HD Insights Announcer (00:00):

The HD Insights Podcast is brought to you by the Huntington Study Group. The Huntington Study Group is a nonprofit research organization, dedicated to conducting clinical research in HD and providing critical training on HD to healthcare professionals. Funding for this podcast is made possible through the generous support of listeners like you and sponsorship grants from organizations like Genentech, Teva Pharmaceuticals, Neurocrine Biosciences, Vaccinex, and Wave Life Sciences.

Kevin Gregory (moderator) (00:52):

Hello, and welcome to the HD Insights Podcast. As always, I'm Kevin Gregory, Director of Education, Communications and Outreach at the Huntington Study Group, and your host as we speak with people, helping them make a difference in Huntington disease research and treatments. Our guest on this episode is Dr. Dietrich Haubenberger, Medical Director at Neurocrine Biosciences. Dr. Haubenberger began his calling in the neurology and movement disorders with his education in Vienna, Austria, which eventually grew into an interest and passion for clinical research.

Kevin Gregory (moderator) (01:26):

He's been an investigator with the European Huntington Disease Network or EHDN, and spent time working for the National Institutes of Health in the United States. In his current role with Neurocrine Biosciences, Dr. Haubenberger is working on the KINECT-HD study of Valbenazine. KINECT-HD is a phase three, randomized, double-blind, placebo-controlled study of Valbenazine. In this episode, we'll hear from him about some of the trial details. At the end of the podcast, we'll tell you where you can go for additional information about the study. So, now, sit back and enjoy our conversation with Dr. Dietrich Haubenberger.

Kevin Gregory (moderator) (02:08):

Well, Dr. Haubenberger, thank you so much for joining us on this episode of the HD Insights Podcast.

Dr. Dietrich Haubenberger (02:15):

That's an honor to be on this great podcast. Thanks.

Kevin Gregory (moderator) (02:19):

Well, we're excited to have you. There's a lot to discuss. But I really wanted to start with your background and specifically how you got into neurology and what your path was that eventually led you into research centered around Huntington disease.

Dr. Dietrich Haubenberger (02:38):

Yeah. As you say, I'm a trained neurologist. I did my training in Austria, in Vienna at the Medical University in Austria. I started my residency in neurology there after spending ... actually already during medical school, some research time in the neurology department. So I was already a medical student drawn towards neurology in the early days. I worked together with my mentor back in the day who's ... Professor [Alf 00:03:21] is his name. He was then chair of the department. He was movement disorder, neurologist, and researcher in the area of hyperkinetic movement disorders in particular tremor.

Dr. Dietrich Haubenberger (03:31):

So, then going on into my residency, which by the European model is really a combined clinical but also a research-focused training since this was at the university. I focused in the first days really on the neurogenetics of movement disorders, built up movement disorders genetics database both for Parkinson's disease and tremor. But then also subsequently as then eventually as a resident in the later years, but then also junior faculty in my movement disorders clinic had a growing group of patients with Huntington disease and families with Huntington disease that I took care of in a clinical setting.

Dr. Dietrich Haubenberger (04:28):

So, basically, from my initial training in movement disorders neurology and also research, Huntington was always a part of that going forward. My subsequent training then really focused around neurophysiology and also still combined with genetics, mainly, in tremor disorders. But, again, I tried to kept my scope really broad also including HD. In the early days as junior faculty, I served as a site investigator for the European Huntington Disease Network. I WAS part of these early years of the establishment of the network.

Dr. Dietrich Haubenberger (05:12):

And then fast-forward, decided to switch over or transition into the area of clinical trials really using the knowledge around genetics on the one side and neurophysiology on the other side to use these as from the perspective of biomarkers and outcomes in clinical trials, or determinants of clinical trials built up some work around clinical trials methodology, which eventually then led me to my current role at Neurocrine. I was in a really, really excited about this opportunity to basically come back to the world of Huntington disease to work now on this trial.

