

Are Medical Device Models the Key to Building a Lean Medtech Startup?: Interview with Allison Rae

In this interview with Allison Rae, Principal at Pulse Research and Development, we learn how to best utilize models throughout the entire medical device lifecycle from concept to commercialization. Here are a few points we are going to cover:

- How medical device models can help “juice” the R&D development cycle.
- The benefits of using medical device models for physician training and education.
- The Play-Doh effect: Using medical device models to create strong brands and memories.
- Why rapid prototyping and avoiding surprises are incredibly important concepts to master.
- Can medical device models be a key differentiator in the sales process?

Scott Nelson: Hello, hello, everyone. It's Scott Nelson and welcome to another edition of Medsider, the program where you can learn from proven and experienced medical device and medtech thought leaders. On today's program, we've got Allison Rae, who is the Principal/Chief Creative Officer at Pulse Research and Development. Allison is an industrial designer by trade. What is Pulse R&D? Pulse R&D is a team of highly specialized individuals who are experts in the development and manufacturing of medical devices.

They have specific expertise in product pipeline development, IP-driven design solutions, custom soft tissue anatomical model development. That's a really long phrase there. Voice of customer research, ergonomic design, product manufacturing engineering, and custom 3D marketing models. That's a lot. We're definitely not going to talk about all of that, but the thesis for this particular interview is going to be this. That medical device models, anatomical models, etc. are highly under-utilized throughout the entire life cycle of a medical device from initial concept to commercialization. So, that's the thesis of this interview. So, without further ado, welcome to the program, Allison. Really appreciate your coming on.

Allison Rae: Thank you for having me.

Scott Nelson: So, did I get that introduction right regarding what is Pulse Research and Development or Pulse R&D?

Allison Rae: Yes, you did. Certainly, the focus of the company is the anatomy models and marketing models used for research and development, professional education, and sales and marketing. The other parts of what we do are we are initially and through our history medical device development groups. So, we are used to doing the actual devices themselves. So, we understand the product development cycle and we're basically just applying those same skill sets to actually helping sell the devices.

Scott Nelson: Got it. Got it.

Allison Rae: So, we can also happily do the devices, but to me, there's more creative opportunity in helping people sell their devices than making the devices themselves, especially given that I've been a salesperson for 20-some years.

Scott Nelson: Got it. So, you can understand what sales folks go through on a day in and day out basis. So, very good. But as I just mentioned, we're going to focus on medical device models, anatomical models, etc. and the fact that they are highly under-utilized. Let's start with a quote because I know this is rather interesting and it tells a good story. But this is a quote from I believe a customer of yours, Hologic, and it states, "The model has accomplished what we had hoped and more. It has helped us to gain a competitive advantage in the realm of safety for patients. Clearly, when patients are exposed to the model, they pick out our soft silicone piece in comparison to the large metal coil every time." So, that's an interesting quote and it sets the stage for the rest of the interview, but can you maybe speak to that particular model that you helped develop?

Allison Rae: Sure. The project was for permanent contraception for Hologic, and they were introducing a product that's a little foamed silicone implant maybe a third the size of a grain of rice, and they use a little bipolar energy to disrupt the surface of the fallopian tube, and they put the soft foamed silicone implant and the tissue goes in and it's comfortable and inert. But their competitor was making a large coil spring, maybe an inch to inch-and-a-half long that is sharp on both sides and it's made out of metal that has some nickel in it, and what that does is not only is it scary-looking but it produces an inflammatory response for the rest of the patient's life.

So, when they posed that scenario to me, I came up with a bunch of concepts on how I can tell that story with a model and allow the end-user, the physician, to come to their own conclusion. That's one of the beauties about these models, is that they're designed to produce a specific experience that the customer comes to on their own and they don't necessarily need to trust the word of their salesperson. So, the joke on this particular product is that you can have a sales force of monkeys and it's still going to sell once you see the comparison.

