

1           12/06/03 MEETING HELD AT CDHH,  
2           CAPTIONING NOTES:  
3           >>: TESTING TESTING. IS IT  
4           WORKING WELL FOR EVERYONE?  
5           >>: IT'S NOT WORKING.  
6           >>: WELL, MR. TROUBLESHOOTER.  
7           >>: IT HELPS IF YOU GIVE IT A  
8           LITTLE BIT OF JUICE. IS THIS CLOSE  
9           ENOUGH FOR EVERYONE?  
10          >>: AM I INPUT ONE OR TWO?  
11          >>: I DON'T KNOW.  
12          >>: TESTING, TESTING.  
13          >>: THAT'S GOOD.  
14          >>: BETTER? TOO LOUD? WELL  
15          FIRST I WOULD LIKE TO WELCOME EVERYONE  
16          HERE.  
17          >>: STILL CAN'T HEAR YOU.  
18          >>: CAN YOU HEAR THIS AT ALL?  
19          >>: VAGUELY.  
20          >>: IF I LOOK AT YOU, I CAN  
21          READ YOUR LIPS.  
22          >>: WE HAVE CAPTION HERE FOR  
23          WHOEVER WOULD LIKE. ARE YOU COOL WITH  
24          THAT?  
25          OKAY. I WOULD LIKE TO INTRODUCE

1 MYSELF. MY NAME IS CAROL BURNS. I AM  
2 THE WISCONSIN WICC CHAPTER COORDINATOR.  
3 WE HAVE BEEN REVIVING THE GROUP OVER  
4 THE PAST YEAR OR SO. I'M VERY HAPPY  
5 TO HAVE YOU HERE AND VERY HAPPY THAT  
6 YOU CHOSE TO TAKE TIME OUT OF THIS BUSY  
7 HOLIDAY SEASON TO COME AND HEAR RUTH  
8 SPEAK TODAY.

9 WE'RE BLESSED TO HAVE RUTH  
10 TODAY. RUTH IS THE COORDINATOR OF THE  
11 KOSS COCHLEAR IMPLANT PROGRAM. DID I  
12 PRONOUNCE THAT RIGHT?

13 >>: YES.

14 >>: IT'S A COLLABORATIVE  
15 BETWEEN THE MEDICAL COLLEGE, FROEDTERT  
16 HOSPITAL, AND CHILDREN'S HOSPITAL OF  
17 WISCONSIN. THE MAIN THING IS WE ARE  
18 BLESSED TO HAVE RUTH WITH ALL HER  
19 LONG-STANDING EXPERIENCE TO SHARE WITH  
20 US IMPORTANT THINGS TO KNOW ABOUT THE  
21 MAPPING OR THE PROGRAMMING OF OUR  
22 IMPLANT PROCESSORS. I'M THRILLED TO  
23 HAVE HER HERE. BEFORE WE START, I JUST  
24 WANTED TO MENTION A COUPLE OF THINGS.  
25 I WON'T TAKE MUCH TIME.

1           THE FIRST THING IS IF YOU  
2   HAVEN'T BEEN HERE BEFORE, I THINK MOST  
3   OF YOU HAVE, THE RESTROOM IS DOWN THE  
4   HALLWAY TO YOUR LEFT, AND IT'S A UNISEX  
5   BATHROOM.

6           IN THE BACK WE HAVE TREATS FOR  
7   YOU. FEEL FREE DURING THE PRESENTATION  
8   IF YOU WANT TO GET WATER OR SOMETHING  
9   TO DRINK. I HAVE CUPS THERE. FEEL  
10  FREE TO DO THAT.

11           THE OTHER THING I WANTED TO  
12  MENTION, ON THE BACK TABLE I HAVE SOME  
13  BROCHURES THAT ARE REALLY WONDERFUL  
14  LITTLE TOOLS TO SHARE WITH PEOPLE THAT  
15  YOU MAY COME ACROSS. RUTH, I DON'T  
16  KNOW IF YOU'VE SEEN THIS?

17           >>: UH-HUH.