Kevin Gregory (moderator) (05:52):

You mentioned that you were already drawn to neurology. What is it about the field that really drew you in initially? What was it that got you interested in the field to begin with?

Dr. Dietrich Haubenberger (06:07):

As a clinician and as a neurologist, eventually, what drew me to neurology is that really it's about the interaction between the physician, and the patient, and the caregivers. We don't need that many tools or techniques to really get a good idea about the phenotype, about the presentation. The diagnostic process in neurology really starts as early as the door opens and the patient comes in, and especially, movement disorders neurology is even the pinnacle of a really clinically-driven discipline.

Dr. Dietrich Haubenberger (06:51):

So, really, with our five senses, we can learn a lot about how the brain, the nervous system functions, and especially, that interaction, that observation, that communication and the neurological exam, maybe we have a reflex hammer and the little flashlight that we use as tools, but it's that. It's really one of the most, I think, patient-centric disciplines in medicine, and this is what has really drawn me into that.

Kevin Gregory (moderator) (07:30):

You've had a bit of a quite an interesting journey. So you talked about having studied in Vienna, but then you ended up coming over to the states, and you actually spent some time with NIH, the National

Institutes of Health. Tell us about that. What led you to into that position and what brought you over stateside.

Dr. Dietrich Haubenberger (07:58):

It was very clear to me that, especially, in neurology, in the days when I trained, that I felt this pull into clinical research, when you think about the availabilities of treatments and therapies back in the day when I trained them, it's not that long ago, but it's just if you look back the last 15, 20 years, just amazing how the field moved forward. What has really driven me into adding that clinical research aspect to my career as a neurologist was really a drive to say we need to have better treatments for neurological diseases.

Dr. Dietrich Haubenberger (08:38):

To embark on a research career, really, you want to go to centers that are really established research centers, and probably one of the most established, and most famous, and most active clinical research facilities in the world probably are the National Institutes of Health in Bethesda, Maryland. Essentially, as many researchers do, you write a grant, you get funding for a ... back in the day was in a research fellowship for, initially, two years, and then another three years using an NIH grant, where I transitioned over to the NIH and to the lab of Mark Hallett, the world's renowned movement disorders researcher, but really with the goal to do that as a fellowship to then continue on an academic path, which I eventually did.

Dr. Dietrich Haubenberger (09:38):

I move back to Europe, to become assistant professor and associate professor in Vienna. But as it turned out, NIH was recruiting for someone who could build up a clinical trials program. They knew about my interest also in clinical trials methodology. So, I got a call and move back to the States few years later, and, yeah, that's where I've been the last five years.

Kevin Gregory (moderator) (10:09):

Wow, that's really interesting. Now, in terms of clinical trials, when you realize the drive to get into that component of your work, was there anything when you first got into it that really surprised you about clinical trials that you didn't expect going in?

Dr. Dietrich Haubenberger (10:34):

Not necessarily surprised, but I was fascinated by the fact that clinical trials really is pinnacle of clinical research more in general, where we try to understand disease mechanism, disease physiology, et cetera, clinical trials system when you really try to apply what you learned into potential treatment, treatment developments, what was really one of the biggest factors that drew me into that field and not necessarily surprised, but that's what excited me is that how much of a team sport it is, especially coming from Europe, where you have quite a hierarchical system especially at universities or at hospitals.

Dr. Dietrich Haubenberger (11:24):

That clinical trials really only work really well when everybody who is part of that clinical trial family and that includes doctors, physicians, nurses, statisticians, regulatory folks, all the way to ... and I include in that clinical trial family, also patients, caregivers, patient organizations, et cetera, that this is really how

much of a team sport it is. Often, it takes a village to move things forward, but again, the ultimate goal to develop new treatments is really something that just unites everybody behind that, and probably that team work is really something that drew me to the point to say, "Okay, I think I want to do that for a living."

