

# Life Rebalanced Live 2025

## EMPOWERING VESTIBULAR PATIENTS THROUGH TECHNOLOGY: TELEHEALTH, INNOVATIONS, AND ACCESSIBILITY

ABBIE ROSS: Hi everyone, welcome back for the fifth and final day of the fifth annual Life Rebalanced Live. It's been an incredible week. Every year at the end of the week, I'm always so overwhelmed with just gratitude to be able to be a part of this community. And thank you all for showing up in the way that you have. I'm Dr. Abbie Ross. I'm a vestibular physical therapist, neuro-clinical specialist, founder of Balancing Act Rehab, co-host of the podcast Talk Dizzy to Me, and a proud board member here at VeDA. I'd like to begin by thanking our sponsor who has made this event possible year after year. The James D. And Linda B. Hainlen Discovery Fund and the University of Minnesota's Department of Otolaryngology have generously supported Life Rebalanced Live since its inception in 2020. A special shout out to Jim Hainlen, who inspired this event by holding his own vestibular conference in both 2018 and 2019. Having experienced vestibular symptoms firsthand, Jim cares so, so deeply about supporting everyone else in their vestibular journeys. And it was important to him to not only provide education on vestibular disorders, but also to provide a platform where we can all connect. Now I'd like to introduce my co-host, Dr. Liz Fuemmeler. She is a vestibular audiologist with Interacoustics and co-host of the podcast A Dose of Dizzy.

LIZ FUEMMELER: Thank you, Abbie. It's great to be here again with everyone. We do wanna say thank you so much to everybody that's contributed to this conference in some way. That includes VeDA's donors, staff, conference volunteers. With their contributions, we were able to put on a live version of this conference at no cost. If you want to gain lifetime access to this event, following the live event, we will have them available for \$60 for purchase and your financial support really helps

support VeDA's continued mission to spread vestibular awareness.

ABBIE ROSS: Perfect. So today is the final day for the free version of the event. Make sure you purchase it if you'd like access beyond today. Now, before we get started with today's presentation, I'd like to direct you once again to the poll questions. Those should be live. Go ahead and answer those. Also, continue to talk amongst yourselves in the chat. That's been awesome every single day to see the support and feedback and just ideas bouncing back and forth from all of you, it's been awesome. Reminder too, if you have any questions for our speakers, make sure those questions go in the Q and A section and we will do our very best to get to as many as we can.

LIZ FUEMMELER: And another reminder too, that although we're gonna be hearing from healthcare providers, please consult with your healthcare provider before making any changes to your treatment plan.

ABBIE ROSS: Now, today for the final presentation, we're going to talk about empowering patients through technology. This topic is very near and dear to my heart because we'll be learning how telehealth can improve accessibility to qualified healthcare providers and discuss apps, online platforms and devices that may help facilitate recovery.

LIZ FUEMMELER: It's my pleasure to introduce two of our guest speakers, Dr. Dara Meldrum and Dr. Sarah Conover. Dr. Meldrum is a physiotherapist and associate professor at Trinity College in Dublin, Ireland. Thank you for joining us. Her research is focused on the application of technology in neurorehabilitation. Dr. Conover is a vestibular physical therapist and certified health coach who helps people recover from dizziness and imbalance so that they can get back to work, family responsibilities, and active pastimes that they love. Welcome and thank you both for joining us. Now, let's get started with Dr. Conover. Could you tell us a little bit about what telehealth looks like in the realm of providing care to vestibular patients? Because this may be new to

many people on this call.

SARAH CONOVER: All right, good to be here. Thank you so much. And I have just been so impressed with this conference so far. So, yeah. So telehealth. Telehealth is a virtual platform that where a visit, either an evaluation or a treatment visit or a coaching session or a meeting can occur via a platform like, well, like we are on right now or Zoom or Google Meets, any other kind of platform. So what that means as far as physical therapy or coaching, which I do both, it means taking a lot of what we do in the clinic or in-person and adapting it to online so it's conversations, we can do physical activities. There's just some nuances with telehealth that have to be adapted. The title of this program or this session is empowering. And that I think is one of the best features of telehealth is that because it's not in-person where we as clinicians tend to maybe do a lot for our patients, it forces us to empower our patients or our clients to understand their own bodies and do little assessments on their own self that maybe are not possible for the therapist to reach out and touch physically the patient. So it can be very empowering for individuals. It also drastically increases access to specialized care and even within the realm of vestibular care, there are individuals who will specialize more in certain conditions or certain times along the way, acute or subacute or chronic. And so it just allows a lot more access. That's a good introduction at least we can talk more about it.

ABBIE ROSS: Yeah, absolutely. And I think back when I was starting Balancing Act Rehab, it was starting as a virtual practice, but this was pre-COVID. So it's incredible to see how healthcare has changed. And even conferences, when we were first discussing with VeDA how can we put on a conference, we were talking about an in-person conference. And then COVID happened relatively shortly after that. And here we are, It's been a virtual conference where people around the world, including our speaker from Ireland today, you know, have access to information. And I think it's such a silver lining for somewhat of a dark period in our history being COVID. So thank you for that. Now there are certainly pros and cons to

using telehealth, Dr. Meldrum, would you talk about some of the benefits of it?

DARA MELDRUM: Yeah, yeah. I mean, I think it's nascent, right? We're just starting to explore this area and I think COVID really accelerated us. But I think the... If we talk about the benefits for patients or people who have got vestibular disorders, they're often feeling very unwell, they're often in the prime of their life, they're working, they've got children, they've got responsibilities. So getting access to care and getting their, paying for parking, you know, feeling off when they get there, it can sometimes interfere with how well they do within the therapy session in clinic. So to be able to access therapy remotely is gonna be a benefit for these patients, I think. The other thing I think is that it is just improving access. So we know that there's a huge amount of people in the world that have got vestibular disorders. Like, it's just massive. There's a huge unmet need there. So I think and access to specialized clinicians is not always possible. So that's another benefit of telerehab, is that you may be able to access somebody out of State or within your State that's far away that has specialized skills that maybe your local therapist does not have.

DARA MELDRUM: So I think they're the two main benefits for the larger group of people who have vestibular disorders. As an individual and yourself, we as therapists, we are always giving you exercises to do at home. And I think it's very difficult to know what you're doing at home, whether you're doing it correctly and also for therapists to have oversight of what you're doing at home, that's something we really want. And when I surveyed therapists before we developed our platform, is that they really wanted to know what patients were doing, they wanted to be able to support them at home, but they didn't have any tools to do that. It was pen or paper, it was self report. And when we talked to the patients in the waiting room about what the problems they were having, they were having issues with remembering to do their exercises, knowing whether they were doing them correctly, finding them a little bit boring and wondering if they felt really bad doing them, what should they do about

that. Do they have to wait 'till the next appointment or what should they do. So I think the benefits of telehealth and the technologies and the sensors that are being developed, allow us to solve all those problems, that we can actually connect the patient to the clinic between visits.

DARA MELDRUM: We can support them doing their therapy at home and just make it a much better, maybe faster and get better outcomes for patients. So they're the sort of benefits. And the second part of the question is kind of, is it for everybody? Well, I think we have a lot to iron out. We're not sure yet. We're gonna get to the research in a bit. It made... There are problems with WiFi connectivity, there are problems with cost of technology, there are problems with people being tech savvy, not so much as there were before. But you know, we do have to be cognizant. Some our elder patients may not be very familiar with technology, may not... Prefer not to use it, prefer to come in face-to-face. And also we have to remember that there are a certain group of patients who always need to come in. They're, for safety reasons where we need to put our hands on, we need to be beside them and they just need intensive rehab that cannot be done on a telerehab platform. So they're kind of the patients that it's not suitable for.

ABBIE ROSS: Perfect. And I wanted to add one, you mentioned about being able to continue care beyond the office setting, you know, being able to be with the patient. One benefit that I have found too, And I'm sure Dr. Conover, you would agree, is being able to see the patient's home. Many of these patients are at fall risk. So if I can see that throw rug that's not very solid to the ground, or maybe I want to remove it altogether for now or clutter or whatever it is, I can actually see now into the patient's home and give them tips and recommendations to make them more safe. What else do you have Dr. Conover in terms of benefits and are there specific diagnoses that you find work better with telehealth or work well, I should say maybe not better, but equal?

SARAH CONOVER: Yeah, yeah, I totally agree. Seeing the person's home,

especially if it's someone who you cannot do a home visit for, is one of the big benefits. I would say just to piggyback off of what Dr. Meldrum just said, is that those individuals who have very complex or very acute issues are not as maybe suited to telehealth. Someone who has just gotten vertigo and has not been checked out by anyone, needs to be in a emergency room or at their doctor's office to get that checked out. It's very well suited for chronic dizziness issues, vestibular migraine, 3PD, Mal de Débarquement Syndrome, even unilateral vestibular loss. I have seen people who have unilateral vestibular loss in a telehealth setting, who have not been to their ENT, have not gotten any testing done, have just been to their family physician. And we can get a really good strong start with that. And I... Though it's limited in terms of, you know, I can't get the visual on the nystagmus that I can in the clinic with the goggles. I can't put my hands on their neck or other musculoskeletal parts of them to see what's going musculoskeletal-wise manually.

SARAH CONOVER: I can't take their blood pressure, you know, so that's... There are limitations, but it's for a clinician who knows how to adapt and knows the limitations, it's very doable. And I will bounce someone back to just like I would in the clinic, if I have some concerns, I will bounce someone back to get those checked out and then return. I also wanted to point out that sometimes we can have a hybrid. So I do that quite a bit with my local patients where I will see them in-person or on screen initially and then we'll just toggle back and forth. And so that's another benefit of telehealth is you can have those. Maybe you just need a short little visit to check their exercises, do a few little assessments. And it's really nice for both parties to hop on a telehealth appointment in between and do a hybrid kind of setup.

LIZ FUEMMELER: We've been talking a lot about screen time. So talk to me about patients who have difficulty with screens. How do you incorporate those patients into a telehealth situation?

SARAH CONOVER: Yeah, that's a big issue. And I have a client right now

who looks away from the screen most of the session. And so we can adapt that. It comes down to what are the pros and the cons for that patient. Can they access in... If in-person care is really better for them, can they access it without having to drive three hours. If it's right down the street and they can access it easily and they have real tolerance issues with the screen, then maybe telehealth is not the right choice for them. It's about balancing pros and cons.

ABBIE ROSS: I would also add to that, what I tell my patients is that them seeing me really isn't that important. But I need to be able to see them. Right? So if they need to look through the screen, look at something beyond the screen, like if I'm doing gaze holding nystagmus, if I'm looking at their eyes, I don't need them to even look at the screen necessarily. They can look at other targets. And one of the things I like to do before I start the session is or before I start the examination portion of the session is to have them give me a little tour of their surroundings so that I know hallmarks that I can point out. Hey, can you look toward the window? Can you look toward the cabinet or the bed or whatever it is? So yeah, I think it's... You're absolutely right. There are definitely limitations. Are there any other limitations or instances where you think telehealth would not be appropriate? And I'm specifically interested actually in your take. You didn't mention BPPV yet. So I'm interested in your take on BPPV and I'll give mine too.

