

City of Orange • HLAA Chapter Meeting

OTICON

Understanding speech happens in the brain

Speaker: Gary Dorf, Au.D.

Saturday, February 3, 2018

9:30 a.m. - 11:30 a.m.



MARLA PEOPLES: Everybody got your T-coils on.

This room is looped. Thanks to Bill and his muscles. He's helping to bring some chairs to put back there for anybody where we need extra seats.

You can see this room is getting smaller for us.

We may have to take that into consideration some day.

Anyway, for now, I think we will be fine.

Thank you, Bill.

Okay.

Greetings for February.

I can't believe we are in February already.

Here we are.

Can everybody see CART okay?

I want to welcome you to today's meeting.

Is there anybody here who has not been to one of our meetings before?

Raise your hand.

We like to acknowledge you.

Okay.

No one new, that's okay.

Anybody have a birthday this month? Anniversaries? Bah Mitzvah?

We will celebrate just about anything.

We don't want to overlook something that might be important to you.

For our future meetings, in March -- I have it blank. I don't know why I have March blank. I had it yesterday.

We do have a good speaker in March. I am trying to think of who it is. Let me get back to you.

April, we will have Barb for the deaf and hard of hearing. She's going to come and bring a dog. She's going to talk to us about what they do.

May 5th is better hearing month. We don't have a speaker yet. We might just use that day to have a sharing. We did this when we first started out. Everybody introduced themselves and told about themselves.

We have several new people. They told us the history about the hearing loss and how it affects them.

It was like a sharing session. We will probably do that in May.

In June, we're going to have Kyle Riley from Segerstrom Center for the Arts. He will tell us about live theater. He was with us a year ago. He will bring a couple of tickets to raffle off for a show.

In that same meeting, we're trying to get a representative from Regal theaters and talk about hearing accessibility at the movie theater.

Some of us go to the convention in June. I don't think any of us are going this year.

Our September meeting is on September 1st which is labor day holiday. What I'm thinking is, let's have a meeting in July so people can have that long weekend in September off?

What do you think?

Everybody in favor, raise your hand?

You want to have a July meeting but go dark in September?

That's a done deal.

That's what we have coming up there.

After this meeting today, some of us meet for lunch. We usually go to Polly's.

Let Robin know.

Robin: I can't go today

MARLA PEOPLES: Let one of us know.

Are you going to go, Gail?

Gail?

Gail: I'm not sure yet. I have another plan with someone, but I'm not quite sure where we're going yet.

MARLA PEOPLES: Just check with me. We'll see what we're going to do. I don't know at this point.

2018 Walk4Hearing. The kickoff is April 21st from 11:30 to 1:30. It's going to be at Anglo's and Vinci's Restorante. An Italian restaurant in Fullerton.

We're going to have something different this year. It's going to be a lunch with pasta.

That kickoff is April 21st.

And then, the walk is on June 9th.

AUDIENCE MEMBER: I'm curious. What do you do at the kickoff?

MARLA PEOPLES: We don't kickoff.

[Laughter].

MARLA PEOPLES: We are kicking off the Walk4Hearing. We're getting everybody excited, energized to go out and collect donations, to get ready

for the big event. That's what we do at the big kickoff.

People come and share their stories. There have been amazing stories.

We have a good time. We have a nice meal. That's what the kickoff is, to get us energized for the walk.

Yeah, Terry?

AUDIENCE MEMBER: As I understand it, you can start with your fundraising now.

MARLA PEOPLES: You can start now. The website is now open.

I'd like to know if anybody would like to have a team for our chapter? Last year we had -- we've had the last couple of years orange crush was the name of our team.

I would like to know if anybody would like to be the captain? Get people signed up for the team.

I can show you how to go online and do that in the program. It's easy.

See me. I'd like to get a team going for us if we can.

The money that you raise, and you raise under our chapter, the chapter gets 40% of that back to the chapter.

It is the biggest fundraising that we do. The year before we got about \$1300. Last year we got almost a thousand.

It's a good fundraising for HLAA and for us.

We're also in the unified membership program. We're going to get a check shortly for \$80 for people who renew or join HLAA, we get a percentage of that.

Unfortunately, HLAA is reducing that amount starting this year. Instead of \$10 for each new joined or renewal, for an individual we get \$7. They're cutting back \$3 on all of the amounts.

Anyway, we still get something. That's nice.

TONI BARRIENT: It's actually 20%. So if a professional joins at \$60, it's 20% of that. It's a bit more than \$7.

MARLA PEOPLES: They sent me the rate sheet. Instead of \$10 for an individual, it's \$7. It's like a \$35 membership fees have not changed. Membership fees are the same. But the amount of --

TONI BARRIENT: The professional fees are higher. You get a higher contribution. It's 20%.

MARLA PEOPLES: Now the three year is \$30.

MARLA PEOPLES: Anyway, it's still a good program. It does some good things for the chapter.

We have a tech talk today.

AUDIENCE MEMBER: Marla, what's the date of the walk?

MARLA PEOPLES: The date of the walk is June 9th. June 9th

registration is at 9:00. And the walk is at 10:00.

If anybody would like to volunteer please see me.

Anybody want a flyer?

We have some. These are the flyers for the walk. He had them up here at the table.

If you would like to get a flyer, you can get a flyer here.

These are going to change a bit only because they made a change in some of the name designations. They hired a walk consultant. The consultant lives in Texas. She's helping to gear up the walks to make more money.

Ronnie is going to be the walk manager.

I am the Walk Chair.

Thank you. Those are the small changes.

Although, I'm not bringing all the food this year. Yes, Phew! That's one less thing I'm doing.

AUDIENCE MEMBER: I just want to --

Didn't we just finish Christmas? [Laughter].

AUDIENCE MEMBER: I mean, how did we get to the summer right away?

I just turned my head. I am opening my last Christmas present. Do we start the walk this early every year?

MARLA PEOPLES: Yes.

AUDIENCE MEMBER: Whoa! I'm getting old and things are going really fast.

AUDIENCE MEMBER: Gail, if you don't plan ahead, it never happens.

MARLA PEOPLES: Time is on jet skis. It is just going.

AUDIENCE MEMBER: True. True.

MARLA PEOPLES: Everybody got that.

June 9th, Saturday, the second Saturday. Registration starts at 9. The walk is at 10:00. We need volunteers in different areas. The more that can help, the better.

I'd like to have Toni come up. She's going to share some tech ideas with us.

Toni.

TONI BARRIENT: Okay. I tried to do a tech talk before every meeting. This one is not involving a hearing -- assistive listening device or something to do with hearing loss. This is something that I think would be very useful and fun.

Has anybody heard about Alexa?

[Overlapping voices].

TONI BARRIENT: I brought Alexa today.

MARLA PEOPLES: Did you see the latest joke?

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Okay, this couple sitting there, they keep hearing Alexa, Alexa. Alexa get this and that. It turns out the parrot is calling out Alexa. [Laughter].

TONI BARRIENT: While I'm talking about this, any time you say Alexa, she's going to respond.

Right now I have the microphone turned off. I'm going to turn the microphone on. I'm going to turn the volume up.

MARLA PEOPLES: One thing, I want to apologize. We had no idea they were doing all of this trimming out here today. Nobody notified us. I apologize for the noise.

AUDIENCE MEMBER: We don't hear her.

TONI BARRIENT: Alexa, good morning.

>> Good morning. On this day in 1979, the village people danced there way to number 2 on the pop charts with YMCA, almost 40 years later, the disco-is still popular at weddings. I recommend never trying to combine the two.

TONI BARRIENT: Alexa can answer your questions. She has something called skill. You go on Amazon and look at the skills. You can play jeopardy and the spelling bee. You can ask her for definitions of words.