Kevin Gregory (moderator) (12:19):

When you also have a unique perspective in that, you've seen clinical trials from multiple perspectives. So, you mentioned the European model and having been a site investigator with EHDN in the early years, also in the United States. Tell us from your perspective, what some of the major differences are between clinical trials in the US versus Europe, and what some of the lessons learned that you come away with from either of them.

Dr. Dietrich Haubenberger (12:52):

I think one of the major lessons learned now is that how of a global enterprise clinical trials now have become actually to the point where you say it's ... there are actually not that many differences. Of course, you have individual regional regulatory requirements depending on which country or which jurisdiction EMA versus FDA, but they say technical points, but in the end, what is really a main learning and also to look back how the field developed over the last few years and decades is that the efforts for international standardization of how we do trials is that, basically, wherever ... I mean, in general, research and science doesn't stop at country borders and especially when it comes to treatment development. The process of harmonization of how we do research is really something that's really happening on an international level where we can really say we do a trial in, basically, where companies really now start to do large global trials across continents.

Kevin Gregory (moderator) (14:23):

I want to get your thoughts too, Dr. Haubenberger, on the evolution of trial specifically around your thoughts on the use of quantitative motor testing in clinical trials and, I guess, the early proliferation now of wearable technology as part of trials. What have you seen over the course of your career and what do you excited about that these two things can offer going forward?

Dr. Dietrich Haubenberger (14:59):

What I'm really excited about is that as in many other fields, the technology is really leading us, and these years ahead, and we have to implement and learn how to use the tools that we have available. If you think back even as a parallel, the Human Genome Project, we're decoding the entire genome. At the beginning, literally, no idea what that all means, but that data really opened a complete new area of understanding etiology and genetic correlates of disease years and decades after that effort has been completed. I see it in a similar way with wearable technology, for example, where we are now able really to create and record enormous amount of data on everybody even to a point where it becomes scary and you have to think about issues of privacy, et cetera, so new challenges come along.

Dr. Dietrich Haubenberger (16:12):

But as we're able to do all that, we are, as a field, trying to ... or it's basically our responsibility to make sense of many of these data. I think especially movement disorders is something that is really amenable to many of these technologies. I mean, it's funny, the iPhone came out 2007. 2008 I moved to the NIH to work on movement physiology, and basically, since then, I've almost weekly got some pitch from somebody who had the idea ... and the iPhone, there are accelerometers in there, how about if we

measure tremor or movement with the iPhone in a patient setting. So basically, that discussion comes over and over again, but, now, we have watches, and smart devices, and clothes even.

Dr. Dietrich Haubenberger (17:08):

So, what is still, I think, I won't wouldn't get, say, missing but it's still in the middle of development, what are we trying to understand is that what does it mean, for example, if we use objective measures to describe an absolute amplitude of a movement, may it be a Korea movement, may it be a tremor movement, or another movement. What does it mean? In the end, how much do you need to reduce an amplitude of a movement in order to make a difference in somebody's daily life? I think that's really the challenge that we have right now in front of us that we say what is a meaningful change.

Dr. Dietrich Haubenberger (17:53):

At the moment, we don't really have good gold standards available that actually tell us in the patient home objectively when was a good day, when was a bad day. Basically, we would ask our patients, what was a good day, when was a bad day. And then also the question is if you have discord and findings, if your sensor tells you that your movement's worse or better by 35%. But the patient says, "No, I, actually, don't feel any difference." So I think, what I'm trying to say, not necessarily the amount or the sensitivity to detect super small changes. We can measure millimeters of changes of movement. It's really the ability ... because the question is how meaningful are all these small changes that we are able now to detect.

Dr. Dietrich Haubenberger (18:43):

But, really, the question is ... and I think the excitement is that we now have a window into what's happening outside our doctors' offices where usually the clinical writing skills I've done and how we bring these technologies to a point to reliably quantify meaningful differences in patients' daily lives. I think this is where we're still working on really hard as a field.