So, the model that we made has a replica of the competitor's device on the right fallopian tube, and on the left fallopian tube there's a replica of their device. There's a lid you could take off and feel the softness of the one and feel the hard metal of the other, but even just looking it, you can see that there's no [07:54inaudible] to choose the metal coil over the foamed silicone implant.

Scott Nelson: Right, right. We're living in sort of an era where apps are all the rage and most of the focus is on app development. But in my particular experience, and I imagine you can probably relate to this, that a model is often much more valuable in the field in terms of telling that story, whether it's to an actual physician that's going to implant or utilize the device or even when a physician explains the particular procedure or the particular device to a potential patient that is considering the surgery or the procedure. So, I think that's a great story to start with, but we're going to definitely get into where models or where device companies and medtech companies are missing the boat in terms of utilizing models in sales and marketing.

But let's start with R&D because I think this is an interesting sort of subtopic. The headwinds that face the medical device industry are pretty strong right now in terms of longer regulatory timeframes, more expensive regulatory timeframes, etc. So it's becoming really, really important for early-stage startups to really make sure that their idea for a device, that there's a market for it, that it's going to work, etc., and maybe you can explain where device models can come into play in terms of generating interest and exposing a potential idea to the marketplace before an actual prototype is developed.

Allison Rae: Yeah, absolutely. So, if you can imagine being a medical device engineer and you've got, let's say, some sort of catheter that you want to test how it steers and progresses through the vascular system, and you have your initial model that's made out of some ratty prototypes and some paperclips and some duct tape, the very first germ of a model. It would be great if you had the vessels of the right arm in your drawer, you know?

Scott Nelson: Yeah.

Allison Rae: Just to play with it or if you're practicing the extraction of stone from a kidney and if you had a model that you could test. I'm not talking about validating the final design. I'm talking about just your first sweep and your general testing to see it's not so much a proof of concept of the device but more of the engineering. There are two proofs of concepts. One is that is engineering going to work. There's the outcome that you want to produce with your device, but there's also the engineering that I did to come to that outcome.

Is it going to work? Are the linkages going to work? Is the steering going to work? Are they the right gears? You know, whatever your story is. So, what you can do is, if you have a model, you can try those concepts out much earlier in the development cycle than you could if you had to go into an animal, which requires that you have something better thought out that you can then justify to your internal review board that it's worth going into a model. So, instead of making dramatic learning in an animal or a cadaver, perhaps you could let some of those weaker ideas fall away much, much earlier.

Scott Nelson: Yeah. I know, exactly. And just so I understand that right, I think it's really interesting that you mention there are kind of two proofs of concept. One is, are physicians going to want this device? Is there a market for it? What does the landscape look like in terms of competition, etc.? Then the other proof of concept that you just mentioned is, does the engineering work? In layman's terms or for lack of a better description, will these pieces fit together, and can this be built out at a relatively non-costly fashion?

Allison Rae: Right, right.

Scott Nelson: So, does that make sense, my understanding of those two?

Allison Rae: Yeah, yeah.

Scott Nelson: Okay.

Allison Rae: I didn't start in the medical field, and I remember my first programs where I was quoting a proof-of-concept model. To us, to designers and engineers, at least outside the medical industry, the proof-of-concept model is, does the model work?

Allison Rae: When you press the button, does the outcome happen the way you want it to? But for the initial project, people ask for a proof of concept and they want to know, does it steer in the vessel properly? Does it cut and ablate tissue to the same effect? So, one of the nice things about being around for a long time is you have all kinds of great opportunities to make a lot of mistakes so you know what not to do and what to do, and differentiating the two different kinds of proof-of-concept models was something I learned pretty early on.

Scott Nelson: Got it. Got it. In your experience, Allison, are most R&D folks, are they utilizing models upfront in this idea stage?

Allison Rae: I think that there are some people that do. Certainly, R&D people understand the merits better because they are by nature more creative in trying to find solutions, and you can see them trying all different kinds of things, you see them cobbling up their fixtures and things. But that's not what they're charged to do. What they're charged to do is do the device. It becomes all these sorts of sub-projects that distract from the main program. So, I think that more than professional education or sales and marketing, the R&D people sort of get it, the benefit of a model, more so. But I think that there needs to be a much greater awareness to the amount of money that you can save by doing that so that there is a budget to go outside to actually getting them done.

