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Signia Introduces MaX: AI-Driven Processing

Presenter: Caitlin Turriff, AuD

Hello and thank you for joining our course. Signia introduces Max AI-Driven Processing on Audiology Online. My name is Caitlin Turriff and I am a government audiologist at Signia. I'll be training you on the newest addition to the Signia government services platform, the max.

And let's start with a little housekeeping. If you'd like to get the handout for today, you can find that in the Resources in the classroom. It's under Pending courses in your account. And that same place is where you can take the multiple choice exam at the end of the session. But remember, you must have a paid membership in order to earn CEUs for today.

If you need technical assistance, please call audiology online at 800-753-2160 or email them at customerserviceudiologyonline.com and on the screen here, you will see the learning outcomes. After completing the course, you should be able to define the improvements to Signia's latest platform, explain how Signia's latest platform uses AI to improve speech understanding, and describe the features and improvements of Signia's newest form factor.

And on the screen, you'll see the risks and benefits for today's course. You'll find these in the handout section if you'd like to read through them. You'll also find the handout there for today's course. Feel free to download them all. And now, let's begin.

Every conversation matters. What people miss is not sound. It's connection. It's belonging, confidence, participation. Let me take you back to 2020.

The COVID pandemic was at its highest and we were all stuck at home. Some of the sports lovers here may remember those first sports matches during COVID For months, ST stadiums had been silent. Seasons were suspended. Fans were waiting for anything to come back. And then it finally happened.

The players returned to the field, the cameras were rolling and millions of people tuned in from home. But when the game started, it sounded like this.

It was quiet.

Something felt wrong. You could hear every shout from the players, every instruction from the coach and the ball echoing around the stadium. And when a goal was scored, there was nothing. There was no roar, no eruption, no collective gasp. Just silence.

The game was back. But somehow the experience wasn't. Because what everyone suddenly realized was that the crowd noise wasn't background noise. The crowd was part of the emotion. It was part of the anticipation, part of the tension, part of the feeling of being alive.

So the broadcasters did something remarkable.

They added fake noise. They added fake noise because at that point they realized that life isn't experienced in one dimension. The noises around us don't just tell us what's happening. They make us feel alive. And that's why AI in hearing aids is about so much more than just reducing noise.

It's about understanding the full multidimensional experience of sound and and optimizing it for the need of the situation. And that is to live noisy. Welcome to the world of Signia Multi Adaptive Experience. This is our most advanced platform yet. It revolutionizes how hearing aids adapt to life's complexity.

It is powered by breakthrough technologies that redefine how sound personalizes every situation, so wears can contribute confidently to conversation and live noisy Max was over 10 years in the making. The foundation was laid with AX when we first introduced split processing. This allowed our two 48

channel processors to process speech and background noise independently and optimally. We took that a step further with IX when we introduced the first multi stream architecture, allowing the hearing aids to track and enhance individual speakers simultaneously. And that leads us to.

Today, with Signia Max or Multi Adaptive Experience, we introduce Acoustic intelligence, which unites four DNNs to steer multi stream sound processing in even more precise and powerful ways, allowing us to enhance the entire acoustic scene.

You will soon learn the important role DNNs play in the Signia Max story and technology. But before that, I will provide a brief overview of DNN technology itself.

AI is the broad concept of machines performing tasks that normally require human like intelligence. Machine learning is a subset of AI where systems learn from data. A DNN is a type of machine learning model built from many connected processing layers, which is why it's called Deep. AI is the goal. Machine learning is one way to achieve it.

And a DNN is one advanced type of machine learning model.

A DNN, or Deep Neural Network is a more advanced machine learning model inspired loosely by how brains process information. It has many layers that look for patterns step by step. Let me put this into a simple analogy. Imagine you're teaching a young child to recognize a dog. In traditional programming, you write the rules.

Dogs have four legs, ears, fur and a tail. But the problem is dogs aren't the only animal with those features. Cats, for instance, also have four legs, ears, fur and tails. Let's compare that with machine learning. You show the computer thousands of pictures labeled dog and not dog and it learns the difference.

