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The Pink Team Effect: Reducing Postoperative Emergency Transfers in Complex Care

In this Complex Care Journal Club podcast episode, Dr. Jason Zamkoff discusses a quality improvement cohort study of a surgical hospitalist co-management program (Surgical Hospitalist Assisted Recovery/SHARe Team or "Pink Team") for children with medical complexity at Children's Hospital Colorado. They describe how patients are selected using an internal complexity score and the institutional trust-building needed to launch the program, resulting in fewer in post-operative emergency transfers to intensive care. Next steps include developing an externally validated complexity scoring tool and extending hospitalist involvement into the pre-operative period.

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Kilby Mann *00:04*
Hello and welcome to the Complex Care Journal Club Podcast. My name is Kilby Mann. I'm a pediatric physiatrist at UNC and your host for this episode. In this podcast series, we seek to discuss emerging evidence in the care of children with medical complexity and its implications for practice. I'm delighted to have Dr. Jason Zamkoff from Children's Hospital Colorado join me today. He is the lead author of the article "Surgical Hospitalist Assisted Recovery: Preventing Postoperative Emergency Transfers", published in Hospital Pediatrics in July of 2026. Thank you so much for being here. I'll have to say that JZ and I have shared many a patient, and I have been able to benefit from this team that was created in Children's Hospital Colorado before I moved to UNC this year. So JZ and I are friends. You'll hear me call him JZ during the recording. So thank you so much for joining us.

Jason Zamkoff *00:50*
Kilby it's great to see you and the only thing I'm upset about is that you've moved on to greener, if not bluer pastures at North Carolina. We miss you at Children's Hospital Colorado and it's great to see your face.

Kilby Mann *01:02*
Yeah, I miss everyone there too. It's a great place to be, and I think one of the things that is so great about the hospital there is this management team that y'all developed. So first, I'd just like to ask you to share a little bit about your study, starting with the gap you identified in your research aims?

Jason Zamkoff *01:17*
Sure, we're taking a step back at Children's Hospital Colorado. You know, we're a very busy academic center. We perform a lot of surgeries. We perform over 30,000 surgeries a year, and we have children with a lot of complexity that get operated on at times. In 2020, we had some suboptimal results or outcomes of patients that were admitted postoperatively to Children's Hospital Colorado, and what was born from that was a notion to create a separate surgical co-management team, primarily of patients with extreme medical complexity, that instead of those children or patients getting operated on and then being admitted to a surgical service, they would be admitted to a primary co-management team comprised of pediatric hospitalists. That team was rolled out in September of 2022, so we're coming up on the fourth anniversary as such, and I became the medical director. As we all know, we need to have data and outcomes to support it, which is where this study was born. You know, you can look at the success of this program in a lot of different ways. One of the major outcomes or ways one of my bosses, Duncan Wilcox, who's the surgeon in Chief at Children's Hospital Colorado, who I think walks on water, by the way, is he wanted to focus on really decreasing emergent and urgent transfers from the floors to our ICU. An emergent transfer we defined as any child transferred to the PICU with life-sustaining interventions within the first hour of being transferred to the PICU, and that includes inotropic support, intubation, or severe volume resuscitation more than three normal saline boluses. So one of our goals was to try to prevent or at least reduce those numbers. We used a numerator of about three to four years of data prior to the rollout of our surgical co-management team, and we had data of about three to four years after. And what we showed in the study is we had a certain rate of emergent transfers, and those went away after the creation of our team. I'd like to take full credit for that. I certainly can't. There's a lot of other dependent variables, multiple that went through the decrease in that number, but that that was the essence of the study. We're proud of the results. We have a lot more work to do, but that's an overview of the study in a nutshell.

Kilby Mann *03:53*
Yeah I think you know, in the past, there's been a lot of data and literature about how can we like pre-identify those patients with complexity. Like spinal surgery is one in particular where there's you know data to look at from different groups of people, and I feel like this is like the natural next step. Okay, like you identify this is going to be complex. They have the surgery, and then how do we prove kind of this continuity of care for them? And so I think

it's great results that you're able to achieve. And I appreciate the definitions of emergent transfer and kind of how you tier those responses to things that are happening.

Jason Zamkoff *04:23*
You tee me up nicely for the next concept and how to select our surgical co-management team. First of all, is called SHARe: Surgical Hospitalist Assisted Recovery Team. We have colors for teams at Children's Hospital Colorado, so you may hear me refer to the team as Pink Team.