Also --

Yes, Randy?

MARLA PEOPLES: Turn it on.

AUDIENCE MEMBER: Oh, heck. Let me see. Hello.

You should say jeopardy Alexa, is that paired to -- how is that paired onto your streaming TV?

TONI BARRIENT: You're competing with Alexa. You're not on TV.

AUDIENCE MEMBER: So there's not being --

It voice to voice? There's no --

TONI BARRIENT: Right.

AUDIENCE MEMBER: Voice to voice only.

TONI BARRIENT: At this time. I mean, Alexa is expanding her skills and her experience every day.

I want to see if this is going on work.

I'm going to make a phone call using this.

Alexa, call Marla peoples on her mobile.

>> I couldn't find that device or contact name.

TONI BARRIENT: Alexa, call Marla.

>> I couldn't find that device or contact name.

TONI BARRIENT: Okay. She gets the contacts from my phone. Let me see how I have you.

Alexa, call Marlana.

>> I couldn't find that contact or device.

TONI BARRIENT: We will do this differently.

You don't have to --

Marla.

[Laughter].

TONI BARRIENT: I mean Alexa, dial 714-440-8992.

>> 714-440-7992.

>> Welcome to Verizon wireless.

MARLA PEOPLES: 400.

>> Announcement 1.

TONI BARRIENT: Alexa, stop.

Okay. The reason why this isn't working is because I'm on somebody else's wi-fi.

Alexa, stop.

>> Is not available at this time. Please try your call again later.

TONI BARRIENT: Alexa -- stop.

Thank you.

Okay.

So if you have this at home on your wi-fi, you would have no problem getting out.

She just learned how to send text messages. Providing that you have that person in your smartphone with the information, mobile phone, text number, all of that, you should be able to just tell her to do that.

MARLA PEOPLES: You pair your phone to Alexa?

TONI BARRIENT: They're already connected. We're on the same wi-fi.

Alexa, what is the next blue moon?

Alexa, are you there?

>> Yes, I'm here. Eye listen once I hear the wake word.

TONI BARRIENT: Alexa, when is the next blue moon?

>> The next blue moon will occur on Saturday, March 31st, 2018. Blue moon is the name given to the second full moon to occur in a calendar month, which occurs about ever 2.7 years.

Did that answer your question?

TONI BARRIENT: Yes. Thank you.

So now --

>> Thanks for your feedback. [Laughter].

MARLA PEOPLES: Very polite.

TONI BARRIENT: Alexa, play Johnny Mathis.

>> Shuffling songs by Johnny Mathis.

[Music playing]

>> Make me yours. Make me yours.

TONI BARRIENT: Alexa, off.

So this is just a smidgeon -- I don't want to take all of Gary's time.

Alexa can do so many things.

I said her name. She turned blue.

I bought an echo for my daughter and her house, and I bought an echo dot, which is a smaller version, it does the same thing.

They live in the same household.

From the echo -- they can talk to each other in the household.

They have the echo downstairs, and my granddaughter's room is upstairs.

So they can call her for dinner or tell her to get her laundry done or whatever. They can send messages to each other.

MARLA PEOPLES: Wireless intercom.

TONI BARRIENT: Does anybody have a question you want to ask Alexa?

MARLA PEOPLES: How much are those?

TONI BARRIENT: So how much is it?

I'm not selling anything. You can get them at best buy and fry's.

This is the echo, it's \$79 when not on sale. It has -- it comes in a variety of colors.

This is actually an echo dot which is very much smaller, but I bought a speaker to put it in so that I could broadcast a little bit more, especially for this visit.

The echo dot is in here.

Another benefit of this speaker is that it's battery powered. I can take it and move it around. It's good for about a day before you have to recharge it.

Another thing that I do with Alexa, I have something --

>> Sorry, I'm not sure.

TONI BARRIENT: I have something called a smartplug. I have three of these at home. With this smartplug, it's configured into your wi-fi with Alexa using an app on your smartphone. When I go through the house, I have her turn on lights.

I tried to fix this for today. I brought a night light. I couldn't get this configured in this wi-fi.

I walk through and say Alexa lamp on, and it goes on. And lamp off. I did that for my Christmas tree this year. I --

This is really neat. If I'm getting home late and my place is dark,

I can turn the light on using my smartphone for my doggie so that she's not in the dark.

Also, I have a light when I walk in the place.

You ever see that commercial on TV where the boy is playing with all the buttons? That's a smarthome.

You can do that with your smartphone.

That's my tech talk today.

[APPLAUDING]

TONI BARRIERENT: The echo dot is \$45 and \$80 for the echo.

MARLA PEOPLES: Very good. Very good.

TONI BARRIERENT: It's something fun.

MARLA PEOPLES: Next month we're going to take a poll and see who got Alexa.

A friend of mine has that. When she showed it to me, they have it connected to where they say Alexa turn on the outside lights, they all come in. All through the bushes. It's very pretty.

Alexa, lights off. It's kind of an interesting concept there.

I'd like to introduce our speaker.

Our speaker today is Gary Dorf. He's a doctor of audiology. He's regional account manager for Oticon.

He has more than 40 years experience counseling the hearing impaired and business development. In addition to owning his own private practice for 20 years, he serves as vice president for hearing instrument consultants from 1979 to 1997.

He has a bachelor of science degree from New York, and from Brooklyn college, and doctor of audiologist from the Arizona school.

Raise your hand if you have Oticon hearing aids?

Who has Oticon?

All right. We have a few here that have the product.

Mr. Dorf, I will turn this over to you.

MR. DORF: Thank you very much.

Thank you.

Does everybody have one of these?

So, first of all, I'd like to that Marla for inviting me. This is a distinguished looking group. I appreciate the opportunity to peak.

This is truly one of the most enjoyable aspects of my job.

I carry a fair amount of hats. I am the regional manager for Oticon on the west coast, as Marla said. My office is in Costa Mesa.

I did own a private practice in Seal Beach, Long Beach and lake wood during the 70s, 80s and 90s.

Audiologist has been a terrific profession. I grew up in the infancy of audiologist. I was able earn doctorate after my master's.

Training and teaching and educating is what I was born to do. I'm active in sales at this point.

Today, Marla asked me to come and talk.

Before I begin my talk, that Alexa, if you want to Google something funny, Saturday night life did a take on Alexa, they called it the Alexa silver for seniors. It's hysterical. It is quite funny.

As the generalization is that we age, we forget people's names. Alexa will answer to Alexander and Alex. It's quite funny. It's called Alexa silver.

I am going to wow you at the end of this meeting when I show you that Oticon's newest hearing aid actually works directly with Alexa. It's the only hearing aid in the world at this point that encompasses Internet activity. You can do interesting and cool things with the hearing aid if you so desire.

My talk today -- and I know you have to see that. I'm trying to stay on this side.

My talk today is two-fold. I'm going to talk about cognition and how hearing loss affects us, and more importantly affects our brains.

There's been a lot of recent research that talks about hearing loss and dementia and Alzheimer and cognitive decline.

I will go through that. Towards the end I'm going to talk about technology and what Oticon has brought to the table.

I appreciate all those who are wearing Oticon. Thank you very much. You obviously made a good choice. You have gone to a lot of our accounts that provide our products.

Oticon is a company believe it or not that's 114 years old.

They actually a parent company called William Damont, a gentleman who's father was a duke of -- I can't remember what his title was. This goes back to Copenhagen years. It's a Danish company.

His dad -- his wife was severely hearing impaired. At that point, as you can imagine in the 1890s, there weren't a lot of technology built around hearing aids. There were no transistors or mini microphones.