DNN takes it a step further. It is a very powerful version of that learning system and it learns in layers. The first layer is looking at edges and shapes. The next layer, ears, eyes and fur patterns. The Next layer, face and body structure.

And the final layer identifies as as probably a dog.

But while DNNs are powerful tools, the benefit they provide will depend on how they are used. Hearing aids today typically only focus on one dimension noise. We can see this in how they utilize the vast power of DNN based AI for noise reduction alone. And this is how they work. Most systems still rely on a classic signal, chain scene classification, directional microphones and noise reduction.

And then AI has been added on top of. Usually as an extra layer of noise reduction, the intelligence is added on after the processing. This processing stream isn't optimizing for a rich and layered conversation and soundscape. However, it's catering to only one dimension.

If a single DNN focused on noise reduction dominates the processing, the hearing aid may make the world quieter, but it is not truly optimizing the full sound scene. It is mainly catering to one dimension of it. And real conversations are not static. Even in the same restaurant. The listening challenge can change every few seconds.

One moment the person in front is speaking, the next someone joins from the side. Chairs move, glasses clink and background voices rise and attention will shift naturally as the conversation unfolds. The patient does not just need the world to be quieter, they need the hearing aid to help them stay connected. As the sound scene changes, they may hear less noise, but still struggle to follow who is speaking, where speech is coming from, and how the conversation is shifting from moment to moment. We wanted to take AI processing a step further.

Further, we wanted AI to steer the entire sound processing system continuously, intelligently and in the moment. Adding in the four DNNs allows Max to adapt to the many different listening environments and the variations inside those environments accurately and effortlessly.

And this is what we have achieved with Signia max. We use multidimensional AI to understand the full moment and steer the hearing aid processing response.

The hearing aid response is steered using four DNNs that work together as a cohesive unit, kind of like a brain. The speech detection DNN will detect external talkers in real time. Own voice detection DNN will instantly recognize the wearer's voice right out of the box. Scene analysis DNN will continuously interpret the sound environment, recognizing changes and noise analysis DNN will identify and understand the type of background noise that's present.

Acoustic intelligence unifies and coordinates the four DNNs to understand the full acoustic environment with breakthrough precision. It's been trained on 40 million samples across 11 languages, six music genres and thousands of real voices and listening environments. Acoustic intelligence is built on one of the most Diverse AI training bases ever applied to hearing aids. And it reacts to changes in the environment in just 0.01 seconds. For instant real time adaptation to the entire landscape, to the entire soundscape.

It's not feature level intelligence, it's system level intelligence, controlling every processing aspect in real time. And the key is this. These four technologies are always active. They are always influencing each other. Every adjustment is made in relation to every other adjustment.

Conversation takes precedence and and if it's detected, it is always prioritized. Own voice is made comfortable without affecting speech clarity. Background sound is reduced or maintained depending on

conversational context. And that is the shift. You don't hear four features.

You hear one coherent response. This is hearing aid sound processing reimagined. This is one acoustic intelligence balancing continuously for the moment. And that is what defines the Signia max experience. Now let's look at what this means in practice.

Real Time Conversation Enhancement now evolves into Real Time Conversation Enhancement AI powered by Acoustic Intelligence. Real Time Conversation Enhancement was already our proven advantage in one of the hardest situations for any hearing aid. Fast moving group conversations in noise. Unlike traditional directional systems, Real Time Conversation Enhancement is not dependent on where the wearer is looking. And unlike systems that focus on one speaker at a time, its exclusive multi stream processing tracks and enhances multiple speakers simultaneously in real time.

With acoustic intelligence, this advantage moves even further. Real Time Conversation Enhancement AI delivers stronger contrast, sharper speaker focus and greater stability in dynamic conversations. Building on the IX benchmark that was already outperforming the nearest competitor. So whereas can stay connected, confident and fully engaged instead of constantly working to keep up. And now it just got even better.

