

Podcast episode transcript: Travis Bias and Miki Patterson

Travis Bias: Welcome to the Inside Angle podcast. I'm your host, Travis Bias, chief medical officer of the clinician solutions business, housed within 3M's Health Information Systems division. Today I have with me Dr. Miki Patterson. Miki, welcome.

Miki Patterson: Hi Travis. How are you doing?

Travis Bias: Good, good. How are you this morning?

Miki Patterson: Good.

Travis Bias: In the U.S. health care system, we now have many more surgical procedures being performed in the outpatient setting than even a decade ago. How do we ensure these procedures are safe to be performed outside the hospital? How can we anticipate which patients will have a favorable outcome with an ambulatory procedure versus an inpatient procedure? Today we're going to explore the current state of surgical quality and safety with Dr. Patterson. Dr. Miki Patterson is an orthopedic nurse practitioner, and she now works for the clinical and economic research team here at 3M. She holds a bachelor's degree from Fitchburg State University, a master's from Boston College, and a PhD from University of Massachusetts Medical School in Worcester, Massachusetts. Did I get that right?

Miki Patterson: No, Worcester.

Travis Bias: Worcester. All right, Miki, go ahead and kick us off by telling us a little bit more about your background and what's brought you to this point in your career.

Miki Patterson: Sure. Well, I started off many moons ago as a pediatric nurse, and quickly went back to get a nurse practitioner and started in orthopedics of all things. I actually didn't like orthopedics when I was a pediatric nurse, but I was the first nurse practitioner at UMass, and it's a level one trauma center, and they treated me like a resident. You, they taught me like a resident. I did what residents do. So I covered all areas, inpatient operating room, emergency department, outpatient clinics. And I just became really enamored by orthopedics and everything going on because people weren't really sick. They were just broken. So we, I ended up doing a bunch of research with the orthopedic trauma group, and I didn't really know a lot about research. I guess I learned some in my master's program, so I decided, Hey, I should get a PhD.

Don't recommend it. Anyways, I got a PhD and did better research. I did some multi-country. First I did multi-state, and then I worked, with an orthopedic nurses group to do research on pin care infections. So I was part of a National Orthopedic nurses group and did a lot of research. And I think because of probably my children's ages, I went into teaching and I taught nursing at UMass Lowell. And from there, I actually got poached out by a company called Stryker to build orthopedic centers of excellence. And at that time, there were a lot of

changes that were happening. Orthopedics were making joint centers, and they needed to, there was some value-based purchasing coming and mandating orthopedic joints to be in a bundled payment situation. There were a bunch of different things were happening, but as this, as I became part of this group building, these orthopedic centers, we did a lot of, of kind of looking at what the current state was in the patient's journey, and where was the quality care and where were the processes broken. And it, it did spread out from just joints. Then it was spines because a lot of people got into bundled arrangements because they were actually getting really good at what they were doing, and they developed better pre-admission testing, and they've got to figure out which of these patients were ready for surgery and were, which weren't. I worked at several different hospitals across the country, helping them improve their surgical patient journeys or length of stay, infections, things like that. And then I was hired by 3M to work on PMx.

Travis Bias: Yeah, that's where you and I met. I remember it fondly. We were still, our team was coming together and gelling. And you came in with all of your experience very practical applied experience to helping us really push, I guess, performance improvement and quality improvement at hospitals across the country. So tell, tell us a bit more, I guess, around your experience coming into the team and kind of what we were meant to do.

Miki Patterson: So really, we were meant to help hospitals improve. And it's really, really hard for clinicians to improve processes because they're doing their real job. They're taking care of patients and they know there is a problem or they've done a workaround, but they're not really able to fix it. They're not objective. They work in silos. So we were able to, you know, meet them where they were, listen to them, walk the walk, find out what's supposed to happen, and then bring them all together, all the different pre-admission testing, the OR people, the holding area, the physical therapists, the floor nurses. We were able to bring them together to show them what we saw and let them choose their pathway forward so we could say, these will give you the biggest bang for your buck. Some of these are going to have to take planning, but we guide them along the way. We would, not handhold, but we would have meetings with them and say, okay, you said you were going to do this, did you get that done? And then we would show them their statistics or their metrics and watch how they improved so it get baked in. So it wasn't just a, you know, we did it because she was here and then we left, we actually helped with change management. And that was pretty exciting.