Kevin Gregory (moderator) (19:14):

What are your thoughts on when you've interacted with patients as far as the patient acceptance or the participant acceptance of wearable technology? You brought up a great point. The reason I ask this is because like you said, the iPhone does a lot of this inherently and people may have grown up with it. But do you find that ... are people more clamoring for the wearable technology? Do you find that there are pockets that are still resistant or hesitant to use it? I'm just curious as far as what your perceptions are.

Dr. Dietrich Haubenberger (19:50):

Basically, to top your head to where I think we should be going, I think this is really a key area where I think we should engage our patients, the patient community to learn more about what technology is acceptable. You can do, I mean, general, when we think about capturing remote data, you can do passive recording, basically, where you have just an iPhone or whatever sensor collect passive data as patients go through their daily lives and you try to map the changes of the signals to any interventions that you do, which is usually more accepted, I would say, as it doesn't require much effort or interaction from patients themselves.

Dr. Dietrich Haubenberger (20:53):

But the challenge here is that this is really, I mean, a challenge and also opportunities, this is what we call real world data that's completely contrary to the very well-defined, confined setting of a clinical exam, for example. On the other end is active recordings where patients have to perform tasks as they are at home or at work, et cetera, which bring in a little bit more of a structure around a certain setting like every day at 11:00, you hold your hands in front of your body and hold that for 30 seconds, for example, which helps with the standardization of data. But again, this shouldn't itself disrupt a patient's daily lives and change their force. The measure itself should not change the behavior, that's important.

Dr. Dietrich Haubenberger (21:46):

I think what we are often underestimate is the complexity. I mean, think about who is able to pull up an iPhone, interact with an app there. Think about what should be the brightness, what should be the font size, what if it's our of battery, what if somebody ... So there are many factors that we often underestimate that we then always ... where lots of development work needs to go in there and acceptance work needs to go in there before we actually can start making any sense of the data that we're recording.

Kevin Gregory (moderator) (22:27):

Absolutely. Those are some excellent thoughts. I did want to ask you one other question based on your experience. You've actually made the transition from being on the investigator side of clinical trials, and clinical research, and moved over into industry. What type of advice would you give to investigators that are looking to engage more with industry on collaborations, and research, and some of the best practices or lessons learned that you've come up with?

Dr. Dietrich Haubenberger (23:03):

I think, in the end, I see industry and ... I mean, I see myself still as an investigator. I don't take the investigator head off when I go into my office. It's probably also the reason why folks like myself who have that experience as investigators, who have a long track record as being practicing but also researching neurologists and neuroscientists to ensure that there is not a rift between these two. So, certainly enough, the industry perspective is that we are really committed to bring ideas and interesting targets, molecules, whatnot for what ... to develop the treatments that we then can make available to our patients, and with all the operational, and aspect of that audience where industry is really good at.

Dr. Dietrich Haubenberger (24:15):

But in the end, I see, really, industry, and academia, and also investigators that are in a non-academic center really as a team to work together, to bring ideas forward. And then often industry reaches out to investigators to say we think we have an exciting, new potential treatments that we want to test and that we want to bring into clinical trials to work with us often even in the process of developing a protocol, starting a trial, up running a trial, but that goes both ways. Often also investigators, even physicians, academicians, come to us and say, "Hey, your drug has a certain mechanism and we have some experience on that mechanism in potentially a different patient population or with a different approach. Have you thought about that?"

Dr. Dietrich Haubenberger (25:25):

It's extremely collaborative between the experts in the field and industry. That's one of the things that excite me about my job is that I really interact a lot with the smartest folks in the field with the common goal to develop treatment, and, again, this can be all the way from, "I have an idea. Would you be

interested in thinking about that," all the way too many companies such as Neurocrine also have the opportunity or mechanisms such as investigator-initiated trials where you can even ... or investigator can submit basically a trial or grant proposal where they can conduct a trial using information or even compounds that company like us having a market for potential novel indication. So there are multiple ways to collaborate.