He travelled the world to find solutions for his wife. When he found there were little solutions, he decided to take it upon himself to start this company called William Damont.

His son took over the company. This company today, Oticon was started that far back and has grown dramatically.

Probably about 80% of the world is in Denmark. Six in the industry, Oticon being one of the top ones that basically manufacture about 98% of the world's hearing aids.

There's only one domestic coin the United States, and that's out of

Minnesota. All the other companies are in Denmark, Sweden or Germany.

Denmark, for whatever reason, houses the most hearing aid technology.

William Damont has grown to be a large company. They have about 18 plants and manufacturing options all over the world.

Oticon is one of the leader in technology.

So with that, I'm going to talk about hearing health care and the brain and how the brain affects us.

Truthfully, we actually hear with our brain not our ears.

Our ears are the conduit to the brain. It allows us to make sense of everything.

The brain is the core component of the aural system. Without good function and quality sound reaching the brain, things become distorted.

How many people here actually believe that they hear okay, but they don't understand the spoken word very well? [Hands raised].

MR. DORF: The majority. Anybody who has had hearing loss whether mild or severe, is I heard Marla talk. I didn't exactly understand what she said.

Or I'm in a restaurant, always a very complex listening environment, and I hear the waiter give me the specials, but I'll be damned if I know what the hell he or she said.

I'm going to ask somebody sitting around the table, what's the special?

Again, it's the concept of getting a good clear signal to the brain, because the brain ultimately is the organ that manages that.

How we hear is very simple, basically, both ears want to perceive sound. Generally, they do a good job. Obviously depending upon the degree of loss, that will change.

Basically, a brain is able to make sense of the word, because of our working memory.

Why do you recognize the people that you love, your family or your friends? Because your brain has that working memory and the concept to say, oh, that's my child. That's my aunt. That's my friend from years ago.

The ears don't do that. It's all the brain.

Your brains will convert the sound into acoustic energy and then electrical and then back to acoustic.

It all comes down to the ear sending the appropriate signal to the brain.

What happens in the inner ear -- I like to show this picture because it's a great example of what happens to your inner ear.

So the organ that basically sends the sound to the brain is the cochlea. It's made up of hundreds of thousands of tiny hair cells.

Each one of those hair cells amplifies a specific frequency.

Human beings hear from 20 hertz to 20,000. Some animals hear out to about 60,000 hertz. We only need sound in between about 200 hertz and about 10,000 hertz. That's the range of hearing and the range of speech that we have.

What happens, as we age, and this is showing a significantly noise-reduced, a noise-induced hearing loss.

These hair cells can literally deteriorate and literally disappear.

So what happens is that you're going to hear certain sounds of speech, but you're not going to hear the other sounds.

Now traditionally as we age, or as we have a noise-induced hearing loss, what we lose is the high-pitch sounds.

So that's constant signs, SH, CH, TH, V, P, M.

The vowel sounds, (making sounds) those are low-pitch sounds.

What happens generally as we age -- I'm 66. I have a very, very mild high-frequency hearing loss.

What happens is consonants make 90% of our speech. Vowels only make up 10% of our intelligibility of speech.

If you take away consonants, all of you sudden you can't.

(Imitating speech).

MR. DORF: You're not hearing those high frequency sounds.

If you take the word baseball, and you take out all the consonants, the B, the LL, the B and the S, you're left with A, E, A.

You will not what that word is if you looked on the paper and said -- if you saw BLLBS, there's a good amount of you that would recognize that that word is baseball.

That makes sense?

It's an important concept to understand as you understand your holds.

This is a problem now with returning veterans.

The VA are seeing more returning veterans with hearing damage than any other ailment other than PTSD than anything else.

Hearing loss is staggering among returning veterans.

I saw a woman up in Seattle about six months ago, she's 26 years old, three tours of duty overseas, she had a hearing loss that look like she was an 80 year old woman.

Unfortunately, the other thing we are running into is tinnitus, ringing in the ear. That's due to a number of causes.

One of them is noise-induced. The amount of veterans coming home from the recent wars tinnitus is staggering. The VA is grappling with that.

It gives you an idea of what happens.

It was an interesting article in the Boston globe last week, a good friend who is an audiologist who's dad work's in Torrance. He is researching stem the cells and the regeneration of hair cells.

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Right now the work that they're doing with stem cells on mice are showing real, real benefit.

With due respect to most everybody in here, I'm not sure that in our lifetime, some of you maybe, might see this, but at some point, this might be able to be regenerated. They're doing a lot of research right now in Harvard and Tufts.

It all comes down to how much funding our government allows the stem cell research. That's another topic at another point.

There are a lot of people hearing impaired.

Yes, sir?

Please ask questions as I go along.

The only thing I request is please ask questions that's pertinent to the talk and not a personal issue. If it's personal, I am happy to talk afterwards.

AUDIENCE MEMBER: In regards to stem cells and mice, I have something that it may not -- it may not be able to even achieved yet, because -- in terms of the stem cell and then the correlation to the inner ear, itself may be difficult to do, as opposed to stem cell into your spine, as opposed to a stem cell into your cochlea.

MR. DORF: Awesome question. What they're looking at is some sort of delivery system for that.

They have some demo's made up where basically you will have a little tiny hole in the back of your ear that will allow an introduction of some liquid, whatever that liquid might be, directly into the cochlea.

There are ways to looking at that. The FDA is probably going to take years and years before that comes to fruition. That is something that is being evaluated.

We talked about the brain. The brain orients, separates, focuses and recognizes it. The ear just sends the sound to the brain.

It's crucial the sound we send to the brain is of significant importance in terms of how it sounds, the clarity, the benefit.

Ultimately what happens to a hearing impaired individual is the effort that you put in when you are hearing impaired is dramatic.

I know -- I've worked with hearing impaired people for 40 years. I understand at the end of the day, if you are not getting a clean signal, you are stressed all day because you are leaning in. You are leaning there. You are asking people to repeat it.

It becomes a cycle that is very very difficulty to get out of.

It always amazes me when I see people with significant hearing loss, not even mild, reject hearing aids.

Because they don't like what it looks like. Because they are not old enough. Whatever.

But it's always amazes me.

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The effort that it takes creates a huge strain. And at the end of the day, you are really tired from all the stresses that our lives put us through anyway. On top of that you have hearing loss that will create more problem.

We will do something -- audience participation now to drive this point home.

What I'm going to do is I'm going to flip through my slides. There are going to be words on the screen.

I would appreciate if you all yell out the word at the same time, although some of you might have difficulty later on, try and keep up and just yell out the word that you see on the screen.

Everybody got that?

[Playing video]

[AUDIENCE RESPONDS]

MR. DORF: Okay, that you don't have to yell out.

So the point here is as the visual signal became a little bit more disrupted, not sampling the way you actually see things, it became a little harder cognitively, and it took you a few seconds to read the words.

So obviously when it got to the point where the spelling was a little bit distorted, you had to think a bit more. It took a bit more time.

Cognitively you had the skills to do it because visually you could see it.

The analogy here is to the hearing impaired person.

Could you imagine sitting in a restaurant talking? I'm sure some of you can imagine, obviously, you live it.

The reality is you're living day to day, hour to hour, concerned about, am I going to hear in this environment? Am I going to struggle in this environment?

That just adds a whole other level of stress.

I've walked around on occasion with a hearing loss that I created using some filtering systems, and I could tell you by the end of two or three hours, I was pretty exhausted.

I don't have a hearing loss full time, but I could appreciate the difficulty that might be.

The biggest problem for that issue is that what happens is cognitively and socially people start to withdraw.