Travis Bias: Yeah. No, I enjoyed learning from your approach to this because I mean, that consulting couple years was a great learning experience for me, and I think for our team and really appreciating the fact that, you know, as a primary care physician, I started to think of it as instead of diagnosing a patient, we were kind of diagnosing an organization or a service line. So we're going in, we're gathering lots of information that was relevant whether it's through interviews or through observations, observing the processes like you mentioned. And then just kind of reporting back like, hey, this is what we found. Let's organize this, prioritize this, and then help to walk them through, you know, how would you like to impact this? And making sure that we really get, you know, facilitating in a way that engaged the people who were going to be using these new processes.

Like you said, not just because we're there watching, but because they think it's going to make a meaningful, even if it's a small change, it can make a huge impact for the clinician's daily

work or for their patients. So I appreciated learning from your approach in those. And so how, I guess you mentioned Stryker and you mentioned some of your experience in, in the orthopedic space. So moving from that kind of general clinical operations consulting to that being applied in the orthopedic surgery space, I guess what's new, what's going on with orthopedic surgery specifically?

Miki Patterson: Lots is going on. So again, when I first started doing this there, all of orthopedics was spread out. Everybody did everything. And then it slowly got into where joint surgeons and where trauma surgeons and where pediatric, and as that grew, you know, they developed joint camps and they developed all these things and they had really great, in-hospital floors, there was an orthopedic floor, there was a joint floor, and that all developed. But when they got specialized, sometimes the nursing didn't follow per se, and sometimes it did. Now they're starting to move all of these orthopedic procedures to the outpatient space. And that's huge. So if you think about it, their total knees have increased in the outpatient space by 168 percent in the past three years.

Total hips, another really big operation. They used to stay in the hospital for two weeks. We had labs and we had physical therapy and nursing, they are now, there's 150 percent increase of to, of total hips being done in outpatient. And that's growing. I mean, that's growing by the month, there are more and more ASCs opening up. They have ambulatory surgical centers. So normally they were done inpatient in an operating room in a hospital. They move to hospital outpatient departments. So they're still sort of attached to a hospital, and if needed, they can get admitted. Now the processes are being built so that they can be done in an independent ambulatory surgical center. So as we start to look at this, we know that it really started happening probably a little bit about C O V I and people not really wanting to go into the hospital. But CMS took total joints off the inpatient only list which was another huge trigger. So now they can do them outpatient and get paid for them.

Travis Bias: So, before we move on, sorry. First of all, I want to know one thing. Why the push to move some of these procedures to the outpatient space? Obviously, I can think of several reasons, but in your opinion why is there this effort to move from the hospital that, that hospital operating room you talked about into the ambulatory space?

Miki Patterson: So there's a lot of reasons. One of them is that it's cost effective. Another one is patients really don't want to go into hospitals. There's a lot of hospital acquired infections. There's a lot of things that can happen while you're in the hospital. But as I said, these aren't sick people. They're just broken. So, you know, that is one of those pieces that you want to try to keep a healthy cohort. And even when they're in the hospital, a joint and spine center is not allowed to have medically ill patients or infected patients. So, there's that one thing. It's also kind of convenient. You know, you're going to this one place, all they do is orthopedic joints, or all they do is cataracts or all they do whatever it is. And they're really good at what they do. And they have all of the instruments, they have all of that going on. So for the surgeon, it's great because it's very organized and it closes at five o'clock. And everybody goes home.

Travis Bias: Sure. I think there's a lot to be said for that specialization. I mean, you get better and better if you're doing the same thing over and over again. And I would imagine for patients healing, you know, there's so much being written about and researched about how

we're waking patients, waking patients up throughout the night in the hospital to check their vital signs to draw blood. They're doing all this stuff and if you're at home, you actually get to sleep through the night, so you're going to heal better.

Miki Patterson: Right. And the noises and the, you know, worrying about somebody coming to see you or what they're going to do, or somebody giving you a medication, the lights, all kinds of beeps. So it is much more healing to, you know, rehab at home.

Travis Bias: Sleep in your own bed. Right. So, then you mentioned CMS, so Centers for Medicare & Medicaid Services has now taken total joints off of this inpatient-only list. Tell us a little bit more about the inpatient only list and or why these total joints have been moved off and what are the implications of that?