The result is a noticeably stronger speech focus with higher contrast, delivering a performance advantage that goes far beyond even our previous IX benchmark which was already outperforming the nearest competitor. In fact, we can see that 97% of participants had a better SNR in noisy group conversations against our key competitors.

Own Voice Processing now evolves into Own Voice Processing AI powered by Acoustic Intelligence. One of the most common reasons hearing aids can feel unnatural is the sound of the wearer's own voice. Traditional hearing aids are designed to optimize other people's speech. But when the wearer

speaks, their own voice can sound loud, unnatural or occluded, which can affect comfort, acclimatization and overall satisfaction. With OwnVoice Processing 2.0 Signia already has a proven advantage.

It is the only solution able to detect when the wearer is speaking and adjust sound processing in real time to improve own voice perception. Across open, vented and closed fittings without sacrificing speech clarity. Own Voice Processing 2.0 has also been proven to reduce return rates by up to 30%, but until now, this transformational technology required individual voice training in the clinic.

With Own Voice Processing AI, that step is gone. Powered by Acoustic Intelligence and trained on 1.5 million real voice samples, OVP AI can immediately recognize the wearer's own voice without any in clinic training. It works instantly, it works out of the box, and it is active by default for every wearer. This means no extra setup, nothing for you to remember, and no added fitting step. This turns one of signia's most distinctive technologies into an automatic, effortless benefit from the very first fit.

Traditional scene classifiers simplify the soundscape into predefined categories, but simplifying complexity comes at a cost. Preset scenes trigger preset responses. Mode changes assume clear transitions. But real life doesn't operate that way. It flows, it overlaps, and it evolves.

And sound processing must evolve with it. With acoustic Intelligence, we move beyond traditional scene classification for continuous ambient scene adaptation in the moment Ambient Scene Adaptation AI is powered by Acoustic Intelligence, continuously interpreting the wearer's acoustic environment. Ambient Scene Adaptation AI focuses on everything around the hearing aid wearer, adapting the overall sound experience to the acoustic environment the wearer is actually in. It combines this scene understanding with additional real time information, including reverberation, spectral structure, temporal dynamics, music, motion sensor data, and the wider acoustic context around the wearer. Using this multidimensional understanding, it continuously adapts the ambient sound processing, including

compression, directionality, and the balance of the surrounding soundscape.

The result is not a generic setting for a predefined listening category. It is sound that adapts more precisely to the place, the situation, and the moment the wearer is actually in.

Finally, noise reduction has become very good at one recognizing when there is noise and turning it down. But not every loud or constant sound is something the wearer needs removed. Whether a sound should fade into the background, remain part of the environment, or stay fully audible depends on both the type of sound and the listening situation. So the right response is not always simply less noise. Dynamic Noise Control AI uses acoustic intelligence to understand not only whether noise is present, but what kind of noise it is and whether the wearer is actively in conversation.

Dynamic Noise Control AI is designed for a simple reality. The right noise response depends on the situation. In a noisy restaurant, the hearing aid should not respond the same way if the wearer is actively following a conversation, as it would if they are simply taking in the atmosphere in steady traffic noise, the priority may be maintaining awareness rather than aggressively reducing the background. And that is why Dynamic noise control AI looks beyond noise level and signal to noise ratio. It uses acoustic intelligence to understand the type of noise and the conversational context around the wearer.

So rather than simply turning the world down, it continuously adapts noise control to the moment when speech focus is needed. It can help create more contrast between speech and background noise. When awareness matters, it can preserve the right level of connection to the surrounding world. The goal is not just to detect and reduce noise, it is to control noise intelligently adapting the background to what is happening right now.

And that is the power of Signia Max four key features controlled by one coordinated intelligence, active in every moment. So conversation can take priority when it matters. Ownvoice can remain comfortable

when the wearer speaks, the environment can be adapted around the scene, and noise control can support the moment rather than dominate it. This is not AI layered onto traditional processing. This is AI as the system intelligence of Signia Max 1 intelligence, 4 deep neural networks and a whole system response to the full acoustic moment.