Scott Nelson: Right. Right. That makes a ton of sense. And then the other point you mentioned too is just the inconsistency of animal labs and whether or not your idea for this particular device is actually going to work is often tested in animal labs, which there's some inconsistency there.

Allison Rae: Right. You can engineer the model mostly because the materials are limited.

Scott Nelson: Right.

Allison Rae: But the processes that you use to make them are going to yield the same model every single time, whereas if you have eight different porcine models or animals, then you're going to get different feedback. The tissue properties will be different on each one and it could cause unwanted variables. Eventually, you have to address that, but early on you're trying to eliminate more like the scientific method. You try to eliminate the variables except for the one thing that you're studying. So, it can be beneficial for that purpose as well.

Scott Nelson: Got it. Got it. And I think there's probably a decent percentage of the audience that's listening to this interview that will be familiar with the lean startup methodology. And I know Eric Ries authored a book recently, maybe a year ago or so, something like that, but it's specific to the tech world that it's a lot easier to iterate quickly when you can really just build out a webpage and within a half a day's work you can iterate on that model, design it differently, code it differently, but that's a much more difficult task when you're actually developing an actual

product, to iterate quickly, and it would seem that models would be not only a faster way to iterate quicker I should say but definitely a less expensive way to iterate an initial idea.

Allison Rae: I have 20 years in the prototyping industry and just to even for a moment, putting the anatomy models aside, every time you make a prototype you'll learn something. So, the more prototypes you learn, you can sort of juice the development cycle and make it go faster by making more prototypes. Your learning is exponential.

Scott Nelson: Yeah.

Allison Rae: So, prototype early, prototype often is one of the adages. I believe for a quick, accelerated development cycle for the devices themselves, and certainly having something to test them on, it's really convenient that you don't have to schedule ahead of time, and it doesn't require lab technicians. It just makes the process much more easy and convenient.

Scott Nelson: Right. I love that quote, "juice the development cycle," to the idea of prototype early, prototype often. No, that's a great statement. So, let's move on to education because I know from my particular experience when going to HCP or physician training courses, I often leave there thinking, "That model that was used, if I could only utilize that in the field, or if I could only steal that and take it with me, my sales would definitely increase if not go through the roof because it's not only a clear way to differentiate my particular device from the competition but it's a great way to add some value to a physician." So, maybe you can speak to that where, in your experience, medical device models are both used and under-used in terms of professional education.

Allison Rae: Sure. Well, I can talk a little bit about a specific program that we're in the middle or toward the end of a professional education program. It's an insufflatable laparoscopic trainer for hernia repair. My client was kind enough to invite me to one of their training sessions for the physicians, and again it was a lecture from the physician and then the porcine lab. O that particular occasion they weren't using our models, but that is a big, cumbersome program to invite surgeons in to train them and having to set up the whole lab. The cost of the lab and the cost of the animals, and everybody has to take a day off and travel from wherever they're coming from. So, it's extremely inconvenient and costly. Obviously, the benefit is that its real tissue. Sometimes the drawback is that yes, it's real tissue, but the geometry or the anatomy is completely different, so sometimes a model is required. But what they're doing with my model is that they can take this insufflatable trainer on the road and do the training more conveniently even in a physician's office.

Scott Nelson: Got it.

Allison Rae: I asked them what they would need in order to stop doing the porcine labs completely and just use our model, and what they wanted is that they want their tech to seat properly in the tissue, in the consumable part of the product, which is something that we've just accomplished. So, my hope is that they can eliminate the labs, which is a tremendous cost saving

both in the cost of the lab and then the cost of the time for the physicians and the logistical difficulties of flying people around and having them to stay overnight.

Scott Nelson: Got it. That makes a ton of sense especially considering most medical device companies are operating on margins that are shrinking and shrinking by the day. So, if you can pursue or even consider alternatives to physician training outside of an expensive cadaver lab environment, I have to think that that's definitely worth it.