Miki Patterson: So there's actually a lot to go with that. So, the inpatient only list CMS, it's only for Medicare patients. So, let's start there. So, they are able to, you know, bundle payments, pay you back, they can hold back reimbursement if you have complications, things like that. And there's been so many changes in how we do total joint surgery. So now you used to need to give your own blood or get transfusions after the surgery. We don't need to do that anymore. The pain medication, we are able to put medication directly in your joint or numb a nerve that goes to your knee or numb nerves. We are much able, better able to control the bleeding, control the pain. And we've learned that getting a patient mobilized early is really helpful for healing. So, as we have done all those things, we started in the hospital getting patients out the day of surgery, which we hadn't done before.

We've learned that them walking and pumping their legs prevents clots. So a lot of the complications, we are getting much better at reducing them or eliminating them to some extent. There are still people who are medically ill that may need a lot of medical follow up after a total joint. But because of all the technology that we have, we are better able to do that case and get that patient mobilized comfortable without bleeding than we ever were before. So there's science and then there's, you know, they built hospital outpatient centers to be able to do these things.

Travis Bias: So yeah. I remember during one of our early consulting projects, you know, one, one of the small tests of change that we encouraged at the orthopedic surgery floor was let's just make sure patients sitting upright and dangling their legs after surgery pretty quickly. And I imagine the more that you're, like you say that the technology has allowed us to prevent the bleeding and prevent the pain and you're healing at home, you're more able to get up and get moving on your, on your own pace. But with the encouragement of physiotherapy or whatever at the house.

Miki Patterson: I think one of the things that we did when we went into hospitals were we looked for gaps in best practice. And because you're a standalone hospital, you might have the best practice of what you've always done and didn't know there was something else out there. And I remember a couple of the surgeons that we talked to, you know, showing them an article about removal of Foley on the day, the day after surgery that was new to them. They instituted it in in a second. So sometimes just knowing, having some data to show what is actually happening now is going to help.

Travis Bias: So it sounds like then CMS has recognized that what you described some of the technologies available and some of the newer practices are available, that a lot of these total joints can be done safely in the ambulatory space. But, but I guess how do we, how do we know that? I mean, what, is there data that tells us that the procedure itself is safe to be done in the outpatient space? Or is there other data that shows certain types of patients are safe or do really well with these ambulatory procedures versus, I might need to be watched for two weeks in the hospital like it was done, you know, in the past?

Miki Patterson: Well, I'll tell you, so I work for clinical and economic research, and we're a group of people who take data. And I'll tell you, we've looked at all of Medicare claims and what we started to look at was early on we built a potentially preventable complications for inpatients. So we wanted to find out what is happening to outpatients. So as we look through these claims, we do this research, we start to see what procedures are being done outpatients, and then we start to see what are the complications and where are they showing up. So if you're having a complication and you go to the emergency department, that's a pretty significant complication. And if you are admitted, that's an even more significant complication and you're not readmitted because you weren't admitted you had an outpatient procedure. I think a lot of what I'm seeing and what makes sense to me is that our old system had a lot of oversight.

Nursing care residents coming in, docs coming in, even though our practice was booming and starting to change, there are still things that we don't know. And one of those big blind spots is what does happen to PA outpatients. What are their complication, what is happening? And I'll give you an example of what the data I'm looking at shows total knees. I remember telling you total knees have grown 168 percent as outpatient. When we looked at this data, we started to see not only how many total knees are being done outpatient, but what are they coming back to the emergency room or being admitted for. And one of the number one complications is blood loss or anemia. So it was some kind of blood loss post procedure or during the procedure, and they have anemia. Now they come back to the emergency department with this anemia.

They could have, you know, rapid heartbeats, they could have fainting, they could have fatigue, they just don't feel well. And they're treated by that emergency department or by medicine, and they're taken care of. And then they're sent back home, whether they're admitted or just treated there as the orthopedic surgeon, you don't really know that. You did the operation and they went home. You may get notified, you may, the patient may come back and tell you, oh, I went to the ER and they said, I needed a transfusion. And you'll know that about your one patient, but there's no, there's no system to analyze what happens to outpatients. And had I been the person that was seeing the patient in follow-up, the total knee patient, and they told me that I would immediately go look at my processes in my pre-op, did they have anemia, pre-op?

Did we make sure that their blood thinners were turned off? You know, all of the things that we have in our practice that prevents anemia. I would see did in the, or did we use the tourniquet correctly? Did we give them trans acid at the right period of time? So all those things, did we put a compressive dressing, how did this happen? Or do we need to, need to

change our process so that somebody does do a hematocrit hemoglobin to a patient day two after they had this process done outpatient.