And now you may be asking yourself, do the number of DNNs really matter? And why did Signia choose to combine four separate DNNs instead of relying on one large scale DNN? Well, the answer is this. A large scale DNN aims to perform all tasks simultaneously. From high complexity, it is difficult to train and is subject to cross task interference.

There is also a lack of modularity. So any change in one task often requires retraining the entire network and revalidating all outputs. You can think of this like a three in one shampoo bottle that washes and conditions hair and also acts as a body wash. Instead, we wanted to use four separate DNNs. This means the system is structured as a collection of lightweight task specific DNN modules.

And why is this advantageous? It means the hearing aids are equipped with the ability for independent development and optimization of each task. Better control and interpretability of dynamic environments, more ease of flexibility and reusability. So one module can be retrained without affecting others. And it's future proof for easier integration of new features and sensors.

To bring this Back to the three in one shampoo analogy, the task specific DNNs would be like using a separate shampoo, conditioner and body wash. The three in one does the job, but it does not do the job quite as well as each individual product would on its own.

And this breakthrough is only possible because of the new Signia Max chip. With this chip, we have increased processing by 54 times through higher clock speeds, two additional signal processing cores, and double the memory. This power makes acoustic intelligence possible. It gives us the headroom to

run not one, but four deep neural networks continuously and simultaneously. But power alone is not enough, because acoustic intelligence is not something you switch on for a moment.

It has to be there all the time. So we also improved efficiency by around 50%. And that is the key shift from running one AI feature to unlocking acoustic intelligence. Because acoustic intelligence is only valuable if it lasts from morning to night. And with Signia Max, it does.

Now, let me walk you through a real world scenario.

Let's say you walk into a busy restaurant. Your friends haven't arrived yet, but that's okay. You didn't come just for the food. You came for the atmosphere. The movement, the sound of a place that feels alive.

With a one dimensional AI system, the device detects that noise has crossed its internal set threshold. Noise reduction increases, directionality tightens, and the room drops. It's calmer, controlled and comfortable, but the energy is flattened. The air feels thinner, and you're sitting there, but you're slightly detached from it. While you're comfortable, you're not fully living the moment.

Now imagine the same scenario with acoustic intelligence. Yes, it detects babble noise in an indoor environment, but it also understands the moment. You are not in conversation. So instead of aggressively suppressing the environment, it reduces only what is necessary for comfort. The space remains open, the atmosphere remains intact.

The room still feels alive. You're not cut off, you're immersed. And that is the shift not optimizing for noise, but for living in the moment.

And now your friends have arrived. You all settle in. Someone mentions the movie that just released. And now the conversation is moving, opinions are overlapping, laughter cuts across the table, and the energy rises. With one dimensional AI processing, the device is still doing what it was doing before, which is focusing primarily on reducing noise.

The environment is loud, so noise reduction stays high. And a directional beam may help with the person in front of you. But the conversation isn't static. It moves left, then right. Voices overlap and people interrupt.

And by the time you turn toward one speaker, the conversation has already shifted. You're no longer immersed, you are merely managing.

And now imagine the same moment with acoustic intelligence. The environment hasn't changed. It's still a busy restaurant, but the moment has changed. Now speech matters more than ambiance. Multiple voices need clarity at the same time.

Every speaker is targeted and enhanced in real time. Background noise is reduced and your own voice remains natural. When you contribute, you're not chasing the conversation, you're living in it. The noise didn't change, the moment did. And acoustic intelligence adapts with it.

That is the difference. Not optimizing for noise, optimizing for living in the moment.

And lastly, the night is over. You step out onto a busy street. Traffic is flowing, engines pass and tires move close by. You're waiting for your Uber and listening carefully for your name to be called. With a one dimensional AI system, the device detects that overall noise has crossed its threshold.

Noise reduction increases and the street softens. It's comfortable, but this isn't a restaurant. This is traffic. You don't want less awareness, you actually want more.

Now imagine one last time that acoustic intelligence is active. It detects that you are not in conversation. It recognizes the noise profile. This is traffic. And in this moment, awareness matters.