SARAH CONOVER: Yeah, that's a great question. It's doable. It's doable. It's... If I had the choice to assess someone in-person versus telehealth with BPPV, I would absolutely pick in-person. I can modify the treatment as needed. I can really get a better... And maybe that's on me that I'm not as skilled yet in doing that with, through telehealth, I have done it for sure. It works better if you can pre... You can talk to the person before that visit and have someone there to hold the device so you can see and explain it super, super clearly way before that treatment on who's gonna do what, what bed they're going to use and really set it up ahead of time for success. So it's doable, it's more challenging. That's my take on it.

DARA MELDRUM: Yeah. And if I could just add, I think that if it's your first episode of BPPV and you're new to this symptom and you're feeling very unwell, then an in-person visit may be your preference. But if you're a recurrent person, a person with recurrent BPPV and you know the Epley and you've done it a little bit before, then the evidence is suggesting actually with the research, is that you can treat yourself at home under the guidance of course of a healthcare professional and as long as it's safe for you to do so, and that you'll need to talk to your healthcare provider for that. But I think we are moving to... Because BPPV is so common and it recurs so often, I think we are moving to being able to guide patients to do this at home on their own and just with some oversight from a clinician.

ABBIE ROSS: Absolutely. And when we were first starting with telehealth, I remember thinking, how many patients come to you and say, well, I saw this thing online and who knows what that thing online is or if they did it correctly or if they were even treating the right ear or canal. So I think just the access to a healthcare provider, whether it's via telehealth or in-person, I think is just such an incredible... What's the word I'm looking for? An incredible feature of vestibular care that has been missing and that we're now filling in that gap. Now, you talked about research, Dr. Meldrum, broadly speaking, when it comes to vestibular dysfunction, does the research echo what you just said?

DARA MELDRUM: Well, in terms of BPPV, I think we're only just starting to understand it. There's some great work coming out of Korea actually looking at a patient putting in answers to three questions about whether they spin, whether they... When it's with their head and how long it lasts and it accurately diagnosing what canal it's in and then being brought through the maneuver for that canal and showing that it's pretty good in terms of resolving that. But they are all screened by a medic before they do that. And I think we have to be really careful about that. BPPV can be obviously something else. Even if it's recurring, it can be a central sign for

something else. So it is really important that a medic sees these patients or physical therapist sees them as well before they start doing any maneuvers. But there is some encouraging research coming out to support that, yes, you can safely do it at home through maybe a guided web program.

DARA MELDRUM: In terms of using telehealth as a platform, it is pretty positive actually what's coming out. It does seem that, yeah, and the guidelines for physical therapists actually have just come out for telehealth suggesting that it should be offered to patients because it is as good as, maybe not superior, but as good as, and at least not inferior to just usual care. And we do have some really nice strong studies where we really test two groups. We have a control group, we have a group that got it and that didn't get it. And we really look to see, are we getting the outcomes that we expect.

DARA MELDRUM: And we're making sure the patients are getting lesser treatment or less favorable outcomes because they're being treated by telehealth. And it is really encouraging for chronic conditions, for example, it is being shown to be as effective as having a therapist there with you. And that's kind of a web-based treatment. And there's been other studies also in acute. There's just a study that was presented last year at the Brain conference showing that acute vertigo as well can be treated with telehealth with a web-based type of treatment. And then there's lots of other research coming out. We'll talk about in a little bit more detail when we're talking about the technologies. But head mounted displays and force platforms and different gaming platforms, a lot of them are showing some very positive benefits as well and they're more enjoyable. I think that's a lot of what's very favorable with the virtual reality and the apps and stuff, is they give a bit of gamification to treatment which makes it a little bit more enjoyable for patients as well.

DARA MELDRUM: So on the whole, I mean I was looking at the kind of numbers of research papers that are coming out. They've only really just

started to come up out since 2022 because technology is getting, you know, we've got great innovators in vestibular therapy. So we have a lot of people developing systems and they're just starting to be researched and the evidence is just starting to come out. So I think we have a bit of time to go before we know what's the best platform to use, what's the best way to deliver it. We still don't know that even actually conventional care like our, what kind of exercise we should give, what dosage we should give. But I think that the technology is gonna let us answer all these questions because we're now getting the data in and we can measure it much better. So on the whole I think it is favorable.

LIZ FUEMMELER: That's great that the research is showing that this is something positive and helping patients so far. I hope it continues to trend that way. Dr. Conover, could you tell us about just a typical evaluation that's done via telehealth and maybe how that differs from follow up visits?

SARAH CONOVER: Yes, I would love to answer that question but first I might add to Dr. Meldrum's research in that because I and a colleague published a research paper last year on telehealth as well. So and it was a retrospective study. It was done during COVID and my colleague is in Bend, Oregon now. We met each other through a mutual colleague, an otolaryngologist and we use the DHI as the outcome score measure, outcome measure for this study, it was a small study, 73 subjects. And we did... We ended up with three groups, the telehealth group, an in-clinic group and a hybrid group. And all of them showed significant, it was a mixture of diagnoses. So if you're looking for a study on all sorts of... We had traumatic brain injury with vestibular issues. We had everything from that to VM to unilateral vestibular loss to BPPV. It was just whichever vestibular clients came in, that we saw during that period of time, we looked back and as long as they did a pre-DHI and a post-DHI, we used them in the study. And they all showed statistically significant improvement on the DHI.

SARAH CONOVER: So that just adds a tiny little piece to the body of research. But I just had to throw that out there while we're talking about research. It was great fun to do that. So an evaluation versus a treatment session I think is your question, differences. The differences are similar to the differences in the clinic. There is, I would say that the evaluation through telehealth oftentimes, for me at least, is longer than in-person. I have to get enough information through the virtual platform and it takes a little more talking, and a little more doing, and a little more manipulating the setting for let's try this here, let's try that there. But we go through, you know really very similar. There's ocular motor exam, there's strength exam. Strength exam I can't, you know, actually push down on your arm or push against your leg to see how strong your legs are. So we do things like the five times sit to stand, you know, can you stand up and sit down five times by yourself without holding on and how long does it take you. Those sort of gross understanding of the musculoskeletal strength and range of motion.

SARAH CONOVER: I can't take a goniometer so I'm gonna look and see and report it in terms of percentages and functional range of motion, kind of that type of thing. Follow up visits, a lot of it is going through the exercise program, a lot of talking. I personally, I do a lot of coaching with my patients as well as I just have coaching clients as well. So we do a lot of talking through management of chronic dizziness, of persistent dizziness, lifestyle management. A lot of the things that were talked discussed last like yesterday about empowering my client to get better control and feel more in control. So as the control and the agency comes up, that anxiety goes down and it just feels better. There's less suffering. So we do a lot of that as well. Does that kind of answer your question?

LIZ FUEMMELER: Yes, definitely. I was wondering from the time base too. So you answered that, that the evaluation tends to be longer and in more detail and sometimes the treatment can be much shorter.

SARAH CONOVER: And follow up appointments are fairly short actually

sometimes. Sometimes only 20 minutes, 20 to 30 minutes via telehealth. Yeah.

ABBIE ROSS: Dr. Meldrum...

DARA MELDRUM: Yeah. I think the evaluation, there are certain things we can't do very well like the clinical head impulse test where we don't see what the vestibular reflex is going to do. We may not feel it very safe to put patients on a foam mat and close their eyes, which is another test we do a lot of the time. So there are some safety things that we kind of have to think about. And like I... Like back to the point at the start, the hybrid approach I think is probably gonna be the optimal approach going forwards where you come in for your diagnostic testing, you get your evaluation and then you may do some of it online, but you'll have to come in for some testing always, you know, to get a diagnosis in vestibular disorders, I think we're always gonna be using our technology in-clinic with clinicians to make an accurate diagnosis. You're gonna need scans, you're gonna need bloods, you're gonna need things like that. So I think COVID really helped us to tease out what we can do in-clinic and what we can do remotely.

DARA MELDRUM: And I think we're getting a better understanding of how we can parse that out. And the ultimate aim is that we save the patient time and we get them treated faster. It's not just about time for us or safety for us as well. It's for the patient as well to get through everything fast and get care in the way they want it delivered to them. So if they want to be seen at home, they're seen at home. If they want to come in, they come in, that there's a choice. And one of the studies we did with the platform I developed was we asked the patients, they came in for their initial assessment and we did all that in-person because it was part of a research study. And then they got a choice to either go remotely or come in for their follow up appointments. Now these were patients who had balance problems as a result of multiple sclerosis and dizziness as a result of that. And about 64% of the visits went remote.

DARA MELDRUM: So because we were supporting them with a platform, we had a sensor, we were looking at their data coming in, we were looking at their exercises that were being guided through their program. They seemed to feel empowered to stay at home and do their therapy that way. The therapist went on a telehealth platform with them and talked them through the exercises and changed it then using the platform we had developed. But they were able to do their treatment. And the therapist, when I said to her, you know, how many visits did you usually do with them? She said, oh, I don't even really, have done 10% remotely up until now. So I think the technologies that we're developing for use at home are gonna empower patients to stay at home and get as good care in the comfort of their own home.

ABBIE ROSS: I love the piece about providing that choice for patients. And also there's so much that can be garnered from the conversation from the patient interview and then the educational piece coming from the provider that really does seamlessly fit with a telehealth appointment. I want to hit a couple audience based questions about telehealth before we go into more devices and the technology part of things. One of the questions is, where can I find telehealth providers? And also it seems there's a question about whether or not a provider can be seen from out of the United States. So before one of you takes that question, I want to point out that VeDA does have a provider directory on their website and there is an option for providers to put, whether or not they provide telehealth services or offer that as an option there. In addition, the Academy of Neurologic Physical Therapy also has a directory on their platform that at least can get you help in finding a vestibular provider and then picking up the phone, emailing them, reaching out, asking what their approach to care would be. Do you have any other suggestions about where to find a telehealth provider, Dr. Conover?

SARAH CONOVER: I think that, I think you hit it if you've got a vestibular disorder, there are so many of us now doing telehealth. I don't know.

Cynthia probably would have the answer, but I don't know if all of the States in the United States are covered by someone doing telehealth or not in the directory, but, yeah, and then I think reaching out to someone at least. And then little by little like it... If you reach out to a telehealth therapist, maybe in the neighboring State, maybe they know who is licensed around it. You know, just start asking, you'll find it. But those are great directories. And I'm not sure where this fits in, but I want to tell the audience that the telehealth, at least for physical therapy, and I think most licensed professionals, clinicians are like this. The service takes place in the place where the patient is. So a telehealth physical therapist, whose patient... Who is licensed in, like, Ohio, that's a state I'm licensed in. I can't see a patient in Indiana if they're in Indiana. If they come to a coffee shop over in Ohio and sit in the coffee shop, I can see them in the confines of my State. So the service takes place where the patient is, not where the therapist is. Likewise, if I'm on vacation, I can see my patients still in Ohio. So that's a little bit of a benefit. I can check in on them. I can still do some treatments while I'm over in the next State.