Obviously these are common things I that you have think we can all agree occur.

The biggest problem when we talk about cognition and brain health and the component that hearing care is really health care is the idea that people begin to withdraw.

I was in an account up in Beverly Hills last Tuesday or Wednesday, I was seeing some patients. It was a gentleman there probably about 60, 62 years of age. He had a hearing loss. A lot of it was due to military years.

He basically said, he doesn't like to go to parties anymore. He struggles at the theater.

He was just coming for his hearing aid. He should have come five years before. Historically most people come and get hearing aids about 5 or 6 years after they get diagnosed.

I've been at this for 40 years. I have seen different people for 40 years. I can tell you that's pretty much a fact.

The strangest story I had, this goes about 30 years. I had a private practice. This was in Seal Beach. I had a professor walk into high office, probably is in mid-50s. I can't remember what class he was teaching. He came in with his wife. I tested him. He had a significant hearing loss. It wasn't mild.

I said to him, sir, you do have a significant hearing loss. Unfortunately there's nothing medically you can do. You really do need to be wearing a hearing aid.

I said to him, I said, and you need to do it because if I had --

So I said with due respect, sir, if I had a child in your class, and this is Cal State Long Beach, I'd be a little upset if I found out my professor really had this kind of hearing loss.

How much can he understand? He wasn't using any accessory devices.

His wife said to him, we're here to get a hearing aid today. She was pretty emphatic about it.

I said okay. Let's figure this out.

She walks out for some reason -- I don't know if she had to put money in the meter. He leans over and said, I'm probably not going to get a hearing aid today.

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I say, this is an interesting dynamic. Obviously he's not talking to his wife about it.

She comes in. I continue the conversation as if he did not tell me that.

I said, sir, you do need a hearing aid. That's the only option you have at this point.

I'm not ready. I have to think about it.

She stands up and gives him a look -- I've been married for 38 years. I probably seen that look a couple of times before from my wife, but boy, she was pissed.

She got up and she said if you're not getting a hearing aid, I'm leaving you, because of the stress that she has.

She walks out the door, and I say to him, sir, I have to be honest with you. I don't care one way or not if you buy it. Your purchase of this hearing aid won't make our break what I do for a living. You have students. Now you have a wife. Do it for her.

End of story, he gets up, says I'll think about it. He walks out. He walks in two minutes later. He says my wife's gone. I don't know how to get home. [Laughter].

MR. DORF: So I said, I'll call you a cab. I said at that point, there was no uber. Called the cab. That's the last I ever saw of him.

It's kind of strange. That continues to this day, because there's still some sort of stigma attached to wearing a hearing aid.

How does hearing loss affect the hearing process?

Your brain receives less sound information.

It is makes harder -- it makes the brain harder to hear and receive sounds.

Having to get what people are saying forces you to concentrate harder.

And how many of you have thought you heard something, but it was totally opposite?

The extra effort means less mental capacity for remembering conversations.

I'm going to talk about a study we did that talks about memory and how your hearing loss can affect that as well.

You feel more tired after conversation. You are more tempted to withdraw from social situations.

All of these things add to that.

I'm kind of preaching to the choir here.

Trust me when I tell you there are a lot of people that don't adhere to this.

I comes down to mental capacity and cognitive.

I'm going to talk right now about a study that was done which is really a study for us in our industry.

It was done at Johns Hopkins medical center in Baltimore. Most of you have heard of it. They do a lot of research.

Dr. Lin who I know well, he and his team were the first to take upon the study to look at hearing loss and cognitive decline in older adults.

What the study looked at, they looked at people between the ages of 64 and 76. And people who have decided not to get hearing aids, and then they look at a normal hearing group to figure out what that looks like cognitively.

So what they did -- and I will cut to the chase of what the study show.

What you are seeing here are two lines.

First of all, there are two different studies, two different cognitive-type tests, not to go into --

Has anybody here had cognitive testing done?

Okay. It's a rarity. I don't see a lot of adults. Obviously if there are some concerns of dementia or Alzheimer's, I think you would be going through some of those cognitive tests.

AUDIENCE MEMBER: Can I ask you what you mean by cognitive tests? I think I had it done the last time I went for a physical.

MR. DORF: What is the president? I am giving you sample of what the cognitive tests will be.

AUDIENCE MEMBER: She asked me some questions, a few other. And then asked me to repeat what I asked her. Is that a cognitive?

MR. DORF: That's part of the cognitive test.

They will ask you to say series of numbers, a minute later ask you to repeat.

AUDIENCE MEMBER: She had me draw a clock, from memory, draw a clock. I wanted to do a digital one. I ended up -- I wanted to put 4:26. I ended up with the round clock.

She said do it from 9:00. I thought what is this? I did have to think a little bit.

MR. DORF: Again, it's a timing test as well. The timing of it, you know you might be able to come up with that. It might take you longer. That's what a cognitive test is.

These are two different types of cognitive test to make sure that the study wasn't biased towards a particular test.

What this shows, number with you one they look at patients over an 11-year period. You couldn't take a snap shot.

What this is showing is this line up top here, this is the score. This is the time period. Remember the age was from 64-76.

This basically shows the cognitive decline over years.

Again, unfortunately, we're all going to have some cognitive decline. We all -- I shouldn't say all. There's a lot of younger people in here.

I'm speaking for myself. Let's say that.

I know that sometimes I miss a word or sometimes I'm grasping for words.

I will tell you for all of those who love to do cross word puzzles, my wife and I are fanatic puzzle players on New York time on Sunday. We spend three hours.

Alexa awesome. You can give Alexa a clue and ask her what a cross word answer would be, she'd spit back about two or three options.

If you like crosswords, and you don't mind cheating, Alexa is awesome.

What this shows is the decline for patients that have hearing loss, that have decided not to do anything for their hearing loss.

So basically you see the aging is basically the same, that the cognitive client, age wise is the same, but the baseline from where you start, because you have a hold, your cognitive decline will be a little greater.

This was a seminal study for our industry, although there was no study that directly pointed to this, this was important for our industry to understand.

All of a sudden came the connections between dementia and social isolation and Alzheimer's.

I'm not here to tell you this is going to be a direct path to it. It's not. We foe heredity. Our DNA all adds up and probably more important than this.

Anything we can do to minimize it, and this is one thing we can do to try and help minimize it, certainly I don't think we should turn our backs on.

Can you hold that for one second.

Sorry.

AUDIENCE MEMBER: Can I ask something else about the cognitive?

I'm hearing impaired. I have a cochlear implant. Everybody can hear me. I'm from New York. Do I need the microphone?

I want to say that not hearing the words, like the doctor gave me three words, and then I was like, what was that first one again?

So basically, she's helping me remember, because I didn't hear it. Is there a correlation between not actually hearing the words and then having to repeat them five minutes later?

MR. DORF: So hearing impaired individuals, especially hearing impaired for many, many years, their habits are obviously different.

Sometimes you're so conditioned to say what did you say before you ever listen to what they said, okay.

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So the reality is memory can be distorted to a certain extent. All of a sudden somebody says this sentence. Say it's 8 words. You didn't hear the third word. You are thinking what was that word, because all the other words after, you're not paying attention to.

You're going to hope that third word will give you the clue to the rest of the sentence.

There's a lot of guessing going on.

Because of the component I shared with you that people hear but don't understand, if they pick out two or three words in a sentence that they're thinking they know the answer to, ultimately you might miss the entire word.

What happens afterwards when you get that word, you start thinking, okay, I remembered what was said.

It's a very --

It's a loop that's kind of play over and over all day.

Give the mic to that young man.

AUDIENCE MEMBER: Thank you, ma'am. You are so nice.

I'm going to get you.