So instead of aggressively suppressing the environment, it maintains omnidirectional listening with only light appropriate noise reduction. You hear where vehicles are coming from, you hear your name being called, and you remain fully aware of your surroundings. That is the difference. Not simply reducing noise, but adapting to the moment.

Today, traditional one dimensional AI hearing aids mainly ask, how much shall I reduce the noise? How much shall I close off? Multidimensional acoustic intelligence asks instead, how can I provide the optimum settings to get the most out of the moment, get the most out of every moment, contribute confidently and live noisy?

But wait, there's more. Max uses EDE 5.0, which allows for a stronger and more reliable connection between the two hearing aids. The result is a 35% stronger signal, which supports more robust transmission between the ears. We've also increased the audio Data rate by 32%, allowing more sound information to be shared between the two devices. In addition, e2.e 5.0 introduces an additional high speed channel which enables the improved Sound Smoothing 2.0 feature.

Finally, with just 2 millisecond latency, the communication between the hearing aids is near instant. And we are also using a 10.6 MHz near field magnetic induction or NFMI frequency, which has less interference from external devices.

With Max, we have improved three additional features. Sound smoothing 2.0 helps soften sudden transient sounds while keeping speech clarity and localization intact. Ewindscreen 2.0 helps reduce wind noise with high precision, preserving speech so wearers can stay confident outdoors. And the new Signia assistant now includes generative chat for troubleshooting.

Let's dive a little deeper into the new sound smoothing 2.0. It's not often speech that causes problems early on, it's everyday transient sounds, things like paper, keyboards, cutlery. All of these can sound sharp and annoying, especially to first time users. And this ultimately affects retention and acclimatization. Usually the only option for audiologists is to turn down the gain, particularly in the highs.

But that creates a trade off. Comfort improves, clarity suffers. But Sound Smoothing 2.0 removes that compromise. It targets transient sounds with high 48 channel resolution, softening them instantly without affecting speech. Speech clarity and localization stay intact, but sharp sounds become more comfortable.

And the result is a better listening experience that helps users adapt faster and keep wearing their devices.

So let's look at how this works in a different way. When not wearing hearing aids and when a loud sound is made. For example, on the left side, the sound is obviously going to be louder on the ear, closest to the sound, and quieter on the ear that's furthest from the sound. In this case, the sound will be louder in the left ear than in the right ear. Relative difference in the level of sound in each ear is one of the ways your brain localizes where a sound is coming from.

And now think about a set of hearing aids that lacks a binaural link. If a hearing aid has a feature that reduce sudden sounds, but the two hearing aids do not communicate, each hearing aid will react on its

own. So the left hearing aid hears the loud sudden sound and reduces it strongly. The right hearing aid hears a softer version of that same sound and may reduce it much less or not at all. And this can accidentally reverse the natural loudness between the ears.

Instead of the sound seeming louder on the left, it may now seem louder on the right. The brain can then think the sound came from the opposite direction, and that creates a confusing mismatch between where the sound really happened and where the wearer thinks it came from.

What is needed is a binaural communication link like ear to ear 5.0, which can now work with the improved resolution of sound smoothing 2.0.

The hearing aids now communicate with each other and preserve the level difference between the two ears while reducing the impact of the sound, thus reducing the annoyance of sudden sounds while preserving localization. Sound Smoothing 2.0 is capable of reducing the RMS localization error caused by ILD variation by around 30% compared to its predecessor. And this allows for more precise localization of transient sounds, especially when they occur in the high frequency range.

And now let's dive a little deeper into E windscreen 2.0. E windscreen 2.0 is designed to do one thing exceptionally well remove the wind while keeping speech clear. This isn't just comfort. It directly improves clarity in real conversations. Signia addresses wind noise at a much higher level of precision.

The system detects wind noise across the lowest 16 frequency channels where wind dominates, and this is done in both microphones on the device. The hearing aids will automatically switch to and apply targeted attenuation to the cleanest microphone signal. By intelligently detecting and controlling wind at high resolution, the system preserves speech instead of suppressing it. And the result is less annoyance, clearer speech and more confident listening outdoors.