LIZ FUEMMELER: That's super helpful. Another question that's coming just about the logistics. What about, what are some of the safety considerations for patients when they're wanting to do telehealth? Is there anything in their home that you usually recommend at the start of treatment that they should do? Dr. Meldrum, do you have any suggestions here?

DARA MELDRUM: Yeah, I mean, I think it's really important that they're assessed as safely as possible. And because you've got balance issues and you're dizzy, you can fall over, we can make you feel much worse during an assessment. We always warn patients about that when we see them first. So often we would collect questionnaires remotely before we would see the patient. So we have an idea of what we're going to be dealing with. We would encourage a patient to have somebody with them or at least somebody that they can contact or that we can contact in the case of an emergency. We would want to know the distance to the closest

emergency room. We want to know who their physicians are in the event, in the unlikely event of there being something untoward happening during the assessment. When I'm looking at things like walking or gait, what we would call gait assessment, we want a clear path, we want the video where we can see the patient walking and we may want somebody to be with the patient as well when we're assessing their walking because often we get them walking when they're turning their heads. We want to make sure that they're not going to lose their balance and fall during assessment.

DARA MELDRUM: And when we're looking at balance, I was mentioning that earlier, if we're getting patients maybe standing on a foam mat, standing in a corner with something in front of them, we often get patients exercising that. But that's a great way to look at balance. But again, being very cognizant that if you think they're high fall risk that there's somebody there that's able to save them if necessary. In case of, if you... If I'm going to think of anybody, if you thought anybody was going to have very strong autonomic symptoms like vomiting or if they had a history of that, they probably wouldn't be the ones to really assess to the point of view of a dix hallpike, maybe at home.

DARA MELDRUM: If you thought they were gonna get sick and they were gonna need medication or something like that, or need some help in that regard. So there's some of the things that I would be very clear about before I would start and also just, the very simple things like when you get on the telehealth platform, make sure you, it's the therapist you want to meet, you wanna check their credentials. The therapist needs to know they're talking to the right patients. You do all this kind of check in this, you know, and you get your consent, all that sort of stuff has to be done as well and make sure the patient knows exactly what and that you as the patient know exactly what you're gonna be asked to do during the assessment and that you feel comfortable doing that. So they're all the kind of things that we would set up before we would do it.

ABBIE ROSS: Very good. Thank you, Dr. Meldrum, for adding that. There's another question maybe from a provider. It says telehealth competency courses for vestibular clinicians. I would also point out, and maybe someone can put it in the chat, that on VeDA's website there is a section for courses for vestibular therapists. So that would be a great place to look at anything that's upcoming. Now, maybe we'll switch gears a little bit more toward technology, devices, apps. What are some of the new technological equipment, Dr. Meldrum, that are beneficial for the treatment of vestibular disorders?

DARA MELDRUM: Yeah, this is a really exciting area and I think it really has kind of exploded in the last few years. So every time I open up my email, there's new technologies coming out and there's new devices. So I think they kind of broadly fall into categories such as apps, sensors, virtual reality, force plates, things like that. And then there's some devices that give you a kind of an active stimulus. So the, like a vibratory stimulus that helps correct your balance. Or there's some newer ones been developed, galvanic stimulation, things like that. So there are, I mean, so I think if you just, if you start with apps, the apps will generally tend to fall into kind of tracking your symptoms. And I know there's a patient on the panel that has been developing a Vertige app that will actually track your symptoms. And that's really important because you need to know you're getting better. There are apps that will track your adherence, such as we developed with Vertigenius, that will track your head movement and your symptoms and your exercise adherence and provide you the exercise program. Sarah's gonna talk a little bit about access for apps that might give you a little bit about weather apps that can help you track your symptoms if weather are changing.

DARA MELDRUM: The force plate ones, there's some sophisticated technology out there that have, such as Libra at Home that has a force plate that you can do your balance exercises on. It can look at your postural sway. We started off very early on back in 2010, looking at the Nintendo Wii Fit plus, which was a gaming platform that had a force plate

and found that patients really enjoyed that. There was a lot of gamification. There's some apps coming out of... There's an app coming out of University of Pittsburgh called this VestAid that tracks your eye movement and your head movement and really looks to see how gaze is changing with head movement. Looks at the accuracy of your vestibulo-ocular reflex as you're doing exercises. So that's also available. And then you have the balance belt, which is a belt that you wear that will give you some actual feedback as to... You just, you pop it on and it gives you a... It works out whether you're going out of your center of gravity and it then corrects you by giving you a vibratory feedback. You don't think about it, you just walk. And it's very much subconscious correction of your balance control when during walking generally, there's been some positive results with that.

DARA MELDRUM: So they're probably the... Then the head mounted displays, actually should talk about them. They're really started to come to the fore and we had that question about what about screens and what about devices. So the head mounted displays, I think they have the potential to very precisely give you different stimulus. All right. And that's probably what we want because, patients with vestibular problems, they're just having... They have a lot of issues with all this visual stimulus that they're getting. And what we can do with head mounted display is very, very precisely dose that. We can change how fast it moves, we can change the amount that patients are seeing and we can titrate it.

DARA MELDRUM: And it goes on the principle of you're habituating to a visual surround. So everybody kind of wants to get back on their devices and their screens. We can't really live without them anymore. So we try, but the head mounted displays, the virtual reality helps to titrate that and really measure what we're doing. They're very, very promising systems. They're a bit more expensive. Some patients don't like wearing them. They don't like the feeling of not being able to see the real world. So then we also have augmented reality where you have the real virtual world superimposed on the real world. So you might be walking, you can see

the real world, but you might see a butterfly coming towards you that you have to turn and look at. So there are lots of different really amazing technologies being developed that I think are really gonna help bring this field on.

ABBIE ROSS: And there are cheaper types of virtual reality devices as well. You know, there's the huge systems like the CAREN system. But early in my VR days I was also trying out things like the VR, the. What are they? The Google, the cardboard ones.

DARA MELDRUM: Google Cardboards yeah, yeah, exactly.

ABBIE ROSS: Obviously it's not the same, but does the job.

DARA MELDRUM: Yeah, it can do. And I mean, even we even can use computer screens where we're getting, you know, we can get... We often are just titrating maybe stripes moving or circles moving. A lot of the work that was done at a, by Marousa Pavlou in London really gave us a very good understanding of how we can use visual surrounds to decrease people's sensitivity to the world moving. 'cause that's what the problem is, they just really are very sensitive to the world moving around them. So you can just, I mean in Vertigenius, which we've developed, we can put on the exercises with the moving stripes and they can put it into a head mounted display. They can put their phone into a head mounted display and get a much more immersive experience with it. So the head mounted display gives you a really immersive experience and it has this peripheral, if it can get your peripheral vision in as well, that has a modifying effect on the vestibulo-ocular reflex as well. So anything that gives you a large immersive experience, we don't know for sure yet, but might be a... Might give you a better outcome.

LIZ FUEMMELER: That's super helpful to get the overview. Dr. Conover, can you talk through some of the apps that maybe patients who are listening don't know about and could be helpful either in tracking their

symptoms or in managing or maybe anticipating some symptoms?

SARAH CONOVER: Yeah, absolutely. So apps, I put them into basically five categories, weather apps, mindfulness apps, symptom tracking apps. There are some apps there that Liz, you're probably much more familiar with than I am, specifically for tinnitus. Some of those apps have sort of cognitive behavioral therapy and mindfulness sort of built into them and some are just sort of noise kind of apps. But you can probably talk much better on that being an audiologist. And then there's these... There's some apps that seem to do sort of multiple things like manage your medical history and manage symptoms and manage appointments and things like that. They're just much more comprehensive. I guess before I go on specifically with these apps, is that in almost every case of an app, I would say there's multiple ways of getting that information. So for example, a weather app, you can... An actual weather app that goes on your phone that is sensitive to the barometric pressure. So you've got to have a phone that has that ability to be sensitive to the barometric pressure in order to support an app like WeatherX that actually reads the barometric pressure.

SARAH CONOVER: Otherwise it's like a barometric pressure forecast and anyone can get that forecast. But there are ways to do these things with or without an app. So a lot of it is patient preference, personality preference. Do you like being on your phone and using an app? Does that help you organize it in your head? Does it help you feel like you've got it better documented, better understood then great then that's... And if not I think in very very few cases can you not get like in a non-app way the information or do the the things that you... That the app is going to do especially like mindfulness. So mindfulness apps, there's, oh my goodness there's so many mindfulness apps and I would recommend for anyone who hasn't tried mindfulness apps, find ones that have at least a free trial or they're a free app. Don't pay for something until you know you like it. There's... Especially with mindfulness there are really a lot of and I practice mindfulness for a very long time and I find that certain things

annoy me in my mindfulness practice. So you know certain apps I've tried and I discarded. I didn't like them and I'm glad I didn't pay for them.

SARAH CONOVER: So do your homework. Get... Try the free apps. There's some that will, mindfulness apps, that will help you through like that have a strong component with of education like neuroplasticity education. An app called, that I love, called Healthy Minds has that, a lot of education with that. The DARE app also has a lot of education Insight Timer, Curable, Headspace are all mindfulness apps that have nuances of working with anxiety and depression as well and also teaching mindfulness. The, like I said the weather apps you've got those that just predict and those that actually read the, have a baro sensor okay. The symptom trackers, so symptom trackers there's and Vertige that you're gonna listen to Kristy who is one of our patient panelists and she is the developer of that app. So a lot of... You know ask her all the questions about that but the benefits of using a tracker, a symptom tracker are that you can really nail down, sometimes it might feel like your symptoms are all day or all morning or whatever and if you're actually honing in on tracking the intensity or the duration the onset, you know what might have triggered all of that, you can understand your triggers better and maybe you find...

SARAH CONOVER: I actually had this, that a patient actually discovered this by tracking really carefully that she actually was having a lot of frequent episodes. Not really a all morning long, but a lot of frequent episodes that lasted minutes and it felt at first like it was just all day long. Well, that can be really important information for diagnostics for your physical therapist, for your other clinicians, that can be really important information. So gaining an understanding and oftentimes an app will cue you what to record and what to look at. But here's the thing, if you look for symptoms, you're gonna find symptoms. So apps tracking in particular, tracking apps, I think have really strong pros, but also there's some...

