

# PedsGuide App: Pediatric Decision Support at Your Fingertips

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Created by a multidisciplinary team of pediatric experts, the Children's Mercy Ped's Guide App puts evidence-based resources—dose recommendations, drip calculations, resuscitation guides and more—right at your fingertips. Listen as Brandan Kennedy, MD, discusses the app, its features, and the evidenced-based resources behind it.



Featured Speaker:

**Brandan Kennedy, MD**

Brandan Kennedy, MD, Pediatric Hospitalist and Clinical Informaticist, Associate Chief Medical Information Officer, Pediatric Hospital Medicine/ Medical Informatics and Technology Physician, Human Factors Collaborative Children's Mercy Kansas City Associate Professor of Pediatrics, UMKC School of Medicine.

Transcription:

Melanie Cole (Host): Children's Mercy PedsGuide App puts evidence-based resources, dose recommendations, drip calculations, resuscitation guides and more, right at your fingertips. Welcome to Pediatrics In Practice with Children's Mercy, Kansas City. I'm Melanie Cole and joining me today is Dr. Brandan Kennedy. He's a Pediatric Hospitalist and Clinical Informaticist and Associate Chief Medical Information Officer at Children's Mercy, Kansas City.

Dr. Kennedy, it's a pleasure to have you join us for this really great topic today. Tell us about the PedsGuide App. What is it? How did it come about?

Brandan Kennedy, MD (Guest): The PedsGuide App was actually originally the brainchild of one of our infectious disease doctors and he originally just wanted to give some decision support for physicians who were managing very young infants with fever under three months. And they put together this application based on research, and then tried to make it easy for doctors to kind of navigate the decision making process that's a little bit more complex for kids under three months. From that, the idea was so liked and so well received that they expanded on that by adding a module for managing acute asthma attacks. And that was then closely followed by an effort to develop a resuscitation module that would help in more emergency type situations where the child has a life-threatening emergency. And with that work then it was decided to kind of expand this and really look at a framework of sustainability and to continue to expand its growth into other frequent topics where this type of support can really lend a hand to physicians and other types of providers, to do the best work they can do.

Melanie Cole (Host): So, while you're telling us about other providers, who really will this benefit, who should have this app?

Brandan Kennedy, MD (Guest): So, this app I think will be good for any provider or medical professional from the time they're in education, medical students, residents, fellows in sub-specialties and physicians from various sub-specialties including pediatrics, emergency medicine, family practitioners, anybody who is going to have care that they'll provide to children.

It also includes some of our care providers in the field. That would be paramedics, or EMTs who work on

ambulances or those who work in the fire department. Any kind of those emergency medical services could potentially benefit from some of the modules within this application.

Well, then let's talk about the modules in the application. Tell us about the capabilities and features of the PedsGuide App. Tell us about dose recommendations, drip calculations, and I'm very interested in the resuscitation guides.

Yeah, the resuscitation module was probably by far our most ambitious effort. We have kind of a cheat card, if you will that we've used and evolved over time, that's been really helpful for providers and we wanted to transform that into kind of a digital platform and interface to make it easier for them to use. So, the resuscitation module allows you to input the weight of a child and then it will guide you down the path for appropriate weight-based medication dosing for about 50 medications. It will help you map a burn, so that you know, how much body surface area is affected by that burn and give you specific recommendations about next actions.

And it will also help with cardiopulmonary resuscitation. So, giving chest compressions, when to shock and how much of a shock to use, emergency medications for placing a child on a respirator. So it really has kind of a wide range of information that can be provided at your fingertips and very quickly, to allow you to take care of that child who's in a life-threatening situation.

Melanie Cole (Host): Now tell us about the multidisciplinary team that was involved in the development, because that is really an interesting aspect.

Brandan Kennedy, MD (Guest): Yeah. From the time of that brainchild until about the middle of the development of resuscitation, when we decided to expand this, it was a pretty small group of folks. And that was some clinical providers, our Human Factors team was really key in helping us build this application.

Human Factors Science kind of looks at how we humans interact with technology. And so they can help design interfaces and just other aspects of the design that can make the application very usable and very intuitive and easy to navigate. And so that was one of the key elements. As we decided to look forward into the sustainability model, now we have a large team, including a medical librarian to help with research evidence-based practice also to kind of help that the information that we're providing is as close to the current evidence-based practice as we can. We leverage some legal advisers just to make sure we're meeting legal aspects of the application. And our innovations team have been real key as project leads and coordinators to help all of us, including me as the medical director, kind of stay on track with all this work to continue to expand this and make it the best that it can be.

So helpful. So, tell us about the testing that went into the app development, Dr. Kennedy, and how does it work? I mean, how has it been working? What have you seen?

We initially did kind of try to test it in real time. Our Human Factors team went out with some EMTs and paramedics in rural Kansas. And they kind of used some simulated emergencies specifically for the resuscitation module to test how they would use that in kind of real time in getting to information like medication dosing. How to mix some medications, equipment sizes for different aged children. And that testing really helped and led to a few design tweaks and design changes. But overall, the feedback from

the paramedics and EMTs in the field, was that they were just very excited to be able to have a tool like this that could help them and that was right there on their phone, where it was really easy to access. We've got actually gotten quite a bit of feedback from different providers, from some medical students, from our residency population, which uses some of the modules. And the consensus is this just really helps kind of translate some of the research and provides us a tool that can give us rapid access to information, to support our clinical decision making.

It's not gonna always be that it's going to give you that final answer. But it is going to really help, guide physicians in some of these topics, to give them a much better tool for getting to a diagnosis and taking action.

Melanie Cole (Host): Tell us how they can get there.

Brandan Kennedy, MD (Guest): So, the app is now available for free on the Apple app store. And it's also available on Android. We want to try to make every effort to keep it free. The mission for us is to improve the frontline health of children. Many children present to emergency room environments where 90% of the care is adults. And so sometimes there's just a little bit less familiarity with some of those initial actions when children come into the emergency room, because fortunately children are most of the time, very healthy. So, this is for some of those folks just to help them make some of those quick, early decisions that can make a great impact on the down the stream care and outcomes for those children.

Melanie Cole (Host): Dr. Kennedy. This is such a helpful app and really cool technology in these days. Wrap it up for us. What would you like other providers to know about the PedsGuide app through children's mercy, Kansas city? Why it's so important to have the ease of getting it and what you'd like them to do? The biggest, most important thing is just for them to be aware, to download it, to use it. We have email address that's available from the app. They can leave us feedback on the Android or Apple stores. We want feedback. We want to try to make this the best that it can be. So, it can help physicians and other providers help children on those front lines. So, that's the most important thing is that priority of improving care for the children.

Absolutely great information, Dr. Kennedy, thank you so much for joining us today. To refer your patient or for more information, you can always visit [childrensmercy.org](http://childrensmercy.org) to get connected with one of our providers. This has been Pediatrics In Practice with Children's Mercy, Kansas City. Please remember to subscribe, rate and review this podcast and all the other Children's Mercy Podcasts. I'm Melanie Cole.

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