Another exciting feature of the Signia MAX is it is built with One Connect technology. This means that the MAX has full connectivity with no compromise.

One Connect means you no longer need to consider the type of phone your patient has, as it does not matter. The MAX has both LE Audio and Bluetooth Classic, so it will connect to virtually all available cell phones. It is also telecoil equipped and has Aracast built in. And you heard me right, MAX is ready for Auracast. This will be available by spring of 2020 via a firmware update.

Firmware can be updated in the clinic or via the patient's phone and the new Signia One app. In the meantime, Max is equipped with an integrated telecoil, which is currently more widely available.

And you know how we like our research here at Signia. So now let's review some of the MAX claims and evidence.

The core claim for MAX is centered around speech intelligibility, being able to enjoy conversations and live life noisy. We're building a body of evidence to show that the technology is achievable and practical, using comparisons with our earlier platforms and with our competitors. I'll walk you through our efforts to ensure conversations are comfortable. Quality of speech is best in class, even with the presence of loud impulse noises, benefits of automatic OVP and SNR improvements, and the benchmark against best in class for speech and noise.

We'll start with the technical data first.

The test methodology used in this study is comparable to previous studies we've done in the past. KEMAR was placed in the middle, facing one speaker directly in front and another set at 315 degrees azimuth. These speakers presented alternating speech, simulating a group conversation. Two speakers were placed behind and presented background noise. We used the Hagerman phase

inversion method to estimate the aided speech and noise signals on the output side of the hearing aids.

Basically, this method makes it possible to isolate the process speech and the process noise, averaging the two and arriving at a precise estimate of the actual output SNR that a wearer would experience in this type of environment. We compared MAX to Signia IX and four key competitors, most recent premium RIC products. All hearing aids were fit to their proprietary settings and all but one hearing aid were tested in their universal programs. The one exception was tested in a manual DNN based noise reduction speech and noise program. This choice served to evaluate how the DNN based noise reductions work in all include.

We know that IX already beat our key competitors in noisy group conversations and MAX widens this gap even more. On the graph pictured, MAX is indicated by dark red, IX is represented by light red and gray indicates all the competitors. The results show that MAX performed best having a clear gap to IX and that showed an equally clear gap to the competitors products. Also of note, the results for MAX and IX were similar at the two tested input SNR levels while there was more variation among the four competitor products. The clear SNR effects of MAX in this simulated group conversation scenario can be directly linked to the effects of acoustic intelligence and real time conversation enhancement AI and this is what separates MAX from ix and these results are all well and good when conducted on kemar, but what about human performance?

How does MAX compare to the competition? Well, we found that MAX outperforms in noisy group conversations. This study was conducted at University Horzentrum in Oldenburg, Germany. There were 30 participants with a moderate severe to severe sensorineural hearing loss. The modified ULSA was used as a stimuli and participants were asked to repeat sentences from alternate talkers.

This was an adaptive test meaning the presentations became more challenging after a successful repetition and easier after an unsuccessful repetition. Speech was presented from two speakers placed

in front of the participant and there was a circular speaker array surrounding the participants which presented either background noise or interfering babble plus background noise. MAX was compared to two key competitors, both offering DNN based noise reduction implemented on an AI coprocessor.

The results indicate that 100% of participants performed better with Signia MAX compared to Signia ix. Looking at the graph, the red dot is IX and the two gray dots represent brands A and B. You read the chart against the diagonal line. If a dot falls on the line, it means there is equal speech performance. If it falls above the line, it means that there is better performance for the Signia MAX product.

As you can see, most measurements fell above the line showing a consistent improvement in speech test results for max. The benefit is seen across nearly all participants, not just in one isolated condition. Overall, the chart shows stronger speech performance for nearly every participant with Signia Max.