SARAH CONOVER: A lot of precautions to use them in a guarded way for a short duration or whatever. If you're wondering about it, talk to your clinician about whether an app, that sort of honing in on your symptoms is a good thing or not such a good thing. It can... If you tend to be more anxious or hypervigilant, it can really make that more pronounced and our brains will look for what we tell them to look for. So if I look for... If I tell you to look for red cars on the highway, you're gonna see those and you're not gonna see the white pickup trucks. And until I tell you to look for white pickup trucks. So it does have its downsides. If you're always thinking about, oh, I've got to track this symptom, is it this, is it that, is it... Then it does have its downsides. So talk to your clinicians about the use of those apps.

ABBIE ROSS: Yeah, I think... Keep going if you want.

SARAH CONOVER: No, I'm done.

ABBIE ROSS: Okay. I was just going to add that I love that you put that in there, the hyper vigilance part of it. Because sometimes even in sessions, follow up sessions, if they're a week or two weeks apart, sometimes people don't realize actually the progress that they've made, if they're thinking about the day today or the hour to the hour or the minute to minute even in some cases. But if you zoom out a little bit and look week to week or month to month, you can see your trend upward, you know, healing and recovery and chronic illness. It's very rarely a linear progression. There's ups and downs, ups and downs, ups and downs. But overall, there was something a speaker said this week, I believe it was Dr. Demian, I think. He said, overall, you're raising your floor and you're raising your ceiling. So your "bad days" are better than they were, and your good days are even better than they were as well. I love that. Dr. Meldrum, if we could go back to you and talk a little bit to us about any new technology on the rise, what can we keep our eyes out for?

DARA MELDRUM: Yeah, I think it's definitely on the rise and I think there

are gonna be just more and more products coming out and it's going to be hard for therapists and hard for patients to know what they should be doing. So I think we're starting to be very good in the therapies about evaluating technologies because we're seeing more of them now. So we would do what was called a health technology assessment. And I think for patients, if they're being offered something that's got a technology, they need to ask about the evidence behind it. It's really important that we don't... You know, there are a lot of apps out there, but they need to be validated. They need to have an evidence base. We need to know their safety profile. We need to know, if companies are getting your data, how are they handling your data. You know, so HIPAA in the States, the Health Insurance Portability and Accountability Act, really important that any devices that have been used for your personal data are HIPAA compliant, that there's, you know, is it a medical device? If so, then has it gone through the FDA regulatory approval? So there's a lot of different technologies in there.

DARA MELDRUM: I think we're gonna see a lot more technology used at home and I think, you know, for not just vestibular disorders, for all sorts of healthcare. And I think we're gonna see the rise of machine learning and artificial intelligence as well, always with the caveat, don't use it yet. I'm always saying to everyone, don't use ChatGPT yet. It's going to tell you all sorts of weird and wonderful things. But I think we had a layer at the very start of therapy where we just gave exercises on a piece of paper and we told patients to do them. We'd no idea what they were doing at home. We now have digital technologies where we can measure this, we can get the data in, we can see exactly what patients are doing, and we're gonna learn from that.

DARA MELDRUM: And I agree with the hypervigilance but if we don't measure, we're not gonna know what we're doing. So we must measure what we're doing. And technology has given therapists and patients the ability to measure stuff in the home. And then on top of that, then we're gonna have our layer of machine learning and AI where we get all this

data and we start to recognize patterns in it and we start to produce actionable insights and we start to predict what's happening and we start to know exactly what this patient should be doing and when and how it's gonna affect them. So that's my sort of prediction for 20 years maybe down the line is that we'd be automating a lot of this and patients will be very carefully guided and judiciously and evidence based.

DARA MELDRUM: I think there'll always be clinician there, but there'll be just this, you know, help to say, you know, like instead of having your consultant outside the door that has been practicing for 40 years where you ask them a question, you're gonna have AI saying with all the data, with all the data that we have, all the research, this is what this patient should be doing now to really optimize their outcomes. In the interim, I think the technologies will be in the form of apps, wearable sensors, harnessing things like Fitbits, you know, blood pressure monitoring, things like that. That patients are going to start to realize, oh, actually I'm getting dizzy when I stand up, it's because my blood pressure is dropping, it's nothing to do with my vestibular system. I need something else. I need a cardiologist, I don't need a vestibular therapist. So I think patients are gonna be able to measure themselves a lot more. They're gonna be able to provide data to their clinicians so the clinicians can then act on that.

DARA MELDRUM: I think telehealth as well is gonna become a lot more available and hopefully it'll remain to be funded by insurance. And then, yeah, so I think then we've developed something that tracks the head. So I think with the head mounted displays and sensors that track the head, we really, I really want to know what the head is doing because the head is, when you move the head is what, that's what makes you dizzy. And I really want to know if you move the environment, what's happening. So I think we're gonna see a lot more technologies giving us information about that as well. I think they're gonna come down in price. So I think the very high end models that you have in-clinic that are really beyond a lot of therapists reach, they're great to have, don't get me wrong. I think

they're great fun to work with and they give a lot of really good data. But I think the mainstay of this treatment is in the home and that's where the growth is really gonna happen. We're gonna just be able to manage patients an awful lot better when they're doing their home programs. So that'll be my predictions of what technologies we're gonna... Patients are going to see more.

ABBIE ROSS: Two things stuck out to me in what you said, you're speaking really to the individualization of treatment. Right? If you're getting this data of how the patient is performing at home, you can further individualize their plan, which we've preached on forever. Treatment should be individualized to you. And the other piece that really stuck out to me is the empowerment that comes with that. You're saying that the transition from needing to go into an office to get a test done or get this done or have a follow up to now being able to be at home and really take care into your own hands. Can you make any comments about those two things?

DARA MELDRUM: Yeah, I mean, I think it'll come down to preference, it'll come down to different conditions as to whether patients are going to be, you know, gonna choose that path or be able for that path. And again, I think we learn all this, right. But then we're gonna learn is we're gonna have to measure it. So I think, yeah, I think patients will choose and also there won't be access. There's not gonna be, you know, we're growing populations, we're getting older, there's not gonna be access to doctors or, so that we're gonna have to move towards where patients can treat themselves or be guided through treatment by automated platforms. We're gonna have to move towards that I think going forward into the future because there's just not going to be enough healthcare professionals out there to treat all these patients. Does that answer your question? I'm not sure I answered the whole question or not.

ABBIE ROSS: No, no, it did, it did. It's perfect. I mean I look back in where we were even in 2018 again when I started and it's just insane to me the

amount of progress that we've had and I can't even begin to fathom what's going to happen even in the next five to ten years. Now, and getting back... Yeah. And getting back to some of these questions in our last few minutes of the first section of today's presentation. There are some questions about devices at home to be used, but specifically if there's... I guess the question is in the world of telehealth, if there are other limitations impacting someone like one person's talking about neck pain, one person's talking about hearing related issues, are there modifications that we can do for those people who still want access to telehealth? What can we offer them or how can we modify our approach to make it a productive session? Dr. Conover, do you have any thoughts on that?

SARAH CONOVER: Yeah, the neck pain if... I mean certainly neck pain goes along with vestibular issues quite a bit and there's things that can be done through telehealth and then there's always referring if it needs something, if the neck needs some sort of intervention that is more hands on or modalities that are found in-person, for sure. And neck pain. And what was the other one, Abbie?

ABBIE ROSS: Another question was talking about if the person is having difficulty hearing.

SARAH CONOVER: Oh, hearing. There's closed caption that can be implemented on Zoom. I've used that before, so.

LIZ FUEMMELER: I was gonna say this is where probably having a second person in the room is also helpful.

SARAH CONOVER: Yes.

LIZ FUEMMELER: Someone that can hear and re-communicate that. But yes closed captioning too.

SARAH CONOVER: Yeah, for sure. I mean certainly if there was not closed caption or if there's a hearing issue. And also we didn't... One thing that wasn't brought up that I thought about after I was on. But is certain cognitive difficulties makes it more difficult to do the Zoom, the screen. So I think it's an individual thing if someone is, it really is reliant on lip reading. Sometimes that's a difficult thing because sometimes there's delays and we've had them today like you freeze for a moment, it's hard to get it. So it's a balancing the pros and cons of it. I know you're getting ready to wrap up, but I wanted to put out there, if anyone has questions about products, there's some questions that I would recommend that you ask.

SARAH CONOVER: If you see a product you don't know about it. How long has it been on the market? Has there been any research on it with vestibular... With folks with vestibular issues, what are the results of those studies? Who did the studies? Okay, that can be important too. What are the risks and the pros for it? And you might wanna talk to your clinician about that. Whoever is the number one person on your team or a couple. Ask for testimonials with the product and then see if there's a trial period or if you can... If there's a money back. Because as Dr. Meldrum said, there's a lot of really flashy marketing out there that will... We just hate for people to be taken by products that aren't substantiated and aren't good and with no money back. So those are just some helpful tips there.

ABBIE ROSS: Thank you so much for including that. I think that's really helpful for people who are getting targeted every day, probably on their Instagram and Facebook. And there's all sorts of things coming out now, including different supplements and medications being pushed on these social media platforms in the term... In the mode of ads. So thank you for that. Both of you, amazing. Dr. Conover, Dr. Meldrum, thank you for joining us today. It was a pleasure to have you help us wrap up up the final day of 2025's Life Rebalanced Live. Thank you. If you'd like...

DARA MELDRUM: Thank you.

ABBIE ROSS: If you'd like to learn more about either of our presenters today, check out the banners at the bottom. Also, feel free to check out the agenda again. More information will be there about both of them. And now, last day. We've got one more hour left, really, of the whole conference. It's crazy. We're gonna pass it off to Heather Davies and Hollie Smith to lead the patient panel. Hi ladies.

HOLLIE SMITH: Hi.

HEATHER DAVIES: Thanks, Abbie and Liz. Oh, my goodness. I can't believe this is the last day.

ABBIE ROSS: I know. I'm excited to hear what apps you two in particular find helpful because like Dr. Conover was saying, there's so many available. I'm interested to hear what you two use specifically.

HOLLIE SMITH: Oh, I love the HeartMath app, which is a biofeedback, which is really cool. And we just really wanted to say thank you, Liz and Abbie. Abbie and Liz, you have done such a wonderful job this week. Thank you so much for running the first hour so beautifully. And thank you for your wonderful job of leading this conference.

LIZ FUEMMELER: Thank you.

ABBIE ROSS: Likewise, you two have done an unbelievable job with the patient panels as well. So thank you. Without you guys, we wouldn't have this. So thank you all for joining us. Thank you, audience, for being here. It's our time to go.

HEATHER DAVIES: Bye, ladies. Wow. I can't believe it's the last day.

HOLLIE SMITH: Oh, my goodness, Heather. What an honor to get to be in

the last hour of this wonderful week. A big shout out to Cynthia, who is the Executive Director of VeDA, and Kyler, who has been doing a fantastic job in the chat, Elizabeth, who you can't see behind the scenes, all of the wonderful volunteers and VeDA ambassadors that have continued to pour into this conference. What an amazing week.

HEATHER DAVIES: Yeah, I'm looking forward to the last two speakers too. Hi, everyone. I am Heather Davies and I'm a VeDA ambassador. I'm living with Ménière's disease and vestibular migraine and I host the podcast called the Meniere's Muse Podcast.