HD Insights Announcer (26:37):

We'll return to the interview on the HD Insights Podcast in a moment. We hope that you're enjoying this episode. As a nonprofit organization, The Huntington Study Group relies on the generous support from the community and listeners like you to continue bringing you in-depth content on HD like this podcast series. If you like what you're hearing and are interested in supporting HD Insights through a grant or donation, please contact us through our email address, info@hsglimited.org, or by calling toll-free at 1-800-487-7671. We greatly appreciate your support. Now, back to our episode.

Kevin Gregory (moderator) (27:30):

Dr. Haubenberger, I'd like to switch gears now and dive directly into clinical trial that you're specifically involved in and talk with you about your role with Neurocrine in that trial. So, KINECT-HD study out of Valbenazine has started up and it's another interesting trial for potential treatment for folks with Huntington's disease. Let's start there. Can you tell us a little bit about Valbenazine, the drug itself, and then tell the audience about the KINECT-HD study?

Dr. Dietrich Haubenberger (28:14):

Yeah, we are really excited about the study. Valbenazine is a compound that was developed by Neurocrine. It is a vesicular monoamine transporter 2, VMAT2 inhibitor that is highly selective on the VMAT2 targets and very potent on that target. What that inhibitor does is it regulates the packaging of dopamine in the vesicles in the striatum, the area that controls movement in the brain. Valbenazine is a compound that, as I said, has been discovered and developed at Neurocrine over the past years, and it's now also already on the market for the indication of tardive dyskinesia to treat hyperkinetic movements in tardive dyskinesia. We have quite some experience now with that compounds. We're now given also the history of other VMAT2 inhibitors being effective in the treatment of Korean Huntington's disease where basically we are now also making Valbenazine available in the context of this trial really with the hope to provide additional options for patients to treat Korea.

Dr. Dietrich Haubenberger (30:04):

We are still convinced that there is room for more options to symptomatically treats Korea and Valbenazine with its profile that, for example, would allow a single daily administration. Basically, you would only need to take it once a day, plus that high selectivity at the VMAT2 target where we think this should be, where we are now basically testing in the study, the efficacy and also certainly safety and tolerability of this compound in HD.

Kevin Gregory (moderator) (30:51):

In terms of the other approved medications for Korea, and you talked about the selective targeting, in specific terms, what's the difference? You talked about Valbenazine only requiring one dose a day, is that ... What are some of the other primary differences?

Dr. Dietrich Haubenberger (31:11):

Yeah. I think if you look at other like, for example, Tetrabenazine acts also on other targets in the brain that ... and not just on VMAT2, so we believe that selective action on VMAT2 is actually a benefit. So, we hope that we can achieve a comparable level of Korea suppression at the same time with a really good tolerability around that target. So, basically, that selectivity and potency is where we think we should ... Valbenazine might have really a beneficial, as we call, therapeutic window to provide defects at the same time with an acceptable level of tolerability.

Kevin Gregory (moderator) (32:23):

The KINECT-HD study, now, I know that's a phase three study, does that also include a placebo group in this, is this double blinded?

Dr. Dietrich Haubenberger (32:33):

Yes. So, this is really a very classical phase three study which administers Valbenazine and also a placebo in a one-to-one randomization ratio. The goal is to find the highest tolerated dose, and at the moment, Valbenazine milligram is the highest dose that's approved for the treatment of tardive dyskinesia. So this study has an eight-week dose, attrition dose adjustment period with the goal to reach the highest dose, or if that shouldn't be tolerated, then the next lower dose that is tolerated then followed by four-week of a maintenance period, and then a two-week follow up after that.

Dr. Dietrich Haubenberger (33:39):

So the primary endpoint of this study is the total maximum Korea score, which is the subscore of the Huntington's disease rating scale, specifically, the motor part where basically patients will be rated based on their Korea severity by investigators. That is in a double-blind, placebo-controlled fashion.