I have to say something funny, in a sense that the doctor will give me this test, the 30 -- of course -- the 30 -- you have to get from 0 to 30.

Hearing repeat the word, the funny part about him, he is originally from Greece. Because he's from there, he still has an accent. And so when I say, an accent in that word, it's partly because I'm not hearing. The other part is he's from Greece.

I would strongly suggest -- I was born this way. I was born with a severe loss in the high frequencies.

I can certainly attest that no way, shape or form am I anywhere near did I dementia.

Thank you.

MR. DORF: I trust that's the case.

These are very generalized statements. This is not something that will happen to everybody.

The reality is that studies are pointing more and more to the point that hearing loss is somehow linked.

That the percentage of people with hearing loss have a high percentage of likelihood of Alzheimer's or dementia. Nobody is saying that you're all going to have the it. That is my point.

This is a study they looked at a broad cross section.

In this study, they look at about 6 or 700 people. The results are significant from a statistical standpoint. This is one component.

When we talk to people about getting hearing aids and making sure

that they know that hearing health is a health care issue, it's not a commodity. You are not going to Costco to buy a hearing aid, I have no problem if you do that from a financial issue. It's a health care issue.

If I need a hip, I ain't going to Costco.

We need to make sure that people recognize how important hearing health care is.

Risk factors that hearing loss can lead to, could be falling.

There's statistics that show that people as we age, falling, there could be some balancing, hearing loss pays a part in lack of balance to a certain extent.

These are things that unfortunately are risk factors. These are factors we can provide to help us.

Physical activity is really important. I hope all of you are taking that unconsideration. Also cognitive engagement.

You are all here today. That's awesome. It's cognitive engagement at the highest level.

People look at what you send out in terms of promoting. Said, I will worry about that next year.

It's important to make sure.

AUDIENCE MEMBER: I have a comment. Could I have the microphone?

I think that what happens sometimes is the people who say, oh, I'd rather not go to the party or be in the club, is because they kind sense that the hearing people with around them are frustrated and don't want to repeat.

However, if you're not making an effort to do the most you can, I don't blame people with normal hearing for getting upset that they've got to repeat and repeat because you don't want wear a hearing aid or bother getting a new hearing aid.

I don't blame them.

I think that they have to be a little bit accountable too.

MR. DORF: 110%.

That gentleman who I told you the story of, you know, he's a teacher. He should know better. He's got to hear all his students in a college setting.

It was appalling to me that he left and didn't do anything.

I'm not naive at this stage in my life and think that everybody will see the benefit of it. The reality is it's human nature.

The question was, we had that study in 2013. There was never a study that looked at, what happens if those people would want a hearing aid at the very, beginning of that cycle?

Would their cognitive decline be just as poor as those who did not take advantage of wearing a hearing aid?

What we found out, this was a study done in 2015 in the Bordo area in France. This was a very long study. 25 years to look at over 3,000 participants.

They are controlled groups that weren't wearing hear aids. They are groups normal hearing people and people who raised their hand saying they wear hearing aids.

What happened is that, to jump to the conclusion, that there was no difference in decline between normal hearing people and those using hearing aids.

Now again, that a finding of the study. Obviously there were some people that probably had by little bit more. They recognized that the hearing aid can provide the benefit and make sure we keep things intact.

I'm not naive that will happen to everybody. Cognitive issues are more than a hearing loss.

This was a study that pointed to that the use of hearing aids can make a difference in that benefit in terms of reducing cognitive decline.

There was another study that just came out -- I can't remember. I just say it last week at a meeting that I was at in Panama. That's the country. That talked about the similar type of findings.

It's not published yet. I can't give any information about it.

It looked at the same types of thing that this study looked at in 2015. It concurred with the finding here. That hearing aids can make a difference. Hearing aids can make a difference if they're worn.

I still have people come back in my office and say I wear it to watch jeopardy.

You've got to wear it all the time . If you don't, the brain want get acclimated.

Not that you have to wear it every hour of every day. The brain needs to acclimate.

There was a study -- I don't have slides. It was a remarkable study from a woman out of the University of Boulder in Colorado.

She was looking at the brain and how auditory information affects the brain. I wish I had access. They were staggering.

She was wanting to find an individual that had a sudden hearing loss. What she wanted to do is map the brain to see what happens to the brain in terms of where that auditory perception is perceived. And how the brain compensates for that hearing loss.

As unfortunate as this might sound, a 24 year old gentleman had a sudden hearing loss. He went totally the deaf. It was mostly to some toxic medication he had to take. The medication was due to the fact there was other issues. He went deaf.

What she did at that point is she took some pictures of the brain. We've all seen these pictures where the colors show up on the brain of

activity. And she showed that area of the brain where the auditory per September is, to be highlighted fine.

Over, six, seven week period as taking pictures, you saw that area start move together the visual area of the brain.

So the brain had its own compensation ability, and now you saw the auditory perception area of the brain actually shifted over to where the visual perception of the brain was.

So the brain is a -- it shows the plasticity of the brain. Even as we age, it has that capacity.

When she showed those pictures, it was an audible gasp in the audience. It was about 300 people she was presenting at.

That study is coming out. It was impressive to show how the brain actually reacts.

I'm going to talk a bit about new technology.

Any questions about all that I just gave? I kind of gave you a big overview of hearing loss and the recent studies about cognition.

Any questions?

Yes, back there.

AUDIENCE MEMBER: Hi. I have a friend who's probably around 60. She has had a Haring issue for a while. She said she tried wearing hearing aids whenever. They didn't help. She insists when I talk to her -- I keep trying to get her to come to the meetings and look into wearing hearing aids because the technology is better.

She keeps saying I think it's more cognitive issue, not my hearing. There's a correlation. I'm having trouble communicating to her that the hearing is connected to that.

I don't know if there's anything that you could suggest that I could say to her that would make that connection in her mind?

MR. DORF: That brochure I gave you hearing with your brain -- did you get the brochure -- the hearing with your brain is probably as good a place to start.

They make the point that cognitively, you're minimized simply because you are not getting the appropriate information.

There's also another thing that can be -- I don't know how aggressively she looked towards her audiologist -- some people have that isn't related directly to hearing loss, but it's related to how the sound gets to the brain.

In that case, if she does have a hearing loss, it's obviously connected. If she doesn't, she should be tested by somebody who specialized in central auditory processing disorders.

Not every audiologist specializes in that. There's testing that could be done to put those two together and see if there's a problem with that.

AUDIENCE MEMBER: I also think that what is going to happen is a lot

of people use money, that they have, as an excuse not to get the hearing aid. They don't want to spend \$4,000 or \$8,000.

They procrastinate. Now that they can get something over the counter cheaper to get them in the door. Not the hearing aid they need. It's better than nothing. All of a sudden, they might say it's worth the \$5,000 or whatever it might be. I think that helps too.

AUDIENCE MEMBER: For the central auditory processing disease, is that gradual loss or sudden loss?

MR. DORF: That's usually gradual. It's not something that comes on overnight. Some people put off to cognitive delay.

It's important to find an audiologist. I share with you not a lot of audiologists specialize in that type of testing. You will probably have to research in your area and see who those individuals might be.

By the way, I love all the New York accents. I'm from Brooklyn.

AUDIENCE MEMBER: One more question.

How closely related is attention deficit disorder with hearing loss? Personally, I don't -- I can't pay attention if I don't hear it.

If I'm not hearing something, I get very bored. I may walk out. I may fall asleep, because I'm not hearing it.

I need captioning. I need a listening device. I need to hear. A hearing aid, a cochlear implant.

If I'm not hearing it, I may not be able to pay attention, because I'm bored.