Allison Rae: Yeah. You know, I have all kinds of ideas on how that could be. You can even, given the type of model it is, the insufflatable laparoscopic trainer is big and not really an inexpensive model, but if it was a procedure that could be accommodated by a smaller model, you could send those models out to your physicians and have them practice in the comfort of their own office or homes without anybody looking over their shoulder until they were comfortable. The process of learning is to me pretty interesting, and for me, there's usually that period of frustration where I don't get it yet, but I want to, you know?

Scott Nelson: Yeah.

Allison Rae: I'd rather experience that on my own as opposed to in front of a whole bunch of other people that are watching me fumble around. So, to me, if there's an opportunity to make those training models in some sort of quantity that you could then send out and give those physicians their time to work through the procedure, I think that would be a great idea.

Scott Nelson: That's a fantastic point. I'm glad you brought that up because I've been to those sorts of training experiences where physicians are hesitant to engage in the actual hands-on component because they're around their peers. They don't want to look like the idiot doctor that finished last in his particular medical school class and there is. There's a legitimate hesitation versus I would venture to think that you give that model or that hands-on sort of experience to that physician on his or her own time. It's going to be a lot more valuable for both the physician and the company that's providing the education. I think your dog probably agrees with me there, it sounds like.

Allison Rae: Yeah. Yeah, he feels very strongly about that.

Scott Nelson: That's right. That's right. Yeah, but that's a fantastic point and one that I didn't really think about, but I'm just kind of realizing now as we're conversing, that makes a ton of sense.

Allison Rae: Yeah.

Scott Nelson: Beyond that though, I mentioned this earlier on in the interview, there's an intense focus, a lot of focus across the board, whether the medical device company's a startup versus a large strategic. There's a lot of focus on app development and utilizing iPads as demos or models for your particular device. But in my experience, and again this is kind of through my lens, a lot of physicians would prefer the hands-on component, and maybe you can speak to that.

Allison Rae: Yeah. We do apps as well. As a matter of fact, my next appointment this afternoon is with a company that has an app, and there are certain advantages to being able to do an animation. But if there's an opportunity to make a model where you're engaging somebody in a physical experience, it's always a more compelling learning experience. The more senses that you engage, you know, sight and hearing, the better, and then if you can then additionally engage touch and create a real experience, not just an intellectual experience but a physical experience, that's really unparalleled.

I have a corny saying that I've put at the bottom of all my emails and I think I even have it on my website. It's, "A picture is worth a thousand words, a model is worth a million." Also, by nature, surgeons are hands-on people, and that's something that they relate with. In some cases, from my point of view, they're expert craft people, and touch is part of what they do and the way they think, so I think a model is even more apropos for an audience like that.

Scott Nelson: Right. But with that said though, I think the drawback, the challenge is that it's going to cost me a lot less money to develop an app for the iOS or Android, but I think most of the focus is on iOS right now.

Allison Rae: Not necessarily.

Scott Nelson: No?

Allison Rae: Not necessarily. First of all, you can spend lots and lots of money on an app, but the app program that I just did for the client, I think it was 30,000, 40,000 dollars to do this app. I can't remember how long it lasted, but there are animations and there are all these levels of sophistication. But I've done model programs for less money than that.

Scott Nelson: Okay.

Allison Rae: So, it doesn't necessarily have to do with price. By nature, I like to boil things down to the absolute essence and the least amount of fanfare you need to get your message across. People don't have a lot of time, and the more complicated you make it I think the more confusing and the more expensive. So, although it's never specifically a criterion for my clients, one of my criteria is that it's as simple and as easy to understand and to make as possible, thus keeping the cost down.

Scott Nelson: That's interesting, and now is a good time to kind of interject this question, and it's actually a question that I got in advance of the interview from the audience. For those of you listening, if you do want to submit a question in advance of the interview, just go to medsider.com/on-deck, or just go to Medsider.com and there's a tab for On Deck. There's the On Deck circle where the next Medsider guest, there's an option for you to submit questions in advance. But this particular question from the audience is, what does a typical model cost, a medical device model? I presume it's all over the board, but maybe if you can give us some sort of an idea of what it costs.