Kilby Mann *04:41*
As someone who has called a consult to the Pink Team. I was like, I'm not sure I knew that it was called SHARe.

Jason Zamkoff *04:46*
My daughter wanted fuchsia, but no one could spell fuchsia. So I challenge anyone that listens to this podcast to see if they can spell it. We put a lot of thought into pink team covers about 10% of all post-operative patients at Children's Hospital Colorado. We don't have the bandwidth or the workforce to cover everybody, so we wanted to get the biggest bang for our buck, so to speak. So we began with what's called a patient complexity score. A complexity score is an internal score one to four derived from our outpatient special care clinic that we usurped and utilized for this. With one being a child of least complexity, four being the child with greatest complexity. That combines things as you would consider medical complexity, DRG scores, but also psychosocial values. Does a child have a medical home? Do they have a pharmacy? Do they have a car to get the outpatient visits? And it computes and gives us a score for every child within our system. We decided a priori on our team that every child with a known surgical diagnosis that's going to get electively admitted postoperatively with a complexity score of four will come to our service. The other two groups, briefly, are those surgical patients that don't have a surgical home in the hospital. So those services such as OB/GYN, vascular anomalies, IR, dental, and OMFS [Oral and Maxillofacial Surgery] that they don't have surgical APPs [Advanced Practice Providers] or housestaff, so they come to our service. And then the final group is those surgeons of patients without always increased medical complexity, who I love. Who in Italian restaurants, smoky Italian restaurants in the back, I made Don-like agreements to say, you need our help. We're here to serve. We're happy to do it. So that incorporates our surgical co-management team. We have a census of about 10 to 22 patients a day. We have two APPs and a hospitalist, a physician as the daytime service, and we have a nocturnist at night. And we're proud of what we've done. For those trying to create a service like this, I think really putting some thought into which patient is the ideal individual to be managed in this realm is a good thing to do.

Kilby Mann *07:15*
As someone who worked there, I never hesitated to pick up the phone and call one of the surgeons if I needed to. But when you're talking about kind of like a whole different you know MO for how we manage these kids postoperatively. Maybe you can tell me a little bit more about whether it was kind of leveraging your relationships with your colleagues in the hospital, institutional support to kind of build this whole. You you lay out all of the kind of QI work that you did and kind of the systematic work to gather the data to prove to prove this service would work and did work. But I wonder if you can talk a little bit more about how you kind of got the right people at the table?

Jason Zamkoff *07:48*
Yeah, that leads into my story of surgical co-management in three and a half minutes or less. So I did my pediatric residency many moons ago at UCSF, and there a lot of surgeons operated, and for a myriad of reasons, they admitted their patients to medical service, where pediatric residents would be primary on the team. So I got somewhat savvy and interested in surgical co-management. So when I came to Children's Hospital Colorado 16 years ago, I asked my boss, "Well, why aren't we doing a lot of surgical co-management, and she said, "I don't know." So I looked into it. Flash forward to 2020, where we had some non-ideal outcomes, and in tandem that year, David Partrick, a good friend of mine, who's one of the head pediatric surgeons, came to me hat in hand,

saying, "Hey, we are we are down surgical house staff and APPs, we need some help managing some of our more simple pediatric surgery patients. Those with postoperative from cholecystectomies, inguinal hernia repairs, G tubes, etc. etc. During that time, I'm a big movie guy, so I don't know, and maybe I'm dating myself with the movie Braveheart, surgeons started coming out of the hills, and they heard of this guy Zamkoff that was willing to offer very good care to patients. The nurses were happy with the communication. The surgeons were happy because they could stay in their ORs and their clinics and do what they love to do. And it became a very symbiotic system, and then over the course of about two years, I created 14 separate operational agreements with every surgical subspecialty in the hospital. What I would say is to create a team like this, and let me just be very clear: it was part my arrogance, part my naivety, and part my ignorance to say, if we're going to do this, we are going to be a primary service for these patients. Okay, and what separates us from a lot of other institutions with good surgical co-management care, is that we are the primary providers on this team. Okay, what does that take? Succinctly, one, it takes money to finance the hospitalist and the clinical FTE. So Kevin Carney, who's the associate chief medical officer, came to me when we were having issues and didn't say you have this much money. He said, "Build a program and we will pay for it". I almost vagaled. I went into SVT when I heard that, which was great. But obviously, this concept went to the highest level in terms of importance for the institution. So it takes money, it takes financial backup, but it also takes trust from the surgeons. And let me be very clear: just as you alluded to, this took a lot of happy hours and a lot of communication and a lot of one-on-one face time to get surgeons who are very good at what they do to establish the trust that their patients are going to get excellent and ideal care after the surgery occurs. Okay, Rome was not built in a day, right? So this took days and weeks and months and years, and we went through some challenges, et cetera, et cetera, and we got to the point now, which I'm proud about. Duncan Wilcox, who I meet with monthly, said, "Jason, now the problem is not that you need to earn the trust of the surgeons; is that every surgeon wants every patient on your service." And I cannot do that, bluntly. But that made me feel good internally. That shows that it's a success. But going back to the study, we need to show other metrics that this is a success now to disseminate this concept to others. So emergent transfers, urgent transfers, length of stay, readmissions, percentage of patients admitted. Those are the things that I suggest looking into at other institutions.