HOLLIE SMITH: And I'm Hollie Smith and I'm a VeDA ambassador living with SSCD, Vestibular Migraine and Ménière's. And I co-host the VeDA Retired Support Group.

HEATHER DAVIES: And today we are welcoming our final guests, our patient panelist, Kristy Carabello. And Shruti, Shi... I'm gonna get this right Shruti Shivaramakrishnan. Close?

SHRUTI SHIVARAMAKRISHNAN: That's in... Shruti is fine. Yeah.

HEATHER DAVIES: Okay. Shruti. Thank you. Welcome both of you to our show, to Life Rebalanced day five.

Kristy Carabello: Hi. Thank you for having me. I'm so excited to be here.

HOLLIE SMITH: We are thrilled to have you here. And Kristy, I'd like to start off the hour with having you briefly describe your vestibular journey.

KRISTY CARABELLO: Yes. So I actually was diagnosed in 2017 with Ménière's disease and vestibular migraine. It took a little bit longer to get that Ménière's diagnosis than the VM, but at my worst, I was having like eight to ten episodes a month of vertigo debilitating. So it's been a journey, that's for sure. And luckily, through tracking and using different

technology, I've been able to manage my symptoms and knock on something. I've been pretty good for the last few years.

HEATHER DAVIES: That's awesome.

HOLLIE SMITH: Wonderful. Wonderful. And I know earlier today they mentioned the app that you've developed and we are really excited to hear more about that as our hour continues.

HEATHER DAVIES: Yes, Shruti, would you mind sharing briefly about your vestibular journey?

SHRUTI SHIVARAMAKRISHNAN: Absolutely. Thank you. So I've lived with migraines since I was a kid and I've never really realized. But yes, I had motion sickness as well as a kid and still do. Sitting at the back of the car, it's just like a big no. But my migraine was mainly pain focused without aura. But after I had COVID in 2021, I was just dizzy every single day for months. And I still have those episodes of dizziness. I tried asking my neurologist, he said, oh, it's all just migraine. But he didn't really say vestibular migraine. And those episodes are really different and hard to manage. And I'm still figuring it out. I'm still on this journey. I don't still know whether it's just VM, whether it's PPPD. You know, I'm still talking to my doctor to try and find an answer because it's gotten really difficult to live with it.

HEATHER DAVIES: We understand that a lot of our illnesses tend to cross each other. I know that Kristy and I have talked in the past about our vestibular migraine and Ménière's, and who knows which is, you know what symptoms are which sometimes.

KRISTY CARABELLO: It wasn't until I actually went through balance testing and came back with loss of hearing in my right ear that I got that actual Ménière's diagnosis. Because at first it was just like, oh, this sounds like vestibular migraine. And then I'm not sure if all of you have been through

that balance testing, which is a very interesting two hour, you know, I still have, like, PTSD from it. But it was after that hearing test 'cause just six months prior, I had been to an allergy doctor, and he did a hearing test, and it came back normal. So just within that, like, six month mark, I lost more hearing. Well, I lost hearing in my right ear, and that gave me, kind of slid me into the Ménière's diagnosis.

SHRUTI SHIVARAMAKRISHNAN: That's very interesting. I live with anxiety disorder and depression. So whenever I go in with a physical symptom, it's very easy for a doctor to dismiss me and say, oh, it's just anxiety. Let's just up your dosage. And I'm still in that boat, and I've still been advocating for myself, and I haven't had the balance test yet. So, yeah, pretty new to this and on this journey, pretty early on. Excited to see where it goes.

HOLLIE SMITH: Yeah. And just for our audience to know, Heather's having some technical issues right now, and she's getting that worked out. So that was really quick. So glad to have that. And Shruti, it's definitely an interesting couple of hours of testing as Kristy said, for those of you in the audience who don't know what we're talking about, we're talking about a battery of tests that you usually have to go to a major medical center, like a Mayo Clinic, University of Michigan, University of Miami, those kind of... Cleveland Clinic, those kind of things. Those are not the only ones that do it. But you usually have to go to a bigger hospital, not just your small hometown place for the battery of vestibular tests. And it is quite intensive. But that is where a lot of us get our diagnosis, especially those of us that have more than one, where you finally get that diagnosis. So yes, Kristy, as we mentioned at the beginning, in the first hour they talked about the app that you were developing. Can you give us some more details on that?

KRISTY CARABELLO: Sure. So like I had mentioned 2017, I get, you know, my diagnoses and at that time I'm having these eight to ten episodes a month of debilitating vertigo, can't get out of bed and like, you know,

world spinning around. It wasn't the just dizziness or off balance. It was like the full fledged vertigo. And I started to track because there's so many different things that can be a trigger between the foods or screen time, stress. So I started tracking everything by hand and was able to start identifying various things like I can't eat chickpeas, I can't eat avocados there... It was a pretty stressful time in my life in that time frame around that 2016-2018. So yeah, all these certain things, hormones were coming into play and I'm tracking and I'm identifying these trends in my triggers.

KRISTY CARABELLO: And then the next step was like, okay, I wanna start doing this on my phone. Being able to like do it easier 'cause I was using a planner for everything. And I found there's a lot of migraine tracking apps, but there really weren't any specific to vertigo. So I did some market research and you know, I found it was like this overwhelming need in our community for people to be able to track and start to identify some of the things that are causing these episodes. So we deployed beta the first round of the app in May of 2022 and went through some beta testing. That's when I actually started partnering with the Vestibular Disorders Association and you know, being in touch with Cynthia. So since then we've actually made a lot of different updates on the app and we are currently participating with two doctors from VeDA's medical board from MUSC, Johns Hopkins and then a weather scientist from NASA on a 100 person study. So we're trying to identify and I feel like a lot of people out there will say like weather affects their vestibular disorders. And there's right same. I was like, I'm better than the weather person here in our town, like, I can tell when something's coming.

HOLLIE SMITH: For sure.

KRISTY CARABELLO: So we're trying to identify how that's all affecting vestibular disorders. So that's kind of where we are right now. So it's been a really great journey. And, you know, VeDA has been just a wonderful resource and partner along the way.

HEATHER DAVIES: Wonderful.

HOLLIE SMITH: That's exciting.

HEATHER DAVIES: It's a great app. If you have to check it out, Vertige, it is. The only other one I've used is WeatherX. And like we discussed yesterday, I really quit using that because I was able to... My body was able to tell me before it was about the weather changes, you know. Well, Shruti, I'm curious about your experiences using telehealth and what kind of provider you've used in the past?

SHRUTI SHIVARAMAKRISHNAN: You know, growing up in India, I've always consulted doctors via phone and via video. I mean, from back when Skype was there, you know. But then more recently, I turned to telehealth when I moved to Canada. That was in 2019. And I was one year postpartum, two years off my meds. My migraine had changed, progressed, and I was in the worst place ever with my mental health taking a big hit. I was dealing with passive suicidal ideation. And on top of that, because I was new, the GP was very hesitant to refer. I said, I know I have migraine, I know I need help, something's changing. But he said, no, it's just anxiety. And then it took a couple of months to convince him. And then, you know, get that referral to see a specialist. And that wait time was about a year, which got pushed because of COVID. So I had to wait two years to actually see the specialist. So during that time, I was in a very tough place. I finally booked a video visit with my neurologist in India, someone who already knew my history and reviewed my scan, spent two hours explaining, you know, what's changed.

SHRUTI SHIVARAMAKRISHNAN: And then later I did consult with Neura Health as well to get, you know, their take on it and get some visit notes that I could share with my specialist here. Just 'cause it's so hard to advocate for yourself over and over again. I also used, Well.ca's migraine network at that time. It was led by the migraine pharmacist, Heba Hani, and she evaluated my treatment plan, gave me more notes to share with

my doctor. And then through that time, like, I've seen my... I see my therapist via telehealth. She's in India. You know, it's affordable, culturally aligned. Beyond that, I use it for ENT, internal medicine, vestibular therapy, physical therapy, you name it. I don't like leaving my home. You know I get anxious. Right now, I get really dizzy. So if there's an option, I would choose telehealth.

HEATHER DAVIES: Shruti, do your providers all interact with each other? Is there that multidisciplinary connection or is that all...

SHRUTI SHIVARAMAKRISHNAN: Unfortunately not. And the struggle and the reason why I saw someone in US, I saw someone in India is because the providers here just didn't accept their notes. Even when they sent an email from India, they just didn't accept it. So I had to go through all these various routes and share information, and that's all up to me. And I still struggled to get them to put things together. Even with my GP, she is also not ready to put all the information together. So it's accessible to all my providers.

HEATHER DAVIES: Right. I'm hoping that's something that comes of this in the future because we see telehealth so prevalent. Kristy, does your Vertige app interact with providers at this point?

KRISTY CARABELLO: It doesn't. Yeah. That's something...

HEATHER DAVIES: Do you have the capability?

KRISTY CARABELLO: Maybe... Yeah. Hopefully down the line, what we do have is a month at a glance report that people can download and save onto their phone and then share with their doctors. So our freemium version of the app right now is what's being used for the study that I was just talking about. And then the premium version gives you more access to health environment, your symptoms, food triggers, and then all of that gets populated into this month at a glance, so you can see day by day

when you've had episodes, maybe what was going on at that time, so you can start to identify the triggers and trends.

HOLLIE SMITH: That's really interesting, Kristy. I've noticed that if you take a screenshot, just like you said within your app, or any screenshot, if you send a screenshot to your provider via MyChart, those pictures go into your file, your medical file. They become part of your medical file. So for anyone that doesn't know that, if you need something to at least be part of your medical file, if your provider is using MyChart, when you send them a picture, that does go into the media portion of your medical file. So that is a way for you as a patient, to be able to get some of these things as part of your medical record. And Shruti, we have so many people in our support group that talk about the struggle of getting the providers to be on the same page and two things that popped into my mind as you were talking.

HOLLIE SMITH: One is to have a one or two page summary when you go to new providers that you can kind of show them the biggest things that are your biggest symptoms, your main symptoms, your main triggers and your main diagnoses. And then also my co-host for our support group, Michelle, calls it her book of me and she has like a binder and it's like the most important things. And just the fact that she calls it the book of me is what stuck into my head. So, Shruti, I know it's hard to get the providers to work together, but you're right, the power of telehealth, Shruti, makes a huge difference for those of us that struggle to leave the house. Whether it's because of anxiety, like you mentioned, because of the actual vertigo, because sometimes our specialists are so far away that driving there is triggering, even if you can drive. And if you can't drive, riding in a car can be triggering. So it definitely is a thing. And you mentioned you're from Canada, so you currently have coverage for telehealth visits, correct, Shruti?