Allison Rae: It's funny, there is some sort of typical. But there are two categories of these models. One is something that I would consider production, which would be 1000, preferably 3000 or more, which is more of a marketing model. If you go into a quantity like that, then I can buy real tooling and use regular production methods to make it. So, the upfront cost might be more but, for instance, the Alcon project that we did was 20 dollars apiece. They ordered 3000 units. I think that the Hologic one, they ordered like 14,000 units, and I think the price was somewhere around 15 dollars each.

Scott Nelson: No kidding.

Allison Rae: So, if you're ordering quantity...

Scott Nelson: I mean, granted those are large quantities, but that's shockingly low. I would have expected the price to be a lot higher than that.

Allison Rae: Well, you know, my background is product development, and I think that some people that work in this space are more advertising and are used to working with pharma people and they have a much greater expectation of how much money they can make from each project. My paradigm is R&D always has less money than sales and marketing, but I'm used to, and I should mention me and my team, really our background is from the toy industry. So, we understand how to cost reduce and do things cheaply in a way that medical people never even considered. So, the cost to me is primary.

You know what, it's the number one criteria as far as I'm concerned. It's the hardest to meet. So, when people call and say, "Oh, I don't have a budget. Just tell me how much it is," that's like me asking an architect, "Can you quote me an addition, but I don't have any plan at all?" So, you could build an addition for 5000 dollars and you could build an addition for 5 million dollars. The budget is the number one criteria that is the hardest one to meet, and let's not try to guess at that.

Some people have zero ideas, which I can sort of understand. I mean, there are certain industries that if I ask for a quote I wouldn't even know what budget to plan, but with a little bit of dialogue we can work that stuff out. But in the absence of a budget, usually, I'm happy to give them a quote, but I would always default to the most comprehensive best-case model, with the agreement that the client will not run away screaming but then talk to me about what the compromises could be now that they get a feeling for what the price would be for the optimal scenario. As long as they're willing to work with me once they see that price, then we can sort of back down from that. I'm always happy to give them a quote.

Scott Nelson: Got it. Yeah. I certainly don't expect you to say each model's going to cost approximately 100 dollars, but that's really interesting that you mentioned the cost can be as low as...because I, without knowing anything about what developing a model entails, somewhat expected it to be like at least a couple of hundred bucks if not like approaching a thousand dollars to develop it.

Allison Rae: Well, it is. There are two basic scenarios. One is the 1000 and 3000, 5000, 10,000, and that allows us to make production tooling and keep the cost down. A lot of people need 25 or 50, and what that means is we're making it out of prototyping technologies, which are closer to what you're thinking, and that is absolutely correct. So, we just did a project for a division of Angiotech and each model was a few hundred dollars because they're only ordering 25 or 50 at a time, and they're made out of prototyping materials. These particular models have flesh-like feeling to them and we're using prototyping methods to achieve that, and the cost for those is higher.

Certainly, for the professional education model, so far the programs we've done haven't exceeded more than a dozen or 20, and again those are much more money. The insufflatable laparoscopic trainer that comes with the camera and the scope and the light and the display and the pump and a case. That's \$10,000-dollars with \$150,000 upfront R&D cost. So, depending on what you're trying to do, it depends on the cost. But for the marketing models, we prefer 3000 but we could do 1000. As long as you're coming with a larger quantity, then it's a whole different ballgame when it comes to the price.

Scott Nelson: Got it. So, basically, the moral of the story is that if you're a medical device company, you're contemplating having models built and developed, if you have the intention of potentially using this as a sales and marketing tool, your cost could be a lot lower than you may initially expect.

Allison Rae: Right. I have what I call my anatomy questionnaire spec sheet, and what that does is it allows... It's all the questions that I want to know in order to give you the value add. I don't want somebody coming to me and saying, "Can you make me this uterus?" I want to find out what is their business objective and the bigger picture of what they're trying to communicate, and then I'll give them the concepts. That's the value add we have; is we give them the concepts on how to do that.