18           >>: THIS WAS A COLLABORATIVE  
19  EFFORT BETWEEN COCHLEAR AMERICA AND  
20  SHHH WHICH IS THE ORGANIZATION FOR HARD  
21  OF HEARING PEOPLE. MANY OF US WHO HAVE  
22  COME THROUGH THE SHHH ORGANIZATION  
23  LEARNED ABOUT THE COCHLEAR IMPLANTS AND  
24  HAVE BECOME A PART OF THE COCHLEAR  
25  IMPLANT COMMUNITY. I THINK ONE OF THE

1 BEST PRESENTATIONS THAT I'VE HEARD SO  
2 FAR HAS BEEN ONE WHERE WE TALKED ABOUT  
3 THE INTEGRATION OF ASSISTTIVE LISTENING  
4 DEVICES AND HOW THEY CAN BE COUPLED  
5 WITH THE COCHLEAR IMPLANTS. I THINK  
6 THAT IS A TOPIC SO MANY PEOPLE REALLY  
7 APPRECIATED AND I WOULD LIKE TO REPEAT  
8 THAT SOMETIME THIS COMING YEAR.

9           MEANWHILE, MANY OF YOU ARE GOING  
10 TO FROEDTERT FOR YOUR SERVICES, I'M NOT  
11 SURE. IF YOU'RE GOING ANYWHERE ELSE,  
12 FEEL FREE TO TAKE A COUPLE OF THESE  
13 BROCHURES. FEEL FREE TO CONTACT ME AND  
14 I CAN GET MORE FOR YOU. I WOULD REALLY  
15 LIKE TO SEE MORE OF THESE BE OUT IN THE  
16 COMMUNITY BECAUSE THIS ONE PARTICULARLY  
17 FOCUSES ON ELDERLY INDIVIDUALS, PEOPLE  
18 WHO ARE IN THEIR 60S AND 70S WHO MAY  
19 NOT THINK THEY'RE A CANDIDATE FOR THE  
20 IMPLANT. THIS ANSWERS A LOT OF  
21 QUESTIONS ABOUT IT. SO JUST KEEP THAT  
22 IN MIND.

23           ANOTHER POINT I WOULD LIKE TO  
24 SHARE WITH YOU IS THAT AT THE  
25 CONCLUSION OF OUR MEETINGS, THE

1       CAPTIONING MINUTES ARE GIVEN TO ME AND  
2       I POST THOSE UP ON OUR WEBSITE.  SO IF  
3       YOU EVER WANT TO GO BACK AND I BELIEVE  
4       THE ASSISTTIVE LISTENING DEVICE  
5       CAPTIONING MINUTES ARE THERE.  IT'S A  
6       LONG READ.  IT'S DIFFICULT BUT IF  
7       YOU'RE LOOKING FOR SOME INFORMATION,  
8       YOU MIGHT BE ABLE TO FIND IT THERE.

9               THIS MEETING WILL ALSO -- WITH  
10       RUTH'S OKAY.

11               >>:  THAT'S FINE.

12               >>:  THE CAPTION NOTES WILL ALSO  
13       BE POSTED.  I'M FINDING THIS IS A  
14       USEFUL TOOL FOR THOSE PEOPLE WHO CALL  
15       ME AND SAY I CAN'T MAKE IT.  CAN YOU

16       GIVE ME SOME NOTES?  THESE ARE ON THE  
17       WEBSITE.

18               >>:  WHAT IS YOUR WEBSITE?

19               >>:  THE WEBSITE IS  
20       WWW.WICI.ORG, AND IT SHOULD BE HERE ON  
21       THE CAPTIONING.  THAT'S BASICALLY WHAT  
22       I HAVE TO SHARE WITH YOU AND AFTER RUTH  
23       IS DONE PRESENTING, WE'LL TALK ABOUT  
24       WHEN OUR NEXT MEETING MIGHT BE.  WE'LL  
25       GET THAT TAKEN CARE OF BEFORE DONNA

1 LEAVES TODAY. WELCOME, RUTH.

2 >>: I ASKED IF YOU COULD SEE

3 WHEN I WAS SITTING DOWN. LET'S SEE IF

4 YOU CAN SEE WHEN I'M STANDING UP. WHAT

5 I WOULD PREFER THAT IF A QUESTION COMES

6 TO MIND AS I'M GOING ALONG, WE STOP

7 RIGHT THERE.

8 >>: CAN'T HEAR YOU.

9 >>: HOW ABOUT THAT?

10 >>: YES.

