't possibly reach every corner in anesthesia to say that

this is another important measure, we need to hear from our members as to what is really impacting them out there on the ground. And we also want to make sure we represent their interests of their different groups, whether in subspecialties or different types of practices. We really encourage people to use these measures locally. More and more anesthesiologists need to work with their hospitals and their groups to sort of provide evidence as to what great quality care you're providing. Anesthesia is overall very safe. So it's really important that you can provide some data, quantitative data that you can collect, that we can provide back to you on how you're performing. So this would be helpful for people's contracts, for their facilities, for hospital administration is always interested in this and also as well as for payment programs or to join alternative payment models.

So I think that developing measures and reaching out to anesthesiologists all over the country in all different practices is so important. We really encourage people to submit them. Don't be shy about it. Submit your idea, what you observe, what you feel is important to your practice, because it may be that 20 other practices in the country or your area may also be interested, and you may not know that at this time.

I think it also really makes us a better medical society. Anesthesiologists work regularly with other societies such as Orthopedics, the American College of Surgeons, Obstetrics, and I think this makes us a very strong society when we can show that we take measures from our members that mean something to them, that have passed a validity test, that are being measured, that are quantitative and that are base, based on evidence, and we can show other societies that we care about this. It's important to us and we want to work with them in the future to make sure that we all have good practices and good, we're good partners as a committee.

It's a great committee, lots of hours, lots of time. But I think it makes us better anesthesiologists when we know our membership is supporting us on that committee area. And it's a great example of finding out different pockets of expertise and making us more cohesive as a group.

We also take into account that, and this is a real struggle for many practices, the administrative burden on practices to submit these new measures or to submit any of these measures. And that's really also why we want feedback from departments that are submitting this. We want to know how is it going for your practice? Is it too much of a burden? Can we shave it down? Can we reach out to you to make it easier and better so you can submit good data?

And we also acknowledge that some groups have hundreds of members in their practices and some may only have in the teens or less. So what is their resource to

submitting these measures? And how can we focus on whether these measures are something that can be used to improve their care and then they can actually report?

I also feel strongly that the measures really provide some opportunities for measurement and practice improvement. They really should be seen not as a weapon against you, or not as something to be defensive about, but really is something to chance to monitor and to show improvement and share that across your own society, your own practices, your hospitals, as well as for regulatory reporting.

Right now in our MIPS program, an individual or group can select certain measures that are most pertinent to them. But in the future, we expect that CMS might narrow the measure sets and we want to make sure that we have measures that are, if it's narrowed down, that it really represents the most of our members that it can. And we hope in the future to be working on shared measures that may also take into account working with other groups, working with the hospital, and how that may reflect back on our members in the future.

The ASA works really hard to select committee memberships. I, We get so many applicants every year. And the amount of work that goes into really trying to select a diverse representative, you know, group on our committees to reflect our membership is really important to us, myself, for instance, as a committee chair to my section chiefs and to the leadership in the ASA. And we do work hard to make sure that we have diverse stakeholders, we have different types of groups that we represent the coasts and the middle of the country, the south, the north, and that we also include academics and scientists, but also private practitioners. We really need inputs from all the different points of view. And often we will reach outside our own committee, reach outside of our own society to other societies or outside of our own committee. For sure, we regularly look to those other committees to work with us and use their expertise.

So overall, I think that CPOM provides a great opportunity. We really want our members to contribute their measure ideas, their ideas, so that we can take that and work it into something that's meaningful for their, their own practice and their group and most of all, for our patients that we're giving them the best care possible and that we're constantly evaluating ourselves.

DR. STRIKER:

Well, Doctors Barnett and Davilla, thank you so much for joining us and talking with us about these important topics. Certainly looking forward to seeing you both very soon.

DR. BARNETT:

Thank you very much for taking the time to talk with us. It's really great that we can get this sort of attention on measures. Thank you.

DR. DAVILLA:

Thank you very much, Dr. Stryker. Really appreciate talking to you today.

DR. STRIKER:

Thanks, everyone, for joining us for this episode of Central Line. See you again, next time. Take care.

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VOICEOVER:

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