Travis Bias: Yeah. Those, those feedback loops I think are a real problem in medicine because I e even in in primary care world, I would treat a patient, something may go wrong, they might go to their urgent care down the street, or you know, they might not call our office and go seek out care somewhere else. And a lot of times I would never hear about that. It's the same problem. So then you almost can't learn from broader themes sometimes in practice. What's going well actually, what, you know, which treatments are actually going really well and which do you really need to improve on? So how do we, I mean, in this, in this orthopedic surgery cases that we're talking about, how do we though look at broader themes? Because actually you're describing, okay, one patient went in into the ER, how did anemia get transfused? You heard about it, so you go look at your processes, but it's probably better to understand this from like a macro scale, like every month or every, you know, quarter. How many complications am I having with which type of procedures at which facilities? I mean, what would be the ideal in that case?

Miki Patterson: So understanding that because we're a research group, we have millions, millions of claims. So we have a hundred percent of all the Medicare patients. So now we know all the risk of outpatient procedures, we're now able to say, say you have an upper GI, you have an almost 2 percent risk of having a complication. If you have a total knee, you have a 2.8 percent risk of having a complication. And these are the complication. And with that, you're utilizing data like that a hospital could run its data and see are my patients doing this well? And that's, I think, really helpful in terms of improving the quality of patient care. So I say, data helps us learn. And as we get large volumes of data that now show what has happened in the past three years with all of these procedures, we can start to trend out are we improving?

But the fact that we didn't even know this information, I mean outpatient procedures, that data was never captured. And the fact that we now have a way to capture and manipulate that data is amazing, because I think that's going to not only improve outpatient practice because they're going to have some feedback. And I think, as a clinician, I know that these are the issues. These patients are, I'm going to go back and look at my practice, or I'm going to inform my patients preoperatively. These things could happen. Because another big thing about having outpatient procedures is it's day surgery, it's no big deal. And a lot of people have that attitude that, you know, if they thought there was a problem, they would've kept me in the hospital. And having that no big deal, you may not catch a complication early.

So as a clinician, if I know that they might have bleeding or, you know, a blood clot or any of those, I'm going to do the teaching beforehand and say, if you feel faint, or if you have a lot of bleeding more than a teaspoon, or if you have, you know, pain in your leg and swelling, I want you to call me right away. Or I want you to go somewhere right away. People are going to now know there's a chance of this complication. Let's teach the patient beforehand. So if they have that complication, they don't think it's no big deal. My doctor told me to call if this happened. So I think this is really educating our patients better and having better outcomes.

Travis Bias: Yeah. So you're proactively looking for potential quality issues or safety issues and kind of preempting those, making sure patients are looking out for those. And I think with that, our larger comfort with, and your team's larger comfort with looking at this huge chunk of, of claims data allows you to then look for patterns and to get more quickly to a starting point, how do I even start to improve the quality at my ambulatory surgical center? Right. And you know, I can't look at every single chart in the last year. I mean, that would take humans right now.

Miki Patterson: Least a ton time. And that is problem, you know, it's such a, it was such a manual thing before. And even, you know, when the data that has to be reported back to CMS, if you have a colonoscopy, it's one thing if you have cataract surgery, it's one thing we are now able to look at all procedures across. If you're a state looking at your state, finding out where the best care is or where you need to put in some kind of incentive or finding out, you know, what are they doing better over here? And I give an example, if you're a large hospital system and you have hospital outpatient, you have an ASC and you have regional centers, you are, you are now able to look at them and say, oh, you know, we are better actual than expected and we have these four hospital systems joined. Our ASC is super, but our regional hospital might need some opportunity for improvement because actual to expected they're too high. They have extra complications coming in.

Travis Bias: Well then that data's being used to then determine centers of excellence now. Right. I mean, I think their employers that if you're going to have a total joint, they might even fly you across state lines because of facilities that have data like that. Is that right?

Miki Patterson: That's right. And that data that they have did not at first include outpatient. So now that we're able to look at this outpatient data, I think this is going to be, you know, eye-opening. It's going to be really helpful for people to know compared to the peers, compared to, you know, their competitors, whatever. But sure. In the end, it's really going to highlight issues and improve practice. And I'll, I'll give you an example. It's not even just, it's not necessarily a provide a problem. It can be a process problem. And a few years ago we had, back in the day, this isn't when I worked with 3M, but we had a bunch of hospitals and one in particular that had the GI group bought new endoscopy, new scopes, and they started to use them. And then they sent them back to Central Sterile, and Central Sterile cleaned them the way they cleaned scopes forever and sent them back.