Kilby Mann *11:53*
I know we've talked a little bit about kind of how this came to be, but are there any like specific opportunities or challenges that you identified, or that were maybe stumbling blocks, or things that took a little bit more time than expected as you were getting all these people together, making all those agreements and developing the program?

Jason Zamkoff *12:10*
Yeah, I mean, how much time do we have? Right, the podcast is only 20 minutes. I mean, first of all, as I mentioned, we have operational agreements now with 16 different surgical subspecialties. So let's say our OB/GYN co-management, we may co-manage 12 patients a year, neurosurgery and general surgery: We make co-manage two to 300 patients a year. So there's figuring out first and foremost clinically how to give ideal care to each patient. There's the challenge of training our hospitalists and providers to get up to snuff, and then moving forward, I'm no longer in the marketing phase of our team. We have a good census right now. It's strategically determining what are new good subsets of populations to co-manage. So, for example, we are now taking every patient with type one diabetes who's admitted because it works out better because that's what we do. There's a new dystrophic epidermolysis bullosa population where we're doing some very cool genetic skin grafting, and that patient will be hospitalized postoperatively for many days. We can get very good at those specific niches. So I would say getting our providers up to snuff clinically, navigating the myriad of administrative and clinical differences between each surgical group, and then making sure based on outcomes that we are continuing to show that we're achieving what we want to achieve, which is to give ideal care to every patient that's co-managed.

Kilby Mann *13:59*

And I think you you y'all gathered so many great metrics, and I think you you gathered indirectly what matters to families that you like don't get emergently transferred off, and you have great postoperative care, and also directly, kind of what hospitals and business, kind of the business people want to see to justify the ongoing expense. But I wonder if y'all ever thought about kind of like that parent or patient voice in this work, or kind of I'm sure anecdotally in talking to families, kind of what that experience has been for y'all?

Jason Zamkoff *14:30*
It's been wonderful, and and I will say, look, we are continuing to review our data. Our papers show that we have decreased emerging transfers, readmission rates, length of stay, urgent transfers, which is defined as life-sustaining measures within 24 hours. We have not moved the needle to as much as we would like. First of all, emergent transfers are so rare, and that's one of the problems at looking at them, and so are urgent transfers. The family data: some of the quotes from the families are really why I created this program and wanted to continue to do it. The key, in my humble opinion, to good care, no matter what service you're on, is communication, and we have really increased the level of communication between families, nursing staff, surgeons, and ancillary services. And the common theme that I hear from families is we're so much more in the loop with what's going on. We co-round, and we're all on the same page. And so, I really think the overwhelming majority of families find benefit in this. We created a pamphlet to market this sometimes I hear friends of mine saying, "I have a friend who requested pink team for their complex child going into the operating room.

Kilby Mann *15:51*
I have definitely done my own consults there and been told, and we wish we were on the pink team, or we're happy we're back on the pink team. So I think it has definitely gotten ingrained into these patients and their families of kind of this level of care y'all are providing.

Jason Zamkoff *16:08*
Thank you, I mean it. And so, what I would say is my suggestion to families who have children with complex care: if you're at Children's Hospital Colorado, ask for this. And if you're somewhere else in the ether, these programs are coming. I think. We have literature, we have data to support what we're doing. Ask for something like this because it's important. Now, let me be clear: my daughter is an elite soccer player. If she hurts her knee this spring in high school soccer, she doesn't need surgical co-management. Right? Again, it's a subset of patients that I think really derive benefit from such, and it's the job of each institution to determine how much workforce can you allot to a team like this, and what is the biggest bang for your buck. We're using the complexity score of Children's Hospital Colorado. I would argue that every patient with a complexity score of four can derive benefit from our services, but there's a lot of threes and even some twos that can crop up that we're missing, so to speak, based on this algorithm. And so I'm working with Shannon Acker, who's our director of trauma here, and also a very good friend of mine. We're trying to look into the data to say, because we want to create the Acker score or the Zamkoff score to disseminate to every institution and say, here are the six things that determine what patient is at risk for poor outcomes post-operatively, and what could derive benefit.