One of the questions on that form is are there any other departments besides your own that can benefit from a model like this? Because then (a)- you could perhaps more than one budget, and to use a completely contrived saying, you can kill two birds with one stone. Sometimes, if you involve another department, the feature that they want to add might not drive the cost up at all, so it's always good to try to look at the big picture initially. I might say, you know what, that actually makes exponentially more money, but it might not, and it's always good to look at it ahead of time.

Scott Nelson: Yeah. Yeah. No, those are some great points, and I love the fact that you brought up your background as well as the rest of your team and their corresponding backgrounds in regard to toy manufacturing or toy development. That allows you to sort of scale models at potentially reduced costs because of that experience. That's really interesting because I noticed that, in doing research for this interview, Tyco Toys was listed as one of your...

Allison Rae: Yeah.

Scott Nelson: That's interesting. But it certainly comes into play now that you mention the idea of reducing the cost of development because of that background. That's interesting. So, let's move on from, because I know we're running a little short on time here, but let's move on to sales and marketing. We've of course kind of covered some of these points, but I would imagine that you've worked with, and I mentioned that quote from Hologic when we first started the interview but building out models, hands-on models, for device companies can make a huge impact in terms of sales and marketing. I think it's maybe on your website or maybe on one of your marketing pieces, you mentioned the Play-Doh effect of being able to create strong brands and memories via that effect, and I think that's interesting. So, maybe we can start there with the Play-Doh effect, your thoughts on that.

Allison Rae: Well, if you're touching it, you're creating an experience, and you're creating your own experience and you can come to your conclusions, and you do not need to trust the word of your salesperson. To me, it's sort of a nice way to not so much worry about the soft skills of your sales force. If your project is just so loudly speaking for itself, perhaps it doesn't necessitate as strong an emphasis on the relationship between the person and the end-user. It allows the marketing team to engineer that interaction better.

Scott Nelson: Right. Yeah, and you mentioned this earlier regarding the multi-sensory aspect of models, but while we're on the topic of kind of Play-Doh, I mean you're utilizing a lot of different senses there, from touch to vision to potentially the auditory component as well. There are a lot of senses there, which allows a salesperson to walk away, or a marketing person at a trade show, for example, to make an impact on a current or potential physician customer or that when they leave the sales call or when they leave the conference booth they're going to walk away like with a pretty strong memory of that particular device and maybe that particular company.

Allison Rae: Back to the toy analogy, it's sort of like you go into the toy aisle and a lot of the toys have a try me button.

Scott Nelson: Yeah.

Allison Rae: So, you can let the product sell itself. How many medical devices do you get sort of the opportunity to try me? That's sort of what we're trying to do, are you get to try it on your own before you make the commitment to buy it.

Scott Nelson: Yup. Yup. Speaking of try, I've personally experienced this as well that before walking into a case where a physician's going to use your particular device for the first time, having some sort of model in place makes a huge impact because that first case, you may get one shot with that particular physician, and then if that case doesn't go well with your device, it makes all the difference in the world.

Allison Rae: Oh, right, right, right.

Scott Nelson: So, being able to have a model, like a hands-on model where that physician can sort of practice before they actually utilize it on a natural human, that's a really big deal. Really big deal.

Allison Rae: Yeah. And like I said, before you can engineer that experience, between myself and the marketing team, they can engineer the interaction and we can plan the outcome. We can make sure that the device works as intended so that there's less chance it's not so much scripted, but you're controlling the outcome if you create a kit that walks you through the procedure and it comes out the same every time in the end.

Scott Nelson: Right.

Allison Rae: Which is with a big smile and, "Hey, that really works. well!" We're engineering experiences and engaging the customer.

Scott Nelson: Yeah. Yeah. That's another really good quote. I think the one earlier you mentioned is "juice the development cycle." That's another one.

Allison Rae: Right.

Scott Nelson: To engineer the experience or engineer the outcome. But it's a really good point.