SHRUTI SHIVARAMAKRISHNAN: I don't. Not for this specific thing. So our system is where the GP has to refer everywhere because we do have

options available where there are telehealth options that we have to pay out of pocket. I don't know of anywhere it's covered, but the current OHIP covered providers, some of them do offer telehealth. It has changed after the lockdown ended. You know, a lot of people are hesitant. In fact, last week I had to take an Uber, go one hour to meet with my OB for five minutes and just be out. So if there's no physical exam, I think it's okay to have a telehealth visit, especially if you wanna discuss reports or check in. Unfortunately, that's not very uniform. Not all providers are open to it.

HOLLIE SMITH: Yeah, it's similar in the United States as well. Some providers use it and some do not. But one thing that is kind of sad that's been popping up in the chat, Medicare, which covers a lot of our vestibular patients here in the United States, whether if you're over 65 or you're disabled due to your vestibular condition, the telehealth extension from COVID which is what you were talking about, Shruti, does expire on March 31st of this year. And I know there's information in the chat about contacting your senators, because that is a thing like Shruti was saying, even in Canada. Like, some of it was extended before, but is not anymore. I kind of wanna go back to Kristy. It was in the chat that I didn't realize that you have done a lot of the funding for the app yourself.

KRISTY CARABELLO: Oh, yeah. All of the...

HOLLIE SMITH: It's amazing.

KRISTY CARABELLO: Yeah, it's been all like out of pocket, bootstrapped just from me and my husband. Yeah.

HOLLIE SMITH: What an amazing outreach that you have done for those of us with vestibular disorders.

HEATHER DAVIES: Kristy, prior to... I'm sorry, go ahead.

KRISTY CARABELLO: No, I was just gonna say, like, I know how I felt at my worst. That's pretty much what it comes down to. And, you know, what Shruti was saying about the anxiety and just, you know, I kind of wish, 'cause my diagnosis in 2017, I feel like everything... For me I live in Philadelphia, so I'm very lucky to have a lot of great doctors and hospitals around me. So for my balance testing, I went to the University of Pennsylvania. And, you know, it's... Telehealth wasn't really a thing for me in 2017, but because of the anxiety that I was feeling and facing at that time, I really wish it would have been an option because, I mean, there was a long time, and even still today, not as bad as it was, but to a certain extent that anxiety, that fear of leaving because you don't know when something's going to happen.

HEATHER DAVIES: Well, you answered the question I was gonna ask. So you haven't had much experience with telehealth, except you saw that there was a need, so you created this app, is that right?

KRISTY CARABELLO: That's correct. Yeah. I've done a little like, my ENT recently retired, so just to establish care with the new ENT, I did a telehealth visit, and then I have done some with a therapist, but most of the time my experience is in-person.

HEATHER DAVIES: Okay. All right. Do you see any... Have you heard... Because I know that you've had Vertige on for... How long have you had it? A couple of years?

KRISTY CARABELLO: Yeah. I mean, it's been going, I would say, since September 2023 now. It's been like in its most current state.

HEATHER DAVIES: Have you had any feedback on triggers like people, you know, saying that the... With the technology having triggers from screen, using the screen or anything like that? I know I've used the Vertige and it's very friendly, you know, to our visual line, but I just didn't know if you have gotten feedback on that.

KRISTY CARABELLO: So I haven't really gotten. I've had feedback that it's very user friendly and very like, easy to work with and what you're saying too, like, I wanted to be sure that the app, like, you know, I didn't want advertisements popping up because I feel like when you're in the throes of having vertigo or even like in between, like your eyes are so sensitive and the colors that we use are all, you know, more calming colors. And we want it to just be that like user friendly, easy experience. You're going in, you're tracking and it's not like causing anything else and putting any additional hardships on your vestibular system. Pretty much.

HEATHER DAVIES: Perfect. Perfect. Shruti, you mentioned that you have some mental health issues which a lot of us can relate to that and telehealth has come a long way. Have you seen any a mental health professional continuously via telehealth?

SHRUTI SHIVARAMAKRISHNAN: Yes, absolutely. Again, after I moved here, I was in that space where I needed help very badly. I did try multiple professionals over here. Again, because it was COVID, everybody was offering telehealth at that time. So I tried to meet with some people. The issue was that therapy is very expensive here in Canada. I'm sure it is in US as well. At that time, BetterHelp and all that was fairly new, as in we didn't really know about it. And my Insurance gave me \$500 a year for mental health and I could not afford these sessions out of pocket. One session was \$159. And I thought, I can't just have three sessions a year. I need better options. So then I started interviewing therapists in India and found hospitals that were offering telehealth and they had been doing for quite some time, even before COVID And that's how I settled with my therapist. The way I went about it is I went in-person after, of course, I decided who I wanted to see in which hospital. I went in-person, I met with a psychiatrist, I met with the therapist and then transitioned over to telehealth. So even though my psychiatrist right now had to, of course, transition care here in Canada, I still interact with them, share records. And my therapist and I meet almost like twice a week. And it's, you know,

\$30 and it's fine.

HEATHER DAVIES: That's wonderful.

SHRUTI SHIVARAMAKRISHNAN: Like I'd rather spend on that than, you know, go grab a burrito or something.

HOLLIE SMITH: Exactly. So, Shruti, am I understanding correctly by that you're living in Canada but your therapist is in India?

SHRUTI SHIVARAMAKRISHNAN: That's correct. So I'm very blessed to have experienced different healthcare systems. So I have grown up in India. I have my team already over there. Some of them are not alive, but whatever, like I still have a team. And then I did spend some time in the Middle East, very short and you know, here in Canada and I work for a telehealth clinic in US. So I've experienced all systems and I know no system is perfect but I want the best of each. So I make sure that I find ways to use every system and you know, fit these pieces together for myself.

HOLLIE SMITH: That is wonderful, Shruti, I'm so glad that you're able to use different pieces of the medical system and I know that VeDA does outreach throughout the whole world and we're certainly glad that you're able to bring that piece to us. And what a difference in pricing.

HEATHER DAVIES: Huge.

SHRUTI SHIVARAMAKRISHNAN: Huge. I could, again back then, I was so, I don't like using the word but disabled. I couldn't do anything. You know, functioning every day was so hard for me and I couldn't go to work. In fact, I thought I would never go back to work. Even after I had COVID and this whole dizziness started. It was so hard to function and even cook for myself. And I have a six year old daughter, I have to walk the dog, et cetera. So I never thought I'd be able to go back. Having first the mental

health therapist on hold anytime that I need to see her and knowing that I can reach out to say Dr. Burke in the US or that I can reach out to one of my providers over here for PT virtually that helped me, you know, understand that I have a supportive team that I can reach out to and that reduced my stress. My threshold went up once the stress came down. And then of course when the treatments and all came together, I was able to do much better. And I really did not think I'd be back at work. But I went back to work about two years ago and I'm very happy. Yeah.

HEATHER DAVIES: That's fantastic.

HOLLIE SMITH: Congratulations. And as Shruti pointed out, there's the struggle for people who have had to medically retire. There's a support group for that which Mary and Michelle and I co-host once a week. There's also a support group for those people who are trying to work, like Shruti said, with vestibular disorders. And Kyler is gonna put a link to both groups in the chat as well. So Shruti, I'm glad that you pointed out that there is hope and then that there's a different spectrum of where people are at that period of time. Shruti, one of the questions that's coming up in the chat is, is there a certain app, do you use WhatsApp or what kind of platform do you use to make those phone calls internationally? And is there something that you would recommend for people in the audience who cannot, for some reason afford, you know, mental health telehealth in their own country? Is there some form of, for people to reach out like you did?

SHRUTI SHIVARAMAKRISHNAN: I think every country has something right now that people can reach out to for much lower costs. I know in Canada, we have about two or three options. Again, this all came, you know, from COVID when people reached out for help and we didn't hear anything. That was my story too. In fact, I ended up at the hospital because I didn't get help. Like, I called the suicide hotline and I said, look, I need help. Like, I know when my brain's not okay, so I need help. He said, well, do you have a plan? Do you know what you want to do? So the thing is, you need

to be culturally aligned to whoever is just giving you the help and then you get it. So for me in India, I can put down the link. I consult with Cadabams's Hospital.

SHRUTI SHIVARAMAKRISHNAN: They have providers across areas in mental health. They are mental health specialized. All the appointments are, like I said, \$30 and you can meet with them. You can just book an appointment, go to their website, and they have their own app. But right now, all the telehealth visits are done over HIPAA compliant Zoom. And they started the telehealth platform because most of their patients were international. So they were Indians who were international. So that's what I use. In US I know there are a couple of options like BetterHelp, and I forget, is it all therapy? Sorry, I'll have to do my research. But there are options, but more like it's cost. Yes. But it's also if the therapist understands your cultural background and nuances and whether you connect with them. And that's been very hard to find. So, yeah.

HOLLIE SMITH: Finding someone you connect with makes a huge difference, not just in the mental health therapy, but also in physical therapy as well. Because if you have a provider that you trust, and Heather and I have seen this over the past week, hearing the different panelists talk about when you find someone who you trust, whether it's your ENT doctor, whether it's your vestibular therapist or whatever they are such a blessing in your system, in your healthcare system. Also, quite frequently if you find someone that's really great, they're the person to ask for recommendations on who else to add to your team.

HEATHER DAVIES: Absolutely.

HOLLIE SMITH: And Kristy, I noticed that you're nodding and I was wondering if you happen to have anything to add to this conversation about reaching out to different apps or different websites for your care. And then also there's a question that's just coming in from the chat about if you use used tools like neuromodulation or the wristbands or anything

like that?

KRISTY CARABELLO: I think I tried to use anything I could back when I was at my worst, from the wristbands to, I mean, I bought like a frequency device to help. I mean, I would take all the supplements, like, anything, crystals. I was like taking apart jewelry to have crystals that were supposed to be able to help. I mean, I think when it comes down to it, like at that point you're so... You don't feel like yourself. You just wanna like, you've lost your identity. You're scared to go out. You will try like, I would try a lot of different things. So, and I think it's good to reach out and ask people and, you know you may find answers from people you don't expect.

KRISTY CARABELLO: You know, and like you said too, Hollie, just when you do find that doctor or support person that you trust, like, they're actually a great person to ask to be able to go to the next step. It takes a village is what it feels like, and it takes time. So it's... I think at the time you're just so anxious and depressed and in this like, bubble because you don't know what's happening or how long or how you're gonna get out of it and how you're gonna feel like yourself again. So, you know I think it is worth trying different paths to see what works for you and talking to different doctors, I mean, I had to talk to... And I know there's a statistic out there somewhere how many doctors somebody has to see before they actually get their vestibular diagnosis. I think I went to four before I got my diagnosis. So Shruti had mentioned something about being...

HEATHER DAVIES: Pretty good.

KRISTY CARABELLO: Yeah. It's actually not too bad, but about being your own advocate. And I think that's a huge thing. You have to continue to advocate for yourself. And, you know, you're the only one who really understands. Like, even your family, your friends, like, they don't understand what you're going through all the time. So to be your own advocate is a huge, huge part of this.