Kilby Mann *17:48*
But starting to identify those things that we all kind of know, feel like there's a lot we just know. But like, how do we then get the data to support what we know and what we have seen in our practices?

Jason Zamkoff *17:59*
That's exactly right, and more importantly, then to be able to give you something or any institution to be able to say here are the things you can easily extract that from your electronic health records. Go to surgical, go to co-management for this patient.

Kilby Mann *18:15*

Does that perfect scale exist, or how many scales do you need to use to define that population that needs that extra layer of coordination and kind of wraparound services? And there, there isn't a perfect one out there. how do we how do we capture that that you can need so many specialists, but you're doing great with all of them? And you can need one or two and where things just aren't going as smoothly as they need to be.

Jason Zamkoff *18:40*
You're exactly right, and that's where the wiggle room comes in, right? So the fourth bucket, so it's complexity score four, those with no surgical homes, the don-like agreements, and then group four is if there is a child like that, any time a surgeon wants to transfer a patient to our surgical co-management team, give me a call. We always prefer to have to know about the patient preoperatively for a myriad of reasons. We can chart stalk. We can start getting the consults in. We can start making sure that the blood sugars and the ketogenic diets and the seizure disorders are well managed, even preoperatively. And at the end of the day, we want to do what's best for the patient, and we try to make that happen. But you also are very insightful, and no system or algorithm is perfect, right? So the goal is to make an algorithm as ideal as possible to capture the highest risk patients that can derive the most benefit from surgical co-management.

Kilby Mann *19:39*
Obviously I've benefited personally from the service and know of it, but when you're kind of looking at it academically and scholarly, you know how it also kind of aligns with outpatient models of care for kids with medical complexity, and then you leverage your hospitalist knowledge and caring for these kids acutely, and so I just think it's a nice kind of like parallel growth and how we continue to provide the best care for these kids.

Jason Zamkoff *20:01*
Couldn't agree more. I think the era is over where you can't just be blind to the child coming into a complex surgery or a complex hospitalization. You have to start putting some forethought into the patient pre-operatively or pre-admission to create better outcomes. Anesthesia owns our pre-operative clinic here. I think one of the things for the future was to, was to be, to put some of our hospitalists into that preoperative clinic. Anesthesiologists- they're wonderful. They're all my very good friends here, but they are focusing on the hemodynamic stability of the patient in the perioperative period. We look at things a little differently. So again, to have that symbiotic combination would be ideal state. Again, it goes back to money, though. Do you have the bandwidth, the census to fund something like that? I'm working on it. So, if David Brumbaugh or Kevin Carney hears this podcast, he's our chief medical and associate. A plug to that. If you listen to this podcast, Dr. Brumbaugh and Dr. Carney.

Kilby Mann *21:11*
Yeah, I think that's a great kind of next step. Are there other next steps you think about that we can look forward to?

Jason Zamkoff *21:19*
I think the key thing is to continuing to try to hone in on the right patient population. Look, we can always get better clinically, but we are in a nice, sweet zone, steady state in terms of management of these patients. We have didactic sessions monthly. We have educational sessions for a hospitalist, where the surgeons come in, they teach us what they want us to know, and vice versa. So I think that's going well. It's to really hone in better on which is the biggest bang for the buck in terms of patient populations moving forward. And again, not to be redundant for other programs and institutions wanting to start this, you need financial backing and and the trust from the surgeons, and that takes time. And I'm happy to share any of my contact info, if anyone that listens to this wants to just reach out to me, and I'm happy to have the discussion. In terms of data, you know, data collection is challenging. In the study that you refer to, we decided to to utilize all patients admitted with surgeries pre and post as our numerator and our denominator as our pre-intervention group and intervention group that that's bluntly, it's a good study, but it's not ideal, right? Because remember, Pink Team only touches 10% of the patients at Children's. So the other moving forward from a research or a QI standpoint is to try to better get to the

crux of pink teams. You would be only look if again if we only look at pink team, what is our numerator, right? Because we've been doing surgical co-management for a long time. We just didn't call it pink team. The ideal state would be to compare patients that were admitted postoperatively to surgical services versus that same population that is now admitted to Pink Team, and we tried that. And a word of caution: it was very hard to extract that data.