Kevin Gregory (moderator) (34:08):

For potential participants that are interested, and I understand there are probably many specific criteria for qualification, but from your perspective, what are some of the critical eligibility criteria that participants may want to be aware of?

Dr. Dietrich Haubenberger (34:32):

It's a study that includes adults, adult patients, starting at the age of 18. The motor diagnosis of HD has to be in place at the same time also combined with the genetic diagnosis of 37 or more repeats in the Huntington's gene. Certainly, as we have the goal to show changes in Korea and how these changes in Korea also affect patients' daily lives and physical functioning in that daily life, we require subjects at the beginning of the trial to be ambulatory, but assistive devices are permitted.

Dr. Dietrich Haubenberger (35:27):

There's a certain minimum requirement for motor severity, which is not that severe, but just to ensure as certainly motor manifest, even pre-motor manifest in terms of disease progression that Korea is at a certain level of severity where VMAT2 inhibitor could be beneficial to improve Korea. So, yeah, this will be the one thing that we currently have also as a requirement is that we want subjects to be naïve to prior VMAT2 inhibitor treatment.

Dr. Dietrich Haubenberger (36:13):

So, if subjects have been on any other VMAT2 inhibitor before, they would not be able to be included in the study at this moment. In addition, there are certain important safety factors. Otherwise, in general, good health, no history of any cardiac abnormalities, ability to swallow. These are capsules are being administered. So these are just some of the criteria.

Kevin Gregory (moderator) (36:56):

All that, there's probably a screening process too. You talked about the dosing schedule for the trial, but I assume there's also a screening process prior to that, correct?

Dr. Dietrich Haubenberger (37:08):

Yeah, that's correct. So, we have a screening period, and we allow up to four weeks of subjects to be in that screening period where there's also a certain requirement about the allowed, other concomitant medication, et cetera, where that all can be looked at. That's been looked at directly at the site, but there's also a central review of all the elements of the medical history and also laboratory findings, et cetera, just to ensure that subjects are suited well to go into this trial. I mean, the one thing that I think is important is that although there is much experience now with Valbenazine in patients with tardive dyskinesia, we can't just assume that the tolerability and safety is absolutely the same in patients with Huntington disease but we have to prove that and we have to also go into this trial with a certain amount of caution. Many of the trials' outcome measures are looking at just ensuring that the drug is safe and can be tolerated in patients with HD.

Kevin Gregory (moderator) (38:27):

All right, excellent. And then circling back to something we talked about early on in the interview, what role, if any, is wearable technology providing in the KINECT-HD study?

Dr. Dietrich Haubenberger (38:42):

Yeah, so this is actually something that we are really excited about is that, although, our study design is relatively standard and really geared towards regulatory potential approval downstream should things go as hoped, where basically it's ... there are certain predefined outcomes and endpoints in the study that FDA has agreed before to be used, to show changes in Korea, however, we include additional elements in the study that have never been done before in phase three studies in Huntington disease.

Dr. Dietrich Haubenberger (39:31):

One is that we have a substudy where we deploy wearable sensors in a subgroup of subjects in our trial, and this is a really exciting learning part for our study where we often need, we as a field, no, I'm not speaking [inaudible 00:39:50] but we as a field in general. We need studies like that are multi-site phase three trials to deploy the technology that has been already somewhat developed in the field already to then eventually do the next step in the future to say could wearable technology sometime downstream actually be really a primary outcome in a clinical trial.

Dr. Dietrich Haubenberger (40:14):

At the moment, it's not there yet because it used to be shown that we are actually able to collect useful data in the context of a large international multi-site trial. Here, we decided to go with a wearable sensor setup of, basically, stick on, skin-worn biosensors that are largely collecting purely passive movement data where we ask patients to wear sensors on their body at several locations on the body

over a period of seven days and basically 24/7 with just a one-hours charging cycle every day. We ask our patients to do that during the screening period before they actually will be exposed to the study drug or placebo, and then one more time again during the maintenance periods while they will be on study drug.