HEATHER DAVIES: Absolutely.

HOLLIE SMITH: I'm glad you brought that up, Kristy, because a lot of our people in the chat have talked about this week how hard it is to explain to their family. We've had this come up on the patient panelists just about every day about how hard it is to talk to family and friends about it. And there's also a support group for caregivers, for people that are family and friends that are the support people. Kyler can put that in the chat as well, because that's an important piece to your, I think, Kristy, you said building your village, but definitely getting them on the same page, finding out who is gonna stay in your life through this and making sure that they understand.

KRISTY CARABELLO: I mean, we can laugh about it now, but like one, before I was diagnosed, I was actually driving home 'cause I was like, something's not right. I don't know what it is. And I drove, I parked at the end of our street, and I called my husband, and I was like, you have to come outside. Like, as I'm walking up, I don't know, something's not right. And he thought I was like, I'd been drinking or something. He's like, where were you? Like, what's happening? And you just... And you're right, because the caregiver, there's so much responsibility put on them. So from my husband to my mom to my sister, like, all those people who had to come to my house or pick me up on the side of a road or I would just call and be so upset. Like, it's so nice to see that there are support groups out there for them, too, because they're you know it's... These are like the invisible diseases, and they're kind of like the silent partner in all of this that they don't quite understand. But they have to go through a lot.

HEATHER DAVIES: And I have to mention VeDA... I'm sorry, Hollie. VeDA, I've had a couple of people that have reached out to me that didn't really understand how to tell their families what they were going through, so they actually directed them to VeDA. VeDA has a series... Oh, my gosh. This brain fog where they just stopped it last year. Do you remember,

Hollie, where they have the patients? Oh, my goodness.

HOLLIE SMITH: The Life Rebalanced Chronicles.

HEATHER DAVIES: Life Rebalanced. Yes, yes, yes, yes. And they've referred... They find their diagnosis, and they send their families there, and they get a little bit more understanding coming from somebody else that's experiencing it. So that's a great resource, too, is to, for Life Rebalanced Chronicles. Thank you for helping me with that. I wanted ask... Go ahead.

HOLLIE SMITH: Kyler's gonna put that in the chat. The Life Rebalanced Chronicles, 'cause that's a great series. Heather, I'm so glad you brought that up. And then also when Kristy was talking, it made me think about the people who are sitting there right now saying, but I don't have anyone. And for some people, that is the reality. And if you're sitting here feeling crushed right now and that you're all alone, please know you are not all alone, that we are all here for you. You can reach out. There are so many different support groups. Kyler's gonna put that down there. But there's a specific support group for people who are living alone, which adds another layer to this, and that is run by Cheryl and Karen, who do a really nice job. And again, that will be in the chat. And I'm so glad you brought up Heather about the Life Rebalanced Chronicles. And Shruti had said before something about when she was feeling suicidal. And I wanna make sure that we mention here in the United States, the hotline for, the crisis hotline is 988. So again, if you are having a tough time and that you are in need of support, make sure that you reach out. Again, that number is 988. If you are going through a crisis moment. I just wanted to make sure that we mentioned that because that does apply to a lot of our people, because it's a journey.

HEATHER DAVIES: It's tough. Many of us have been there, and a lot of us have come through that darkness. So just please don't lose hope and use those resources. Reach out if you need to. I wanted to back up... I'm

sorry, Shruti what?

SHRUTI SHIVARAMAKRISHNAN: For the longest time, I thought I was alone. So I grew up with migraine, lived with migraine all my life. And I was told that what were symptoms were actually personality quirks. So it's easy to feel very isolated and think something's wrong with me and feel very alone in that. And I really thought I was alone until, you know, I was in that deep, dark place. And I've always been aware of my physical health and my mental health. Like, I can separate the symptoms. I know when it's something wrong, and it's just something I've had since I was a kid. But I could tell the doctor, I don't wanna feel this way, but my brain's making me feel this way. So the issue was that even though I was articulate about it, I did not get the help that I needed. Even though you outline exactly what you need, you're still kind of let down by the people. So I'm really glad that the helpline exists. I didn't know that I was not alone in my migraine experience until that moment. And then when I got through that, you know, I figured I have to go online and see if there are any resources, that's when I found you guys. I found the migraine community, and I thought, oh, wow, like, everybody feels this way. It's not just me, because I was feeling...

SHRUTI SHIVARAMAKRISHNAN: Yeah. I mean, everybody feels like, oh, my God, you know, I can't get up and, you know, go to work or cook, et cetera. So whatever that experience is, you're never alone. And sometimes we are living with family. We want to explain, of course, we feel supported in all other ways, but they don't understand our condition and they don't want to. So they are resistant to it. So you can't really send them to LRC as well. Even in that, we are never alone because sometimes we can connect to the most amazing people online in the community, and that fills that bucket for me, you know, connecting with people. You know, right now, my family is very understanding. They've... You know, this is something we didn't know about before, and we are all learning. So, yeah, it does get better in a way that, you know, once you have a support system, life changes.

HEATHER DAVIES: We had mentioned before, our vestibular community to lean on, and we've said it many, many times. But I will tell you just in the seven to eight years, the family that I have developed in this community is amazing. And most of the times, I will reach out to them before, I'll reach out to my best friends and family because they get it, so it's okay. Find that peace. Find those people. They're here.

HOLLIE SMITH: 100%. Kristy wanted to say something else as well.

KRISTY CARABELLO: Yeah, I lost it that fast.

HEATHER DAVIES: I'm so sorry.

HOLLIE SMITH: You're totally fine. I'll let you think on that while I mention to everyone that VeDA has a helpline for those that are just new to this process or that are feeling lost in the process. Now, it's not the same as, like, the suicide hotline that we mentioned, but it's for more, for getting a diagnosis, getting connected with people who can be healthcare providers that are near you. VeDA's helpline is listed in the chat. Kyler will put it in the chat as well. So in addition to the support groups, there's also that, there's also a huge discussion going on in the community, part of the conference platform right now. There are people from all over the world that are talking about a variety of topics. So feel free to continue to engage on that as well. So Kristy, were you able to remember what you were going to say?

KRISTY CARABELLO: No it's out.

HOLLIE SMITH: Heather, I'll hand it back to you.

HEATHER DAVIES: Yeah, I wanted to backpedal a little bit and ask both of you, Kristy we'll go with you first. Have you done virtual PT and if so, have you done it in-person and how does that differ for you?

KRISTY CARABELLO: So for physical therapy, I actually, I started and my anxiety was so bad that I couldn't finish. I literally went to two, I think, two different appointments and the therapist did give me something like a YouTube video to watch at home. And it was like as you were walking through a super crowded, busy street with people walking all over. And I watched it like a couple of times. Other people have given me paperwork of like, oh well, I went to a vestibular therapist and you know, this is what they shared with me. So some things that I've done just at home, like on our treadmill, I'll like, you know, do different eye movements or moving my head different ways, thinking like, okay, so when I'm in a supermarket, because that's a big, that can be a big trigger for me and you know, just that constant movement, trying to figure stuff out. So for the vestibular therapy or physical therapy, I probably would have continued if telehealth was an option. But because it was in-person and it was back at that time where I was like literally scared to leave the house by myself most of the time. So yeah, it just, it didn't work out for me back then.

HEATHER DAVIES: Okay, I understand that. A lot of us do completely. And what about you, Shruti? Was PT an option for you and how did that differ if you were able to ever do it in-person?

SHRUTI SHIVARAMAKRISHNAN: I've done both. Virtual PT works well for self guided exercises especially, you know, for pain management. And I had a lot of neck, neck pain which would trigger the dizziness or which would trigger the headache. And I was always stuck in that cycle. So thankfully with Neura Health, when I met with them, they had... I let them know that I have neck pain and they had a care plan for me where it was these YouTube videos, very specific, you know, SEM et cetera, which is so simple to do. And the app also had a reminder to do it every day. So it was very easy for me to like sit by the window and look at it and do it. No sort of anxiety around that. But you know, that was just for the neck pain and did get better. But my whole body hurts and I get, you know, the dizziness and everything. So I started going in for in-person. PT at that

time, again, I don't drive. I still don't have a license. I haven't learned how to drive. I get dizzy.

SHRUTI SHIVARAMAKRISHNAN: That's the reason I don't drive yet. I had to go, I think about like 20 minutes, to see the therapy therapist that I was seeing. So then that's when I was using the telehealth option. And then I found a therapist who's like a minute's walk from me. And that's perfect because they do all the exercises, they are able to ensure form, they're able to ensure that, you know, physically adjust if they need to. And that was very helpful. For vestibular, my neurologist actually recommended virtual vestibular rehab, which was very helpful. And I also, you know, follow a couple of of Madison Oak's videos as well from time to time and look for tips. So that's me. Yeah, it just depends on what you need. You know, if I'm doing like a video call with the vestibular therapist or like a physical therapist especially, I'm always a little anxious about is the camera in the right place? Can they see what I'm doing? Is am I doing it right? And that's not there when I go in-person.

HOLLIE SMITH: Right.

HEATHER DAVIES: Thank you.

KRISTY CARABELLO: I would say something just about like movement in general. And you know, during that time frame when I was having the worst episodes, I wasn't exercising, I wasn't doing anything. So now I feel so much better with movement and exercise. And Heather and I have talked about yoga and, you know, it got to a point where yoga made me feel so much better. And I was... I've always been a fan of yoga, but then it was helping with the anxiety, it was helping with my neck, my posture. Like I think, you know, the neck stiffness, the pain, the cervical spine, all of those things that, I mean, I went and got my yoga teacher certification because I was like, you know, this makes me feel so much better. This is something I can offer to other people as well. So yeah, that's just something...

HEATHER DAVIES: Are you still doing that?

KRISTY CARABELLO: What's that?

HEATHER DAVIES: Are you still doing that? Are you still offering the yoga courses online?

KRISTY CARABELLO: Not as much recently, but I would like to start getting back into it because you know, I think this winter kind of did a number on me. So I think this will be nice, like to start moving and stretching and offering it up again. So it is something I would like to do coming up pretty soon.

HEATHER DAVIES: Awesome.

KRISTY CARABELLO: But overall, just like movement and exercise has made me feel so much better.

SHRUTI SHIVARAMAKRISHNAN: Movement makes you very anxious and so again, therapy has helped with that. You know, PT et cetera has helped with that. And my therapist said, you know, look for videos online. You know, just go online and do belly dancing. You know, look for YouTube videos on like rehab. If you're not able to afford it, that was the best way to do it. And I also had a yoga teacher, who I see from India. So that is also like a weekly thing. So if you're ever worried about budget, I think there are different options. There was a time when I could spend zero dollars, so that time I would depend on YouTube and then once I could afford a little bit, I would consult with people in India and then so on. Like it just depends when insurance covers, why not take advantage of that.