Looking at the data a different way, you can see that MAX performed statistically significantly better than Brands A and B. Looking at the chart, better performance is indicated by lower bars on the graph, meaning the participants were able to repeat sentences at an 80% accuracy at a more difficult SNR level. Also of note, IX already beat key competitors in noisy group conversation and now Signia Max widens that gap.

The next study looks at not only speech understanding and noise, but the subjective effects on perceived listening effort, listening comfort, and willingness to continue listening in the challenging environment. This study was conducted at our orca Labs in Chicago. 26 adults participated in the study and all had a symmetrical sloping sensorineural hearing loss and all but one were experienced hearing aid users. The one who was not was Two weeks into the trial period of their first set of hearing aids, participants were fit with Signia Max and Signia IX as well as two competitors, Premium Hearing Aids, which also have DNN technology. All hearing aids were fit with the default settings in the software using each manufacturer's proprietary gain targets.

Ear tip styles were kept consistent among all hearing aids and feedback tests were also conducted on all sets of hearing aids. Aided speech and noise testing was performed using low context sentences from the repeat recall test and sentences were presented at a fixed 70dB SPL and competing noise consisting of 8 talker, babble noise and speech like temporally decorrelated distractor signals was presented at an SRT75. SRT75 represents a very challenging SNR where meaningful real world communication can still happen. You can see the laboratory setup on the slide target speech was presented from two speakers in front and to the side of the participant mimicking a group conversation. Babble noise presented from the peach colored speakers and distractor talker and babble noise was presented from the brown speakers.

After the speech and noise testing was completed, the participants were asked to rate their level of listening effort on a 10 point scale, the tolerable time and noise from 0 to 120 minutes and perceived comfort on a 10 point scale.

Like the previous studies I mentioned, Signia Max once again outperformed IX and two key competitors. Improvements ranged from 6 to 21 percentage points corresponding to an 8 to 39% relative improvement.

But how does MAX compare Subjectively, Participants noted significantly less listening effort with max, a longer tolerable listening time with Max and higher comfort ratings with max. More specifically, participants were willing to stay in noise with MAX for up to 12.6 minutes longer than the competitors. All results were statistically significant this study indicates that Signia Max not only improves speech, understanding and noise, but also allows wearers to comfortably enjoy louder environments for longer periods of time compared to other hearing aids. We're able to achieve this with Max because it uses four specialized DNNs that work together to guide and optimize sound processing across all listening situations. This allows Signia Max to provide better listening outcomes across a broader range of

listening conditions and communication challenges.

Thus, wears can live noisy.

And now I will unveil the new Max Ric.

This is the Pure Charge and Go Max. It is rechargeable with a full day of power. It is compatible with all of our earwear 3.0. So all of the current receivers, domes and sleeves that you currently have will work with Max. It has that complete connectivity with One Connect.

It has that LE Audio Classic Bluetooth telecoil and is AuraCast ready. It has that LED light which has some added functionality with Max. And there's that dual push button for ease of manipulation and for that better tactile information and then not pictured on the screen. We've also kept that serial number window on the underbelly of the hearing aid so that serial number can be easily visualized.

And like all of our products, max has an IP68 rating. And we've taken it a step further. We've enhanced that moisture protection by adding a plasma enhanced vapor coating which is going to support more robust everyday performance. And we do this by creating an ultra thin moisture repellent protective layer over all the internal components and Max's all day power. If the wear is not streaming, they will enjoy 30 hours of battery life if they're streaming 5 hours with low energy audio, they'll get about 28 hours.

And with 5 hours of Bluetooth Classic, they'll get about 22 hours of battery life. So regardless of streaming which method they're using, they should easily get a full day with Signia Max. And like all our rechargeable hearing aids, these have a fast charging cycle within that initial charging phase. So when you place the hearing aids in the charger, there's that fast charging cycle which with Max will provide up to six hours of battery runtime.

And we have redesigned the portable and desktop chargers for Max. The multi charger that you're already familiar with will still work with Max.

The portable charger Pure 2.0 is going to fit all of our receiver lengths, all ear tips, those domes and sleeves, and it should fit small custom ear molds. It'll charge a pair of hearing aids in three hours and the charger holds four additional charges for that ease and convenience of on the go travel. The charger can also be charged using a USB C or that QI charging pad.