MR. DORF: Your attention is diverted. ADD, ADHD, people on the autism spectrum, it all kind of plays a role to a certain extent.

Kids that are -- I have an autistic grandson who is 18 and thriving in a private school in Carbondale, Illinois. We tested him early for his hearing. His deficit and component of behavior had us worried.

There are schools now that once they find kids with ADD or ADHD, they test their hearing right away. If they find they have a hearing loss or any component, even a mild hearing loss, they'll recommend some minor amplification to see if that will provide them with better attention.

I think not only our industry, but I think the public schools recognize that connection. And with due respect, we are seeing a -- way too many kids with autism and way too many kids with ADD and ADHD. We have to lack at all avenues.

Question back there.

AUDIENCE MEMBER:

Actually, you sort of touched on this maybe, but the correlation or the relationship between being hard of hearing or deaf and falling asleep easily, rather than me try to explain what I think I heard you say, maybe you could rephrase that.

What is the mechanism, or how does that work? Is it more a function

of being exhausted from trying to hear, or is there more something else going on? And what can people do about that?

MR. DORF: That's a great question.

Unfortunately, I don't know of any literature, any study that kind of links the two.

I think you put it precisely when you said that people withdraw. People get tired. People get stressed. That at some point, they're going to say, excuse the expression, the hell with it. I'm going to sleep.

The body just maybe is the answer. The body might say, okay, I need to get away from this or find some rest or some peace.

It's a great question. I don't know if anybody ever really has looked at that link or studied.

All the studied about die be tease I think lead to that conclusion. It's the stress that puts you to sleep.

AUDIENCE MEMBER: I can attest to that. When I'm overstimulated, everything just gets drowned out. I just kind of close -- I just close myself off.

Let me get to something here.

In terms of the product you have, your company, how do you distinguish, if I were to come to you, for example, how --

Is there something going on here?

Okay. Hello?

All right.

Okay.

-- how would I -- how would you distinguish my hearing being good for your hearing aid are better -- would my hearing be better for the hybrid?

What's the distinction -- what is the distinction of your product over the hybrid?

MR. DORF: Great question.

I'm going to lead into that discussion.

Make sure I do answer your question in the next 5, 10 minutes.

Marla, what type do I have?

>> 11:00. You can go past a bit.

MR. DORF: Got you. Paragraph so on the Oticon, they thought brain first.

How and what signal is best sent to the brain to process what the hearing impaired needs, from any mild hearing loss up to a severe hearing loss.

Those of you with cochlear implants, I will share with you that the technology I'm now going to talk about with our hearing aids, Oticon, William Damont purchased a company from France about three years ago that is another cochlear implant company, William Damont is going through the

process of getting the FDA approved for that product in the United States.

We probably won't see that product -- again, a cochlear implant, not a hearing aid -- until 2019, maybe as late as 2020. The FDA takes a fair amount of time.

The technology I will talk to you about now is the chip that they're going to be using in the new cochlear implant.

It's the first new cochlear implant company that's come to the U. S. In I think about 35 years.

So just bear in mind with that.

Normal hearing, let's talk about normal hearing.

Normal hearing is such is that I am facing Marla, and Marla and I are having a conversation. I hear her very well. Assume I have a holds.

What happens now is somebody sitting on this side or back there, they might call my name. I might have a hard time hearing that person. Because past hearing aids were very, very committed to directionality.

We assume that the hearing impaired person really only ever wants to hear the person in front of them. They don't necessarily --

They'll do okay by reducing the background noise or somebody on the other side of them.

That is not normal hearing. Okay. Normal hearing is allowing the brain to help me decide who I want to listen to.

So now I'm talking to Marla. And all of a sudden I hear these two women talking about me. [Laughter].

MR. DORF: And that's okay. I'm good if you talk about me.

But I'm shaking might head at Marla, but I'm listening to what they're saying. Correct.

That's normal hearing, because cognitively, the brain is going to make the decision, amazingly how it does it, the brain makes the decision who I want to listen to.

The type of technology that was given before we introduced this product, which was last year in June, was always about directionality. Or they use another term, beam forming. You might hear some of your audiology talking about beam forming.

Zooming in and minimizing everything about you.

You diminish the cognitive ability about what the brain is supposed to do.

I can't tell you how many people came into my office with that technology, and they said, you know, I'm sitting around the table. I could hear the person in front of me. I can't hear a damn thing of the person to my right or left.

The hearing aid is minimizing that.

So that's been tech follow gee from 1996 to 2016.

All the major companies are figuring out how to make that better.

In the long run, Oticon said, let's stop the insanity. The biggest problem with that type of hearing aid was number one, I didn't hear people along side me.

Number two, it wasn't aggressive enough to close down background noise.

So background noise, as you all imagine, and you all experience for the most part, that is the most difficult task that a hearing impaired person has.

The reason that is, and I'm going to go back to that story about the cochlea, you can hear the low pitches but not the high, the den -- we're all sitting in a restaurant around this beautiful table.

The den of the background noise is low frequency.

I hear low frequency better than I hear speech, because speech is a high-frequency medium. I'm struggling because I can't shut down background. That can happen if it's only three of us.

Those two things were paramount in figuring out what we can do.

You see these parents, they want to hear this kid, whenever the kid is.

Over here, they might not need to hear this family. They want to have access to that for whatever reason.

So what Oticon did in the new chip is they designed a hearing aid that actually does that type of thing.

So we no longer try and achieve directionality like it once was.

And this chip, the reason it could do it when none of our competitors at this point have the ability, is literally the speed of this chip. It is faster than any computer that you have on your desk at home or even faster than the computer you have in your iPhone.

The speed allows us to analyze the environment every 10 mill second. What we are doing in analyzing it, is where clearly defined speech was.

If 8 or 10 people talking back here, it will minimize and recognize that as noise.

If you are talking briefly here and you are here, I am facing here, I have equal access to this information.

So we're able to something that and really aggressively reduce background noise.

The temporal and spectral characteristic of noise vs. speech can be recognize by a fast, fast processing chip.

This chip was design by a 32-French man named Neil. He is one of the most brilliant young men I have met in my life.

It took 7 years at a cost of \$190 million of research to develop.

Paragraph I will share with you, I've been at this 40 years. I got my master's in 1976 at Brooklyn college.

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The reality is I have never seen -- again, I understand that technology is going to go by leaps and bounds.

This product we introduced in June 16, took the industry really by storm. Everybody was still figuring out how to make that beam forming work better.

We understand the cognitive demands of the brain.

Once you start minimizing that by the amplification you're providing, you're not feeding the brain the best information possible.

So all of these things, you know, what this does, it preserves the important details of speech. It reduces the effort.

I will show you a study quickly. We're running down on time.

Improves your recall. I told you study about memory.

Helps your ears work together to identify where the sound is coming from. Clearly defined speech.

Takes your personal account into effort.

This is important. I always thought this wasn't important. No manufacturer had given me the tools beforehand.

Marla and I like the same user, let's assume. I'm not crazy about Johnny Mathis. That's okay.

When you turn your music on, you bump up the bass. When I listen to the same music, I bump up the treble.

It's a personal specific component that we like.

I hate olives. I love the bread and oil, but I will not touch an olive.

My wife, on the other hand, give her all the olives she needs.

All our senses have a very, very personal approach to it.

What we do when we fit this hearing aid, we're going to ask you, give you sound samples like A, B, A, A B.

Will you tell me which sounds you prefer.

Before I fit this hearing aid, I really want to know your personal preferences.

It takes about four minutes before the testing. It gives us a picture of your personal preference.

That has made the fitting of this product more accurate. Because now I'm able to tap into your specific needs.