Dr. Dietrich Haubenberger (41:18):

While that's not set up to actually be used as an efficacy outcome of our studies really what we are really trying to learn from that data is if we see a difference in other scales, is that also reflected in the sensor data as we're getting these back. So we hope that with that, we can stimulate the field a little bit and bring wearable technologies into the next phase of larger scale trials like this one.

Kevin Gregory (moderator) (41:53):

Well, that's fascinating, and it will be very interesting, and exciting to see these wearable sensor data start to come into play in a trial such as this, so that's outstanding. Dr. Haubenberger, we've taken up a good deal of your time and I appreciate it. I do have one other question for you before we go, though, and I've done my research as well, and my sources tell me that you are also a singer. So, can you tell us a little bit about what you sing, what your interests are, and do you use this professionally on the side as well?

Dr. Dietrich Haubenberger (42:37):

Yeah. You have good sources. You have good sources. Since I grew up in Vienna, all around these great concert halls and the opera, basically, I just grew up making music and also singing in choirs basically through my entire young and adult life. So, I'm somewhat semi-professionally or the quarter-professionally trained classical singer mainly in concert courses. I'm a baritone, and all the way through medical schools, and afterwards, residency, and make it in the career. Other folks went to the gym three times a week. I went to the concert hall to practice or singing concerts, mainly classical repertoire that's been my thing.

Dr. Dietrich Haubenberger (43:44):

I haven't been able to do that a lot since I moved to San Diego last year, but I hope to get back to it pretty soon. So, yeah, so that's always been my passion. I think neurology and music is something that often comes to together. Many neurologists are also musicians. It's really the art and science come together really nicely and that's my little thing that I can then draw energy for my day job.

Kevin Gregory (moderator) (44:16):

Yeah, that's really interesting point. Actually, you're the third guest we've had on that that has that neurology and music dual interest. So it's neat that you point that out. We won't embarrass you by having you give us a demo, but anytime in the future if you want to come on and perform, we'll be happy to have you.

Dr. Dietrich Haubenberger (44:39):

I'll be more than happy to.

Kevin Gregory (moderator) (44:42):

Well, Dr. Haubenberger, thank you again for joining the HD Insights Podcast. Greatly appreciate your time.

Dr. Dietrich Haubenberger (44:49):

That was a great chat here, and anytime, and thank you for providing this really important vehicle tool to spread the new things that are happening in the field such as ours. I'm certainly a listener myself. So, thanks and keep up the good work on this.

Kevin Gregory (moderator) (45:15):

Great. Thank you so much.

Dr. Dietrich Haubenberger (45:17):

All right, thank you.

Kevin Gregory (moderator) (45:22):

That concludes this episode and our conversation with Dr. Dietrich Haubenberger. It was a pleasure learning more about his background, thoughts on clinical research, and evolution of HD trials to begin leveraging wearable sensors. If you're interested in more information on KINECT-HD, you can visit the study website at www.kinect-hd.org. Once again, that website is www.K-I-N-E-C-T-H-D.org. So glad you could join us on this episode of the HD Insights Podcast. We look forward to having you back on our next episode. Until then, I'm Kevin Gregory. Thank you for listening.

HD Insights Announcer (46:13):

We hope you enjoy this edition of the HD Insights Podcast. Remember to subscribe to this podcast to make sure you automatically get the latest episodes to your device. Please rate and review this podcast with your feedback so we can continue providing the best possible content. If you are interested in providing financial support for the work needed to produce this content, you can do so by becoming an ongoing sponsor or through a tax-deductible donation. To do so, please email us at info@hsglimited.org. That's I-N-F-O-@hsglimited.org, or by calling our toll-free number at 1-800-487-7671. Thank you for joining us on the HD Insights Podcast from the Huntington Study Group.