**MedTech Chat Podcast**

**4/5/21**

**Michael Gundrum**

**Welcome to MedTech Chat, where we discover the latest healthcare tools, device technology, as well as research approaches. We’ll be talking to designers, insight professionals, and other executives that understand how MedTech is helping patients, and those caring for them now, and in the future.**

**I'm very excited today to be talking to Michael Gundrum. He's a general manager of MTS, a Wetlab Company of America. He was born in Austria and studied business administration at the university of Innsbruck. He moved to Guadalajara, Mexico in 2012, and he has been the general manager of MTS America since 2016. So thank you, Michael, for joining us today.**

Thanks for having me on your podcast, Tom.

**Now, I know that we've worked together several times in doing different types of projects, where I would need a wetlab component. But I'm wondering for our audience, if you could explain what is a wetlab?**

A wetlab is a simulated training situation. That means, we take the surgery room, in our case, in ophthalmology. We take it to any place where you need it. So a doctor can arrive to a hotel, can arrive to a conference room, can arrive to a private house, and we can set up there the wetlab. So they simulate a surgery in any place where they need it.

**Now I know why it's important for me. But if you could tell us why it's necessary to have a wetlab?**

Well, it depends on what you use the wetlab for. We, for example, have three directions where we use the wetlab. So one is at big conferences and on private training sessions. So those two occasions, they are used to train young doctors to train, also experienced doctors with new techniques. So this is very necessary that doctors don't start on the human life to train, to get used to new products, etcetera. So we use artificial eyes and porcine eyes. So that's a very big advantage of a wetlab. Also, of course we use a wetlab in a research situations. Companies hire us to make research on new products, to get feedback from doctors on new devices, on new lenses, so whatever they need, they use the wetlabs for. And also here, it's not used on the human life. So we always use a simulated situation.

**Is there a lot of effort that takes to organize one of these wetlabs?**

Depends on the client. Normally, just that you have a need – an image. At the biggest conference in Europe, the [inaudible 00:03:08], we have seven wetlab rooms with 10 stations each. And we have about 250 instruments on site. And there's some wetlabs where we use up to 100 different products. So yes, it is a lot of effort, especially if you organize big events. On smaller events, like a small research project, we have our standard microscopes, our standard instruments. So it's not that big effort, but you need to know what you're doing, and you need to know exactly what the client needs, and what's the surgery they are doing – what they need for that.

**That's excellent. I know, obviously, in the kind of work that we've done, the way wetlabs have been set up. But I'm wondering if you can kind of give me that scene. If you could set it up for me to imagine what the setup looks like.**

Well, a wetlab, you can set up on any firm table. So that's our advantage. We can simulate a surgery in any place where we have a table and electricity. So on your office table, where you're sitting probably now, listening to this podcast, we can put the microscope on the side. We can put the head – the simulation head – we can have the instrument, everything that you need on one table. So there's some microscopes, on the side there are instruments, the disposables, what you need for the procedure, and we have a simulation head, where we put the porcine eye or the artificial eye in. So the doctor sits down, has everything ready, and starts the surgery right away without any – because most microscopes are the same, so they don't have any time of adaption or anything. So things can start right away.

**That's great. And obviously, in the kind of work we've done, where I'm doing more of a human factors market research approach, we would have a back room where people could be watching everything happening. I know that the – everything is being recorded from a bird's eye point of view. But you also have the ability to have the recording and also streaming from the microscope. I'm wondering if you could tell us a little bit about that.**

Exactly. We have a [inaudible 00:05:55] camera connected to an HDMI monitor, and also can stream on Zoom, etcetera. So the researchers, the people in the back, they can see exactly what's happening under the microscope. They see, of course they don't see the 3-D dimensions, but they can see exactly what the doctor is doing under the microscope. So the good thing about it, they have three perspectives. They have the bird view, that's normally in the research centers. They have a camera view of the hand movement, and they have the camera view of the microscope directly. So they see exactly what the doctor sees, you see in the back also. So that's a very good advantage. And we can also record that camera feed. So that's a very complete situation for a researcher, I think.

**That's great. Now obviously, when we were doing work together, it was all in person. And I know these days things tend to be more on the virtual side. Are you able to stream all of that information in a virtual way?**

Yes. That's possible. We actually – we did during the COVID time last year, we did research with some companies and it was really like this. The doctor came to the research center, and he was the only person on the microscope. So he got all the instructions from the company, the trainee was sitting in Los Angeles, the research center was in San Diego, and of course in the back room there were the people from the research center and the researchers. But there was nobody with the doctor in the room. And it was completely remote. So he got the instructions what to do, it's everything by video feed, and yes, that's what was setup, and was no problem at all.

**That's great. Now, obviously based on the discussion we've been having so far, and people probably can surmise that a lot of the work that you and I have done together is in ophthalmology. I know that's one of your main areas. I'm curious, what kind of eyes are you using in the work you do?**

Well, we use, as I told you before, as I said before, we use porcine eyes and artificial eyes. We have providers all over the world to get artificial eyes. And also we have providers of porcine eyes all over the world. Why porcine eyes? Because porcine eyes are the most similar to the human eye. And it's available in big quantities. So and fresh quantities. That's very important that the eyes at the wetlab are fresh, because you need – the doctor needs to see exactly what's happening in the eye. If they're old eyes, or they're burned eyes, they're not useful anymore, as the doctor cannot see anything what's happening in the eye anymore. The artificial eyes, there are many providers now in the world that for every technique, they can provide a special eye. Of course, it's more cost effective to work on artificial eyes, because well, they are separate companies that produce them with 3-D printers, etcetera. So it's very cost-effective. Porcine eyes are more cost efficient.