HOLLIE SMITH: Absolutely. And there are so many things, Shruti, that are available online and through YouTube and a lot of it you have to work on pacing and dosing, as Abbie frequently mentions, is being careful with the

dosing. There's lots of different PTs and audiologists that are available online, some really amazing ones. And if you have favorites, go ahead and feel free to put them in the chat. And hopefully one of our VeDA ambassadors and our volunteers could start a topic for people who, to follow on Instagram, to follow on YouTube because those are great things for people who cannot afford or cannot travel to PT. I know and I'll speak for myself, vestibular therapy has been a game changer for me both in-person and virtual. I've only done it virtually during the pandemic when we couldn't meet in-person. But I would say that part was almost as important as the hands-on stuff because that's when she learned about my environment. Like Abbie and Liz and the guest this morning were talking about being able to see my house and how things were set up. And when I said I have trouble with the stairs, they could see I have a half a flight of stairs.

HOLLIE SMITH: Okay, what does that look like for you? And I was having a really difficult time with computer time and so just literally interacting with her face-to-face. And so sometimes she would make slight movements as we talked and I would have to adjust to that. And it's just those little things that you wouldn't think are big things can make a big difference. And so, but if you can't get someone, there are many people to follow on Instagram, YouTube and so feel free to share those in the chat for our audience. Thank you. And then the next question that has come up, we'll start with you, Shruti, is how did you communicate with your job about your vestibular disorder? You mentioned going back to work. What did that look like? Did you say something to your employer? Did you not? What did that look like for you?

SHRUTI SHIVARAMAKRISHNAN: I think for about 10ish years, I've very consciously chosen rules that allow for virtual remote working, tele-community, telecommuting, and I've just, I'm very intentional about that when it comes to a workplace just 'cause of how I feel. Back in India, it was easy. I was lucky to find an organization which felt like family. And also most of us live with migraines, so it kind of... We had a nap room if

you had to take a nap and you could work from home and people would all come over and we'd work from each other's home. Here, I was very hesitant to go to work because there is an expectation to show up in-person, that was the norm. And of course the pandemic, everything turned remote. And my husband said, you know, since everything is remote, why don't you look for a job?

SHRUTI SHIVARAMAKRISHNAN: But I knew if I look for a job in Canada, then I would have to go in-person someday. And I was not ready for that. So intentionally I picked roles in the US which allowed for remote working. I'm very grateful. I used to work with the Mighty and that's a wonderful team who already knew that I come with this background that, you know, they knew me on Instagram. It was very easy to, you didn't have to talk about it, you know, and we could always say I'm having a bad day and like take off or like take a couple of hours off. And I found the same thing with my current role at Neura Health as well, because they found me online. That's how I know them because I was a patient and started working with them. And most of us on the team live with vestibular disorders and migraine, there's no expectation to disclose because they already know I'm lucky that way. I understand that's a privilege. So yeah, I'm just grateful but intentional and I never compromise on that.

HOLLIE SMITH: Absolutely. And what about you, Kristy?

HEATHER DAVIES: You're very lucky.

KRISTY CARABELLO: So my current position is like very good for my nervous system. This Job has been really nice for my nervous system because it's 10 minutes away from my house. It's easy. Like I can drive, it's easy to park. It's a university, so it's kind of like that university life where everything's just like a little bit more laid back than I'm used to. You know, previously I worked in cosmetics and I had one job where I was traveling every day, whether by car or plane. And you know, that was

super stressful. That was probably right, I was leaving that job right around the time that I was starting to experience my vertigo episodes. And then the job I had in between these two, I will say, like, I was really embarrassed to tell them at first. And I remember being in my...

KRISTY CARABELLO: I had my own office and I had the door shut because I was like having an episode and I'm like getting sick in my trash can. And it gets to a point where obviously things are happening and you have to tell them what's going on. And they were very... They were fine with it and they were open and accepting. But it was just in my own head that I was a little embarrassed to bring it up at that time and my current position, I actually knew everybody because I went through an accelerator program at this location for Vertige. So it was like a six week accelerator, a business accelerator that I had been accepted into and went through that, met the whole team and just. They were wonderful. And I remember at that time thinking, like, wow, if I like have to work somewhere close to home, this would be the best place to work. And then it just so happened months later that this position, a communications position, opened up and I went in for the interview and it's like I already knew everybody. So it was so...

HEATHER DAVIES: Awesome.

KRISTY CARABELLO: Such an easy, seamless transition. Yes. And everybody's so nice and, you know, and they all... And now I'm not as embarrassed to talk about my anxiety or having the vestibular issues. It's just, you know, it's just like a part of my conversation now. And it just makes everything so much better when you're able to be open about it.

HEATHER DAVIES: I wish all of us could find work like that.

KRISTY CARABELLO: I wish everybody could too.

SHRUTI SHIVARAMAKRISHNAN: It takes a lot to actually prioritize yourself

and know that these are non-negotiables for me because if my health is on track, then I can work for a longer time as opposed to. I keep burning out. I'm working in this place, that's not good for my mental health or my physical health. And I push through, and then I crash, and then I have to take a sabbatical. You know, it affects my finances, which, again, affects my health. So, and especially in North America, if you don't have insurance, then, you know, it's hard. And to get insurance, you have to work. To work, your health needs to be better. And we're all stuck in this loop, which is so hard to get out of. So sometimes it's a lot of bravery that it takes to make that decision that I will not compromise, because whatever job I take next needs to accommodate my needs, whether it's, you know, mental health, whether it's money, whether it's insurance, whether it's benefits, whether it's just, you know accommodates my symptoms. And that's a choice that I would ask everyone to make, no matter how hard it is, because that's about investing in long term.

HOLLIE SMITH: Absolutely. And as we're getting ready to...

HEATHER DAVIES: I'm so happy you said that.

HOLLIE SMITH: Yeah. As we're getting ready to wrap up on this final day of the 2025 conference, we wanna give you the chance to talk about anything that we hadn't gotten to, any words of wisdom for people in the audience, for people who are scared, just starting to go through it, for people who are frustrated and not sure what to do, any words of wisdom, anything that we didn't get to chance to talk to. We'll let you talk first, Kristy, and then you Shruti. Okay, so Kristy first.

KRISTY CARABELLO: Okay, so I think words of wisdom, and we've mentioned this throughout, like, you can feel really lonely and very misunderstood with these different disorders. And I think everybody needs to know there is a light at the end of the tunnel and you will get there. And you have to take it day by day and find the people who make you feel good, make you feel like yourself again, and take the steps to get

there. And there's gonna be a lot of paths along the way, but you're going to find your path. And looking back at it now, it seems almost like that was a totally different me at that time. And you come through and you're stronger and you can do it, is the biggest thing. You can get through this. You can do it, and you can make adjustments and it will be okay, and you'll become yourself again. And you're not alone is the big thing.

HOLLIE SMITH: Wonderful words of wisdom, Kristy, from someone who gets it and we really appreciate your time today. What about you, Shruti? What words of wisdom? What things haven't we talked about that you really wanna make sure that people at home can really, truly hear today?

SHRUTI SHIVARAMAKRISHNAN: 100%, you're not alone. Thank you so much, Kristy, for that. Also that be kind to yourself. Treat yourself like how you treat your child. If you struggle with that, you know, get a picture of yourself from when you were a kid and try talking to that and see how your inner dialogue also changes. Because we need to give ourselves permission to rest, permission to ask for help, you know, permission to not do anything. And that's one way to do it. With respect to telehealth, you know, we're at this place where a lot of things are changing. Telehealth is beginning to boom. And it can be something. It can actually address the gaps in the system, glaring gaps, especially for people like us who have invisible conditions that are often dismissed. We don't have enough specialists, we don't have enough support, and we have to go through all those routes to, you know, actually get help. And most of us will give up on the way. So telehealth addresses that. The downside is, yes, it is expensive. You know, State regulations, insurance does not cover, you know they don't communicate. And you feel skeptical because you've already been burned by the system.

SHRUTI SHIVARAMAKRISHNAN: I think ask yourself what matters the most, shorter wait times, avoiding travel, reducing anxiety, no harsh lights in the waiting room. You're not waiting one hour for an appointment that was supposed to start one hour ago. And you don't wanna be kicked out

in two minutes. Would you rather like, pay out of pocket for immediate answers or wait months until you get seen by someone? So it's about trade offs, it's not perfect, no system is. But for those of us, you know, if it is an option, I'd say consider telehealth. You know, fill your bucket in different places and that's okay. Like, you don't have to get everything that you need in life from your life partner, right? Your husband is not gonna be everything. They're actually going to be annoying. So if you want to discuss some things, you need to have friends, you need to, like, have families to vent with. It's the same thing with healthcare. You don't have to get everything in one place. You can get different things out of different systems. And India is there. They can't prescribe, but they can be there. Like, the same thing goes to Canada. I think some people come over here for treatment as well if they can't afford it. So medications are cheaper over here. So find your puzzle pieces and make them fit together and it is possible. And you know, there are so many people, people like VeDA, like the influencers online, like a lot of providers who can help you with that.

HOLLIE SMITH: Wonderful. Thank you Shruti.

HEATHER DAVIES: Beautifully said. Well, thank you Shruti and Kristy. Your vulnerability today and sharing so much yourselves means so much to myself and Hollie and everybody watching. If you would like to connect with Kristy or Shruti, please see the banners below. Also, the information is in today's agenda.

HOLLIE SMITH: Thank you ladies for joining us today.

SHRUTI SHIVARAMAKRISHNAN: Thank you so much.

KRISTY CARABELLO: Thank you.

SHRUTI SHIVARAMAKRISHNAN: You guys are amazing hosts. Thank you. Thank you, Kristy. This was lovely.

KRISTY CARABELLO: This was wonderful. Yeah. Thank you so much.

HOLLIE SMITH: Oh, Heather, what a great conference week.

HEATHER DAVIES: I know, it's been really good, hasn't it? I've learned a lot. I've got to go back and take a bunch of notes.

HOLLIE SMITH: It sure has been such a wonderful week. So we wanted to say thank you again to the James D. And Linda B. Hainlen Discovery Fund and to the University of Minnesota Department of Otolaryngology for sponsoring the conference this year.

HEATHER DAVIES: And as a reminder, you can purchase lifetime access to the recordings and transcripts of this entire conference at [vestibular.org/lrl-recordings](https://vestibular.org/lrl-recordings). And you can help make sure the valuable information that is presented at this annual event remains free to everyone by making a donation at [vestibular.org/lrl-donate](https://vestibular.org/lrl-donate). Those links are also listed in the description box below.

HOLLIE SMITH: Thanks everyone for another great event. What a great 2025. And be on the lookout for an email on Saturday for VeDA's post event survey to let us know what you thought about this year's conference. Thank you so much, Heather, for a great week. Thank you to our co-hosts Liz and to Abbie for hosting the first hour. And for everyone behind the scenes at VeDA for a great, great year. Thank you everyone.

HEATHER DAVIES: Bye guys.

HOLLIE SMITH: Bye.