Kilby Mann *23:22*
I have also tried to extract data from that hospital system's EMR, and it is really hard. It makes me a lot more cognizant moving forward with any projects that I ever run want to run about how we either document what we do or collect what we do in a way that can be pulled easily. That's probably a whole other conversation we could talk about.

Jason Zamkoff *23:43*
Right, when you're trying to set up a program like this, it really behooves you to try to think how you're going to study the metrics. The analogy I would use is, if you're trying to update your for promotion, if you can, it's painful. But in parallel, if you're updating your CV versus five years from now, and then you're trying to remember all the stuff you do, it's so much better to go through it in parallel, and that would be my suggestion when you're creating a service like this.

Kilby Mann *24:10*
What do you think are the messages for patients and families from your study? I know for, within the hospital system in Colorado, these patients and families are already asking for this service and to be admitted for this service. But for our patients and their family members that might be listening, what do you think they can take from this?

Jason Zamkoff *24:25*
You're going to go to a center where there's good surgeons, but I think you have every right to have good communication during in in the post-operative period, right? So you have you can ask for that. Make sure that there's co-rounding. Make sure that there's collaboration of care. I think a service like mine facilitates such, but you have every right to ask your questions to get the best care. I think programs like this regionally with the surgical volumes are going to start happening with primary co-management services, and my suggestion to families that have children with extreme complexity that need to get operated on is ask for programs like this.

Kilby Mann *25:13*
Yeah, I think that's great, and I think it's great that y'all published all, all of kind of the details of the QI work to get this done, and that's how we can kind of expand programs like this to more places.

Jason Zamkoff *25:25*
A group of us published a whole chapter on surgical co-management in patients with medical complexity. So, for those academics, go to that as a resource. And for patients and families across the country, look me up. I'm happy to chat with you.

Kilby Mann *25:40*
I think it's great that we're all trying to highlight what is unique and what we can do better for these kids. Is there anything else you wanted to make sure to mention?

Jason Zamkoff *25:50*
I just like to add one more thing regarding our surgical co-management program as it relates to surgeons and the relationships we formed. The goal of our team is not to take or steal patients away from surgeons, the goal of our

team is to collaborate to work with surgeons to give ideal care for every patient. Surgeons have skill sets and expertise. We have skill sets and expertise as hospitalists, and the goal is to work together to give great care, and I will just add, you know, at Children's Hospital Colorado, we have wonderful surgeons, and I would say the majority of complications after a surgery are not related to the surgery itself. The majority of issues after a surgery are related to the medical complexity of a patient that's had surgery, and that's a very important and fundamental concept to understand.

Kilby Mann *26:54*
Thank you so much for your time, JZ, and thank you to you and your team for advancing the field of complex care.

Jason Zamkoff *26:59*
I just want to thank you for this opportunity. I would say the majority of my academic work has gone into surgical co-management. I am a surgeon now in a pediatric exoskeleton, and I've truly enjoyed doing the work. And as you alluded to, the my enjoyment comes from how happy and satisfied families seem to be with our team, and that's why I continue to do this. And before we finish, while there's a million people I'd like to thank for the success of Pink Team, I would like to give specific shout outs to Justin Lockwood, our section's Medical Director, Jessica Thysens, our lead APP on Pink Team, and Jacquelyn Scarberry, a nursing leader and educator on our med-surg floor. They have all been crucial to the success of the Pink Team. I appreciate all of them.

Kilby Mann *27:49*
Thanks for listening to the Complex Care Journal Club podcast. We aim to highlight research that has the potential to be practice-changing, that values patient, family engagement, is relevant across disciplines and diagnoses, and uses high quality or novel research methods. We invite you to join the conversation by suggesting an article that you would like to see discussed in this podcast using the form provided on the OPENPediatrics YouTube channel. Thank you for joining us.

Journal Club Article

Zamkoff J, Acker SN, Martin A, Anderson L, Bennett H, Thysens J, Thomas JJ, Conant M, Kurtz M, Gupta R, Scarberry J, Burke M, Koehler R, Rolison E, Whitney G, Ziniel SI, Carney KP, Wilcox D, Lockwood JM. Surgical Hospitalist Assisted Recovery (SHARe): Preventing Post-Operative Emergency Transfers. Hosp Pediatr. 2026 Jul 21:e2025008778. doi: 10.1542/hpeds.2025-008778. Epub ahead of print. PMID: 42476571.

Other References

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