**So the porcine eyes are more cost-efficient, or the artificial ones?**

Yes, exactly, the porcine ones. Yes. Because the artificial eyes – for example, one artificial eye has a cost of about $36, whereas you have a porcine eye, it's about $5 to $10.

**And are you using artificial eye over and over again, or do you have to have a new artificial eye for each procedure?**

That depends on the procedure. There are some eyes that you can use over and over. Most of them are single use. For example, [inaudible 00:10:22] eyes for [inaudible 00:10:23], they are single use, because they take out the nucleus.

**Are there any other advantages to either of the types?**

Doctors prefer porcine eyes, I think, as it's more similar to the human eye. One disadvantage of porcine eyes is that – well, I'm getting into detail now – the porcine – pigs are very young when we get the eyes from. So they do not have any cataracts. They have an eye of a 10 year-old child. So there's no cataract, etcetera. So it's very supple and whereas at the artificial lenses, for example, you can make the lens, the nuclear, very hard, so you have a better feeling for that. But it depends on the doctor, and it depends also on the companies, on the conferences, what they prefer.

**That makes sense. So then, I know that we've done this before. But as a researcher doing market research or human factors, what are the things I need to be thinking about in preparing and organizing a wetlab?**

Well, the good thing about this is that everything regarding to wetlabs, we do for you. So you need to know what the client's need is. So there has to be a good communication between us, the wetlab company, the researcher, and the client. Because we have had situations where the client – because they didn't want us to know who they are, so we had to buy as a wetlab company, the product for a very high cost, so that in my opinion it didn't make any sense. But they wanted it like this. So I think the communication is very important between the three parties. And exactly define what the client wants. Because that's the worst case situation, if you get to the surgery – if you get to the research center, you have everything ready, and then the client comes, "No, that's missing." So it's not like this that we can go to Walgreens and get what we need. Those are products that really need to be sent from companies. They need to be sent with preparation. Some products are not available right away. So you need preparation times for sometimes one month with some products, because they are special made. So that is very important to be prepared. But everything that's regarded to wetlab itself, so if we have the checklist what we need, everything is done by our company.

**That's great. Is wetlabs limited to ophthalmology?**

No, it's not. But it's in ophthalmology is the most common one. So we do wetlabs sometimes in plastic surgery, so where they try different Botox injections, where they try to flatten the skin, etcetera. But I would say, 95% of wetlab is in ophthalmology.

**That's great. And I know you've given us some information about wetlab in COVID times. Are there other things you wanted to mention?**

Well, in general, I think wetlab is something personal. So after these times, we will get back to one-to-one communication on-site. But of course, we are looking also into different directions on digitalization. So where for example, we have an instructor sitting in London. We set up the – as I said before – we set up the wetlab in Los Angeles, and the instructor gives the feedback through Zoom, or any technology, any video technology. In my opinion, it's an option, but it's not the ideal option. So I think we are getting back to the one-to-one in person wetlab, because also the doctor on site sees better the hand movements, what they are doing exactly. He has a 3-D dimension on the microscope, so in my opinion is that we will get back to the one-to-one wetlab situation.

**Great. So what's the future of wetlabs?**

The future of wetlabs, I think, as I said, we get back to the one-to-one. There are many possibilities in different medical directions. So not only ophthalmology, we are also trying to get in different scenes of medicine – cardiovascular, also brain surgery. That was not our focus until now. But on midterm, for example, we – yes, we tried to get in other directions also. I think stick to the basics in wetlabs is very important. So wetlab will stay as it is now. And if there are digital improvements, or if there is anything that makes it better, then of course, we would adapt that to wetlab. But for now, I think that the wetlab scene is very complete. And with some adaptions on the digital side, the future is very good, I think, for the wetlab company.

**Wow. That's very exciting. I look forward to doing some more with you myself as well. I was curious [crosstalk 00:16:59], kind of getting away from the topic, just curious, what historical figure or fictional character do you relate to, or inspires you?**

I think I really like the artist [inaudible 00:17:16]. Nobody knows him. He does great work. He does artwork that's on time. So he also uses political themes, etcetera. So I think he inspires me, that he can be anonymous and do such a famous and great work. And also gives money that is sold by his projects to charities. So that's, I think he's a fascinating character.

**That's great. And it sounds kind of like the way I think of you. You're the unsung hero in the background doing all the hard work, but may not be recognized as much. So thank you for all the great work you're doing.**

Thank you very much. That's what many companies say, or many clients say, that many people don't see what's behind wetlabs. So they don't see the effort, what organization needs to have for wetlabs. So thank you for that.

**Yes. And I've seen the great work you guys can do behind the scenes. So it's great, great stuff. So I guess, in the final moment here, how do you want people to connect with you? Obviously I can post your LinkedIn and your website. Are there other places people should be going to interact or find out about you?**

We have a Facebook site, we have Instagram site, where we continuously have live sessions, where people can see where we are at the moment, how our setups look like. But generally, contact through our website is fine, and Facebook and Instagram, that's fine. And of course LinkedIn.

**Great. Well, I will make sure to post all those on my site, along with this podcast. And thanks so much for your time today. I look forward to working with you again soon.**

Perfect. Thank you very much, Tom.

**Thanks for joining us. Please check out MedTechChat.com for more podcasts, and blogs. See you there.**