Allison Rae: Right, exactly.

Scott Nelson: Especially when you're dealing with a wide variety of sales methods and methodologies, this allows you to really sort of script out what that may look like for a potential customer.

Allison Rae: We also have this idea, and we haven't been at this a terribly long time, so I haven't seen this in action yet, but I love the idea of, let's say you're a startup and perhaps you don't have an unlimited budget. Actually, nobody has an unlimited budget—and you have 400 thoracic surgeons that are your target audience, but you have a dozen salespeople. How are you going to reach that audience in a meaningful way in the shortest period of time possible?

I have this idea, and I have yet to sort of convince anybody to do it yet because it's a newer idea, but maybe we make 400 models and send them out to those 400 thoracic surgeons, and instead of getting a brochure where they're likely maybe to not open it or maybe open it and look at it for 20 seconds like I would somebody that sent me an email, you get a model in the mail and that's kind of exciting. It's like a present.

Scott Nelson: Yeah.

Allison Rae: And you're going to say, "What is this?" You're going to be curious. You're going to open it up, and there's going to be like a little...maybe it's like a little game or a little experience. I bet you that they're significantly more likely to try your device and work with that model if you send it to them and have them remember it, especially since it's going to sit on their desk

afterward because it's going to be really cool. Did I mention it's going to look really cool? Maybe they'll even play with it when on their phone but you're delivering an experience with no salesperson.

Scott Nelson: Right.

Allison Rae: So, maybe the cost of doing the program is that of hiring one salesperson per year, but you're reaching 400 people in your target audience or maybe 3000, depending on how big your market is.

Scott Nelson: Right. That's a really interesting point. I think it's definitely worthy of consideration considering how expensive it is to commercialize a device these days. But it reminds me of a story, I'm not sure if you've heard of the technology grasshopper.com. It allows small businesses to get a 1-800 number and call system on the cheap for a relatively low monthly cost. But I know when they initially launched, to help create a buzz in the media, they selected, I can't remember exactly how many, but it was a couple of hundred high-profile journalists and they sent I think a whole set of chocolate-covered grasshoppers, edible chocolate-covered grasshoppers, in order to make an impression because they realized sending an email or sending some sort of PR release to these high-profile journalists wasn't going to get them anywhere. I think your idea speaks to the idea of making an impact on a relatively select audience on the cheap.

Allison Rae: Right, it makes an impact and it's educational and it has your brand on it and because it's educational, you can naturally give that away, whereas the FDA now does not allow you to give away sticky pads with your logo and all kinds of other gifts and mugs and stuff. So, this is actually a way to make an impact, to have your brand in front of them, to engineer a positive experience, and stretch your salesforce and actually have it leave behind.

Scott Nelson: Yeah. That's a great idea. If you get a company to bite on that, you have to let me know.

Allison Rae: I was going to say.

Scott Nelson: Yeah. I'll make sure that gets noticed if a company does take action on that idea.

Allison Rae: I'll call you back.

Scott Nelson: I think it's a great one. So, let's do this. We're running short on time. We've covered R&D, professional education, and sales and marketing and how to better utilize medical device models. Let's end this with this question. Allison, you've got a ton of experience in the world of medical devices from prototyping to the development of models and on and on. If you could think of maybe one or two things that you now know that you wish you knew 10, 15, 20 years ago when you first got started in this game...

Allison Rae: Wow. I sort of touched on some like prototyping early and often. I am a huge proponent of prototyping in general. I actually lecture on prototyping at Penn and MIT. When most people think about prototyping they start thinking about the technical part of rapid

prototyping and SLA and all the processes. But prototypes are tools for communication or learning, and whether you're using them to develop devices or to tell the story of how they work... They tease that I was going to put on my business card Analog Allison, the idea of touch, and creating an experience as opposed to digital. Maybe I'm sort of going backward in the technology age, or maybe that's what people really are hungering for now that everything is sort of virtual.

Scott Nelson: Yeah.