I mentioned a little bit ago that the LED light has had some updates to it. We've added in a second color. So now when the hearing aid turns on by pulling them out of the charger or by manually turning them on by pressing and holding that push button, you will see a solid green light. When you manually turn the hearing aid off by pressing and holding that button, you will see a rapidly blinking red light. And we've added a caregiver mode.

This can only be activated in the software. When activated, the LED light will flash green every five seconds to indicate to a caregiver that the hearing aid is on and functioning. When the battery begins to run low, that LED light will flash red every five seconds. Again, this is off by default. It can only be activated or deactivated in the software.

There is a slight size difference between Max and bct and this is why we had to redesign those chargers. Max is about a millimeter shorter than BCT and it's also about a third of a millimeter wider side to side and front to back compared to bct.

It's available in the following colors. Some of them are new and again, all of the earware you are familiar with is compatible with Max, so no changes here.

Max is compatible with the TV sound and our new remote control. And Max can be programmed using the NOAA Link wireless.

There have been some performance enhancements with the TV sound and Max. MAX will arrive already configured to stream directly to the TV sound, so no additional steps are needed. In the office, the veteran can access the streaming signal in one of two ways. Either via the streaming icon along the bottom ribbon in the Signia one app or by using the push button and holding that button for 1.4 to 5 seconds.

We have a new remote control that is replacing the Mini Pocket. This has the same pairing process as the Mini Pocket and that same method of communicating with the hearing aids. It has that ultra high frequency coded signal. The new remote control allows for that easy and discreet volume and program change. And because it is using that ultra high frequency coded signal, it will work with all of the products on the Signia platform.

So it has that same compatibility as the Mini Pocket remote.

And with the Max launch We are introducing Connext 10. Our software has been updated and enhanced to provide an easier first fit workflow, provide options to leverage the power of the four DNNs and show more informative data on how the patient is wearing the hearing aids. There is a streamlined first fit screen which means fewer clicks when first fitting the hearing aids. Acoustic Intelligence customization has been added to the fine tuning screen to better leverage the power of Macs and improved data. Insights will enhance personalized care by providing you with additional information on how the patient is weari his hearing aids.

For more information, I encourage you to take The Government Services Connext 10 software training on audiology online and there is more Signia Max uses the brand new Signia One app. Please note

that all other Signia products will continue to use the Signia app. Signia One is available for Max and then future products coming down the pipeline.

The Signia One app has a redesigned home screen. It has a modern, clean look and this will allow hearing aid wearers quick and easy access to the different app functions.

Patients can quickly and easily change programs by tapping the programs icon toward the upper right of the screen, or they can swipe left or right on the blank area above the volume sliders.

In addition to adjusting the main volume for the binaural set, patients can tap on the LR icon to separate the right and left ears for individual side volume adjustments, and the hearing aids can also be quickly muted or unmuted by tapping the speaker icon to the left of the volume slider.

Directional focus can be easily accessed by tapping on the red clover to release the selected directionality and return to an automatic functionality. The patient can tap the switch to reactivate the adaptive focus and put it back in that automatic mode.

Tapping the battery icons at the top right of the screen will open a window showing the battery level and connection status of each hearing aid.

And this is the new Signia Pure Charge and Go Max. We go beyond noise reduction alone with our Multidimensional Acoustic Intelligence, which enables your veterans to contribute to the conversation and live noisy. And now I'll show you a quick video.

I know this restaurant you're gonna love.

Let's go.

That's wonderful. Yeah, it really.

I hope now you can see the benefits Max can provide for your veterans. Let's allow them to live noisy. Thank you for joining us today and for taking the time to learn more about Signia Multi Adaptive Experience. If you're interested in learning more about our products and software, we encourage you to search our courses on Audiology online. And as always, you can reach out to us for assistance at 1-800-955-4327.

Thanks again and have a great day. And then I will leave you here with the resources or references from.