What we did, how people perceive sound is care of what this product does. We want to make sure we understand what you like to listen to before we put a hearing aid on you and saw how does it sound?

How many had hearing aids, the only time the person asked you is after you got the hearing aid put on?

Anybody ever ask you before what do you like to listen to, what type of sound? That's an important component for us.

So these are studies that basically talk about understanding, reducing your effort and increasing your memory.

I'm not going to go into studies because of time.

They use some very interesting techniques. One was pupil optometry.

When you get stressed, your pupils will dilate, sometimes significantly.

We put people with hearing impairment into a environment, headphones and measured pupil die allegation.

We start talking, and say the word this and that, no background noise.

As soon as the background noise started increasing, we saw the pupil start to dilate.

When it got to the point they couldn't hear, the pupils dilated.

This talks about some of those technologies.

These are all available in white papers if anybody is interested in more information.

The cool thing that's been introduced, how many have hearing aids they use apps on their phone?

Okay. One. I saw a couple of you.

Using your I phones? Any have an android they're using?

So these hearing aids, and they're called OPN. I gave two brochures, only commercial. One about hearing aids and one about connectivity.

The connectivity we introduced something exciting.

Use a remote control, TV device, they all pair to the hearing aids. Easy to pair.

What we just introduced is what we call the connect clip. This only works with OPN hearing aids.

This has about 6 functions that's going to make your hearing aids into a headset.

I think I have a slide. It's very simple to be worn.

You kind of clip it on -- like that.

Very lightweight. You charge it through an wall charger or a USB port. Simple to use.

Number one, totally hands free on the phone. If your phone rings in your pocket or purse, you hit a button on the side and start talking.

That's for an eye phone or android phone.

You want to make the hearing aid louder, button on the bottom, that makes it louder.

You want to mute it because you want to hear the phone call, you press this button, you kill the background noise and all you are hearing is the phone call.

Totally handsfree. You never have to pull your phone out of your pocket. The only time is if you are making the call.

Remote mic functionality.

Marla and I are going to a lecture. I sit about 40 to 60 feet away. I give it to Marla. I turn to remote mic function. She can be 60 feet. I can hear directly in hearing aid. I can control the volume on hearing aid. A remote mic.

The other beautiful thing. How many travel with your grand kids or family in car? You struggle you might be driving. Give this to whoever you want to talk to.

If your grandkid is in the back seat, let the child wear it. It could stream directly to your right ear only because the left ear you don't want because you are confronted with too much noise. A remote mic as well.

Lectures, church, synagogue, anything you want. You could hand this to somebody. They don't have to touch it.

Computers. How many talk to your grandkids through Skype or take a class online? How many of you watch TV or something?

Your standard computer that does not have Bluetooth, you have to be a dongle, a USB support, that will send the signal to here. You can sit back and listen to Skype and do whatever you want on the computer.

The one thing they don't have here is a landline phone. If you have a landline phone that is Bluetooth compatible, all you do is pair this to the Bluetooth phone. You could be sitting reading a paper.

The phone there ring, you don't have to get up to answer. You press this and you start talking.

So the functionality of what this offer is well beyond what other companies have.

Most companies have some of these items. You have to get two or three items to do that. This is all encapsulated in one product.

I told you about that. Streams to both ears. Hear in the distance. You could mute the background.

If two of you are in a restaurant, hand the mic to the person you want to listen to, mute your hearing aid so all you are hearing is the person in front of you if you want to control the speech to noise ratio.

Hearing aids today are rechargeable. How many of you have a rechargeable battery in your hearing aid?

This is a new fad.

Now instead of putting batteries in your hearing aid, one battery will last a year. You charge it every night.

You see the hours that you get on one full charge.

It's a convenience. It's easy and simple. Not all the products have the rechargeable. The one we sell most has it.

That's a convenient and cool piece of the puzzle.

And then, somebody asked me about the difference, right, the gentleman.

All of them tend to look alike. It's the chip that's inside of it and the receiver that goes on to it that hits the power.

The difference that ours provide than all or other companies is that capacity to be able to hear more information around you and have a much, much more aggressive noise reduction management.

Those are the two key things that people complain about when wearing standard hearing aids.

Number one, sound quality is important. Number two, where that sound is coming from, and number three, how aggressive can we make it in terms of reducing the noise management?

And this just adds another level of sophistication of benefit to it.

Remember before when I told you about Alexa, I'm not going to demonstrate. This is the only world's first Internet connected hearing aid.

There's a company called Ift. I have it on my phone. I-F-S-T-T-T. It stands for if this, than that.

There are about 400 to 500 companies on that app.

Are you familiar with IFSTT? And Alexa.

In this than that is an app, a free app you can get on your phone.

There are 400 to 500 companies on that.

Who has a ring for their door bell? Ring.com?

Who has Nest for their thermostat?

All of these 400 plus companies, Oticon is the only hearing aid company on it.

Any cop in there that has an Internet-attached device, your hearing aid could tie into it.

So Alexa is one of the items on there.

You could pair your hearing aid to Alexa.

When you hit a button on your hearing aid, it would send information to Alexa to turn the home lights on, to turn the TV on if your TV is Internet connected.

I'm giving a quick overview.

This is really impressive.

The two things that I account use this for, number one, ring.com.

They will know when somebody is at authorize door and be able to analyze who is there and answer through the hearing aid.

The other is texting. The other is battery life.

I have a daughter, hearing impaired. She's at school. Her battery goes dead at school. She's three years old, four years old, not paying

attention. Her battery goes dead. Her mom, her dad, anybody who is tied to the hearing aid, will get a text, Sarah's hearing battery died. She didn't know. She was doing something else.

Mom calls the school and says change the battery.

The other way people are using it, if you have an elderly parent, they live 3 or 4 blocks away. They know when it is on, functioning or low, tying it in through an Internet-related device.

A few of my patients will make use of this, but we're only going to groin terms of what this hearing aid can offer.

With that said, I know I'm over, so the takeaways is hearing is easy. Listening is complicated, requires effort. Understanding takes place in the brain.

Hearing with both ears is important in creating a realistic sound picture.

Devices that give the brain lots of detail and sound signal are able to listening select sound want to follow.

Each hearing solution should be personalized using sound preferences.

Those are the four component we live by.

Technology has grown dramatically.

I will take a few more questions.

AUDIENCE MEMBER: I'm wearing the Oticon after a lifetime of wearing Phonak.

If my iPhone was a few years old and they give me an impetus to go and upgrade, I will pay you \$150. My car drives fine. The dealer is giving me impetus to bring in and upgrade, with hearing aid only about a year and a half old, maybe two years, I could get more advanced and better if I went in and bought them today. They don't do that.

None of them say gives your old hearing aid and we will give you a few dollars for it and I get a new one.

I can afford it probably. I will probably say, I will wait a little longer.

MR. DORF: Again, I can't tell you what each individual office does. That's out of my jurisdiction.

The bottom line is, I would tell you, if they put another hearing aid on you and you find that it is light years above what you have, whether an Oticon or what have you, I would sit down and negotiate that. Seriously.

AUDIENCE MEMBER: I am talking about other people. Not me. I'm not the average American.

MR. DORF: I'm telling everybody.

AUDIENCE MEMBER: A lot of people finances, they don't say bring in old and we will give you \$500. They don't give you help. I don't see it in the industry.

MR. DORF: There are plenty of accounts that will if you raise your

hand. There are a lot of providers and audiologists, if you got a hearing aid two years ago, they're hard pressed to push you to get something new, what you got two years is new. Unfortunately, things do change in technology quickly.