Allison Rae: So, prototyping is something that I think people should do more of, and early on and more often for device development. As far as what I've learned, actually, I do have some things to tell you about what I've learned, but it's more because of the fact that I'm a salesperson, which I think is some of the value that I bring to the clients, is I have two rules of dealing with customers, and one is "absolutely no surprises." People expect that there will be hiccups and things will go wrong, but they don't want to be surprised by it. So, in order to have a program go smoothly, I try to do the best I can to set their expectations and let them know what the risks are and what the areas that we're nervous or what the areas that could perhaps cost more money or cause a delay.

Even in the event that I don't have that completely worked out. I've seen people, they shift something, and they hope that the client's going to like it when they know deep down inside there's a problem. You just never want to surprise anybody. You always want to let them know. So, my number one rule is "no surprises and try to manage the expectations." As far as salespeople are concerned, really these models are about convenience. They're all about having them be minimal and easy to carry around. I am completely and totally personally against schlepping anything. The more samples I could take out of my case, the happier I am. So, when I design these models I make them as abbreviated as I could possibly get away with. One, for just the physical carrying around, and two, that helps for cost. So, there are some meandering things that I've learned.

Scott Nelson: No, no, that's some great stuff, and I could definitely tell throughout our conversation that you've got a sales and marketing background. Not just from a creative standpoint, but you kind of know what it's like to carry a bag and try to pitch a product. So, that's great stuff. For those that are listening that have stuck with this throughout these 30, 35 minutes here, where would you direct them to if they want to learn more about models, about Pulse R&D? Where's the best place for them to get in touch with you or to learn more about your company?

Allison Rae: Well, our website is pulsernd.com, Robert-Nancy-Drew, r-n-d.com. But the best way to do it is to call me up and tell me what is your key message. You don't need to know anything else. A lot of our clients, especially sales and marketing and professional education, they're not R&D people and they require a different skill set than my team of creative people, and so the barrier to entry is that they don't have the vision of what could be.

So, all they need to do is say, “You know what, I really need to get the message that my catheter steers better across,” or, “I really need to get the message that my heart ring is flexible in a different way than the competitor’s.” Whatever that key strategic message is, that's all I need to know. I’ve actually contacted clients by reaching out to them, having them had never called me where I just look at their website, I see what their product is and I see what their key differentiator is, and I’ll draw up a contact send it to them and they’ll be like, “Wow.”

So, I don’t need somebody to tell me what the model needs to be. I need them to tell me, and this is the same as I give for my lectures at the colleges, is what do you want it to accomplish and how many do you want to make? As long as I have - and the budget would be great, but even without that I can propose something, and there is no cost to do that.

Scott Nelson: Yeah. That's a great idea, is start with the vision and what message do you want to get across versus focusing too much on what's this model going to look like and the details and going too far in the weeds, but to really start from kind of a 30,000-foot overview of what is the message that you're trying to communicate. No, that's great stuff. So, for those listening, pulsernd, p-u-l-s-e-r-n-d.com, not R and D but pulsernd.com. Then, Allison, you want to go and leave your phone number as well?

Allison Rae: Yes, it's (267) 753-0870, and my extension is 1004.

Scott Nelson: Got it. For those listening, I'll definitely link up in the show notes to Pulse R&D and this number will be listed in the transcripts online at Medsider.com. So, very good. Thanks a ton for doing the interview, Allison. Really appreciate your coming on. This is a really interesting topic that could potentially have a really big impact for a lot of different device companies. An impact that doesn't probably get as much attention as it potentially could be. So, thanks again for coming on. Really appreciate it.

Allison Rae: Thank you for having me. It was my pleasure.

Scott Nelson: And I'll have you hold on the line here, Allison, but for those listening, thank you for your attention throughout the course of this interview. Really appreciate it. just remember, as a reminder, you can find these interviews on iTunes. Just do a search for Medsider, m-e-d-s-i-d-e-r, and you can subscribe to the podcast for free. That way, all the new episodes are automatically downloaded to your iTunes account or to whatever mechanism you use to subscribe to podcasts. So anyway, until the next episode of Medsider, everyone take care.