Some of the patients were showing up in the emergency department a couple weeks later with septicemia severe infections. And that's not a common complication from having an upper GI endoscopy. And what they did when they did the root cause analysis was that they had these brand new scopes and the manufacturers recommended a different way of cleaning them. But that was a big communication problem. And once Central Sterile knew that whole problem disappeared. And because it was with whatever company, and I have no idea what company it was, but that company found out this issue and taught every other hospital that this was a problem, made sure that Central Sterile did know they did education on how to clean them. And so this is now going to be able to highlight these kind of process problems and sure. Nobody would've ever known. But now that we have this national database, we can start to go back and look at what is that issue, what is happening.

Travis Bias: Sure. And those learnings, I think are being surfaced by, you know, newer, it's, it's taking a while, but this new kind of culture of safety where if you give that feedback about these multiples infections, it's not one person's fault. In fact, it's the process's fault and the manufacturer needs to hear that, or the facility needs to hear that. And I would, I think that's one of the healthiest movements that's going on in health care right now is that we're able to just talk about these things, escalate that type of feedback. So, but how do we, you know, if you're, if you're trying to investigate some of these outcomes, not, not every bounce back to the emergency department within a week is something to investigate, right. Like, if I have my knee replaced and four days later I get stung by a bee and have an anaphylactic reaction, that's probably not something for us to learn from. So how do we parse through that?

Miki Patterson: The way that we develop this is really that it's really clinically related. So when we look at data, if they come to the emergency department with a complication specific related to that procedure. It will now be highlighted. So same thing if you came, if you had a total knee done and you came back with a burn on your hand that is not related. But if you came back with swollen and A D V T, that's definitely related. And that is a known complication from total knees. So I think the fact that we are able to really slice and dice data and find out what are real complications that really belong to say cataracts, there's only a few complications that happen with cataracts. The risk of having one done is 0.2 percent of any complication related to that cataracts. So you do it, I think this data is going to be really helpful.

Travis Bias: Well, and I think parsing through an understanding what the physician or the surgeon actually has control over is going to be key to gaining credibility within the clinician community. As you know very well, there's been a lot of data and quality outcomes that I as a physician think I actually had zero control over that. Or I had very, very minimal control over that. So the more I think we can drill into the data, to the pieces that I have control over, the more I'm going to be motivated to look at that.

Miki Patterson: Just knowing volumes, knowing what is normal. You know, we, when a person comes to the hospital, you basically say you have a 1 percent chance of getting an infection, or unless you're a really sick person, then there's higher. And you talk about what their risks are, but nobody's really known that cumulative effect of, what are real, you know, complications. What are the complications, what is the volume, what is the, what is the percent chance? And, you know, it's different by age. So you build in something that says when you look at the data, everybody over 75 does have a higher risk, or everybody over 85 has an even higher risk. But now we have data to support that.

Travis Bias: And then we can be more thoughtful about maybe this patient needs to be watched for two weeks. Versus maybe it's tennis star Andy Murray having a hip replacement, he can probably heal at home.

Miki Patterson: Right.

Travis Bias: Well, Miki, this has been a fantastic conversation, and as always, I appreciate learning from your rich experience. So I guess we can end with what's coming next? I mean, in this type of field of, of quality improvement, seeking out best practices,

following outcomes, data, improving safety, what do you think is coming next or needs to come next?

Miki Patterson: I just think this, all this data needs to, to get back to hospital systems and payers and what have you, so that they know what to expect and they can start to work on improving. And I think, you know, the bottom line, every clinical person wants to do the best job. Knowledge is power. I mean, not having this information back to you, I think is the hard thing. So getting the word out there, getting, you know, some, some clinical people look at it, understand it, see what it means to them. I think that's really where this is going to start. But it may be that CMS is going to look at this data and they're going to say, wow, we can actually put a complication to a procedure and this is going to be rich data. This is going to help us put standards of care. Maybe hospice, hospital systems, or even ambulatory surgery centers will help change some of their standards of care, because now they know this information.

Travis Bias: That's so key to have the right information at the right time. And I know most clinicians just simply want that in front of them, to be able to make the best decision for their patients. Well, Miki, Dr. Patterson, excuse me. This has been a phenomenal conversation. I mean, from, you know, nursing to orthopedic surgery practice to education to quality improvement, what an awesome project for you to be working on to have an impact for an even larger population of patients. So thank you so much for sharing your perspective today, and we appreciate your time.

Miki Patterson: Hey, thanks for having me. It's been a pleasure.