With due respect, I think it's you who needs to advocate for yourself. I heard this OPN product. Let me take it a step further. In this product which came out June 16th, what we do -- we came out new firm wear 5.0.

What we have access to do with hearing aid which we didn't two or three years ago, we up grade firmwear.

You who had two years ago.

AUDIENCE MEMBER: I have the old one.

MR. DORF: I'm giving example.

You bring in that hearing aid, we put on software, upgrade to 5.0. Now you of better access. You have the new things. Down load things we found in hasn't the product.

Most manufacturers have something or working toward that.

We can take a hearing aid you bought about two years ago, it came out in June 16. When you come in, we're going to attach it to software, download firmwear and give you access to new things.

AUDIENCE MEMBER: With the ones I have now.

MR. DORF: I will look at it afterwards.

AUDIENCE MEMBER: Thank you.

MR. DORF: Yes, ma'am?

AUDIENCE MEMBER: You're very knowledgeable, Gary. I appreciate your presentation.

I think you might be able to answer my question.

Not only are you intelligent in the workings of the brain but also in the technology that helps.

I'm very simple. I keep thinking, if we had a line -- because most of the hearing aids have a bud, you could only put that bud so far into the canal.

When I push it, it gets closer to the hearing drum, and I can hear better. But it doesn't always stay because you talk, you move and it adjust.

Why is there not a technology that can have a line, a wire or whatever, that is so small, so gentle, that would are not irritate the canal and go closer to where we could hear?

MR. DORF: Okay. Everybody understood that question. Great question.

So, first of all, a lot depends on the degree of your hearing loss.

So if indeed all the lines and the domes and the things that we offer

to the most part now for mild to moderate hearing aids, that usually is sufficient to drive the amount of gain.

Your point is well-taken, when you push it closer to the ear drum, you are going to get an increase in sound.

If that's what you're noticing, and if that's what the audiologist or hearing care professional is listening to you and understanding that, what they can make is a custom ear mold.

A lot of you probably have some custom ear molds.

That ear mold could be made deeper because it's customized. The line and dome is one size fit all.

I would say 60 to 70% of the hearing aids I provide probably use that dome. For the more severe losses, we recommend a deeply inserted ear mold. That will get close to the TM because the sound sample will get closer to there.

That doesn't always equate to comprehension benefit. It will make it louder.

So please understand that the volume sometimes doesn't mean increased understanding.

It just means that you're hearing it louder.

There is one company -- we don't make this product. It's for very mild hearing losses. Called LYRIC. They advertise the hell out of it.

That is a one-size -- it fits deep into your ear canal. You actually have to have a physician install that.

I'm not crazy about the product, not because of my competition. A lot of people's ears cannot accommodate that. It stays in your ear once a month or two months, have it taken out.

Very expensive. Only for mild.

If you are experiencing that, then you want to try to have the --

AUDIENCE MEMBER: I had the custom mold at first. It didn't suit. It just -- just didn't fit right or whatever. It was uncomfortable.

They said, we will try the other. I did that. Just I keep thinking. I just need a thin wire to do it, and I don't even need that bulky of butt or firm.

MR. DORF: No such thing as a small wire. You need something to hold it in place.

If you had a wire and it flopped down, it might go against canal wall and not hit anything.

Unfortunately, those are the only alternatives if you are wearing a hearing aid.

AUDIENCE MEMBER: You were on the track. I talked to my son who is an engineer. He said mom, it has to be the delicate. I said bought they have components that they put in people's hearts. They're the delicate. Soft.

Why don't you come --

I'm on him to work on it. That's not his thing.

MR. DORF: The other thing that creates a problem is build up of wax. If you have wax and an opening there, all you need is a specific of wax to close that off. All of a sudden the hearing aid is not working.

AUDIENCE MEMBER: That's right, the smallest specific of wax.

Thank you.

MR. DORF: That's right.

One or two more questions.

I could go on to noon. I know you guys can't.

AUDIENCE MEMBER: I've been hearing amazing things about the OPN, since you came out with it.

I like that to be my next pair of hearing aids.

One audiologist I went to said no, your holds is too severe. You need to go with a different brand.

I really want --

MR. DORF: Do you know what your hearing loss is?

AUDIENCE MEMBER: Not offhand.

MR. DORF: When was the last time you went to your audiologist?

AUDIENCE MEMBER: The last test I had two years ago, I had almost zero word comprehension.

MR. DORF: The OPN was introduced in October, November of this year, a power version. It's BTE power, PP13, which is an OPN product in the three price points.

That will fit up to about a 95 decibel life.

I have a cousin wearing dynamo, the power ones, she said it made a world of difference. The dynamo you can't attach to your phone. She said that made a huge difference.

If you go back to that provider, make sure they know that there's a power aid in the OPN.

One more question.

AUDIENCE MEMBER: Mine was going to be similar to what Terri said.

It was about the profoundness, how poor is the hearing loss and comprehension.

I have a cochlear implant in one side. The other one is I have residual hearing. My old hearing aids, they don't do it. They just dashes specially in comparison to the cochlear implant.

I just wondered, will this --

I have basically on the -- this one is like not quite to the end, but will that type of hearing aid, is it a high power aid in the comprehension? And how much is it? That's my last question.

MR. DORF: It's high powered. There's no way I could dictate whether

it is going to reach you. There's some audiograms I see and think -- the person has worn high powered aids for a long time, and they're referred to in our peer group as power junkies, even though the power might not be providing as much benefit, they don't feel comfortable unless their heads are vibrating. That's an extreme.

There are people --

This hearing aid is not going to vibrate. It will give power and good clean sound. There's no way I can dictate that will reach you. That is trial and error for you to go through.

AUDIENCE MEMBER: We can try it, right?

MR. DORF: We encourage our accounts to absolutely provide you demonstrations, even to take home. Most of my accounts with know that we're comfortable in doing that. You could try before you buy.

Due respect to your question about price, I will not answer that price, because provider will provide it at a different price.

There are three levels of price points, a premium, advanced and entry. There's an OPN in each one of those.

It's really up to the provider to provide that price. I don't price share and I don't price fix, because that's illegal.

I want to thank you.

This has always blessed me.

MR. DORF: Thank you.

MARLA PEOPLES: We enjoyed this.

All of this background information on how we hear, how much the brain is involved, extremely interesting.

We appreciate that.

MR. DORF: My pleasure.

MARLA PEOPLES: We look forward to hearing more about your products as the years go on.

I didn't realize all of the functionality, the technology that's built into these. It's quite amazing.

MR. DORF: Yes. Thanks.

MARLA PEOPLES: Thank you very much.

Bob, we have 50/50 today, right?

>> Yeah. We have \$40. The winner gets \$20.

MARLA PEOPLES: Before that, I have a gift for you. We have a gift for you.

MR. DORF: Thank you. A red bag. I've always wanted a red bag. Thank you. That's awesome laugh half.

MARLA PEOPLES: There's a gift card and one of our mugs.

MR. DORF: Thank you. The red bag would have been enough, truthfully.

"This text is being provided in a rough draft format. Communication Access Realtime Translation [CART] is provided in order to facilitate communication accessibility and may not be a totally verbatim record of the meeting."

MARLA PEOPLES: Okay. The winning ticket, the last three numbers are 6-5-1.

[APPLAUDING]

MARLA PEOPLES: Great. We hope you enjoyed this meeting.

It's great you came out and joined us today.

We asked if you enjoyed the meeting.

We ask that you -- we have rent.

We pay for this room every month \$40. If you like to contribute towards that, we appreciate it.

This month we had a generous check donated from a member for our rent. We are appreciative of that.

Thank you.

We look forward to seeing you next month.

[APPLAUDING]

(End of meeting)