11 >>: OKAY. NOW I SOUND LIKE I'M

12 YELLING. I'LL TONE IT DOWN A BIT. IF

13 YOU'VE GOT A QUESTION, GO AHEAD AND ASK

14 IT AT THE TIME. IF I KNOW THAT WE'RE

15 GOING TO GET TO IT LATER, I WILL LET

16 YOU KNOW AND WE WILL KEEP GOING AND GET

17 TO IT AT THAT POINT.

18 I'M GOING TO BE TALKING ABOUT

19 HOW WE PROGRAM THE SPEECH PROCESSOR,

20 SOME OF THE VARIABLES WE LOOK AT AS

21 WE'RE PROGRAMMING AND SOME OF THE

22 OPTIONS WE HAVE.

23 AS CAROL SAID, I'M FROM THE KOSS

24 COCHLEAR IMPLANT PROGRAM. WE'RE A

25 COLLABORATION BETWEEN THE CHILDREN'S

1 HOSPITAL SO THE CHILDREN PHYSICALLY GO  
2 TO THE CHILDREN'S HOSPITAL BUILDING AND  
3 FROEDTERT AND THE MEDICAL COLLEGE AND  
4 THE ADULTS ARE ALL SEEN AT FROEDTERT IN  
5 THE CLINIC THERE.

6 DR. WACKYM IS THE DIRECTOR OF  
7 OUR PROGRAM. DR. FRIEDLAND IS ANOTHER,  
8 DR. FIRSZT IS THE DIRECTOR OF THE  
9 PROGRAM.

10 RIGHT NOW WE'VE GOT FIVE  
11 AUDIOLOGISTS. IF YOU'RE GOING TO  
12 FROEDTERT, YOU'RE PROBABLY SEEING LINDA  
13 AND FARAH IF YOU'RE AN ADULT. IF  
14 YOU'RE A CHILD, HILARY OR KATIE. AT  
15 THIS POINT IN TIME I SEE CHILDREN MORE  
16 THAN ADULTS. I'M KIND OF A SWING  
17 AUDIOLOGIST, DEPENDING WHERE THE NEED  
18 IS.

19 WE ALSO HAVE A RESEARCH PROGRAM  
20 IN PLACE. SOME OF YOU MAY BE COMING  
21 OVER AND PARTICIPATING IN SOME OF THE  
22 RESEARCH PROJECTS GOING ON. DR. RUNGE  
23 SAMULESON IS INVOLVED IN THE RESEARCH  
24 PROGRAM ITSELF. I'M GOING TO GO OVER  
25 SOME BASIC PROGRAMMING CONCEPTS FIRST.

1 THESE ARE THE AREAS WE'RE GOING TO TALK  
2 ABOUT AND WE'LL KIND OF GO FROM THERE.

3 THE FIRST IS AN ELECTRODE VERSUS  
4 A CHANNEL. WHEN YOU GOT YOUR IMPLANT,  
5 YOU GOT INFORMATION ABOUT HOW MANY  
6 ELECTRODES THE DEVICE HAD. THE  
7 ELECTRODE IS THE ACTUAL CONTACT THAT  
8 GETS IMPLANTED INTO THE COCHLEA. IT  
9 MAY VARY. HOW LARGE THE CONTACT IS,  
10 THE SPACING BETWEEN THE CONTACTS. THAT  
11 ALL HAS TO DO WITH THE PHYSICAL MAKEUP  
12 OF THE ELECTRODE ARRAY THAT IS  
13 IMPLANTED.

14 I JUST HAD TO SHOW YOU THIS  
15 BECAUSE IT'S JUST FUN TO BE ABLE TO  
16 SEE.

17 SO THERE'S THE ELECTRODE ARRAY  
18 GOING IN. YOU SEE EACH OF THESE  
19 ELECTRODES ALONG THE ARRAY SO THE  
20 SPACING AND THE POSITION OF WHERE THAT  
21 IS IN THE COCHLEA IS DEFINITELY ONE OF  
22 THE FACTORS. ALSO A FACTOR -- THIS IS  
23 THE CLARION HIGH FOCUS ARRAY AND THIS  
24 IS A CLOSE-UP VIEW. YOU HAVE THIS  
25 CONTACT RIGHT HERE THAT'S REALLY

1       SENDING OUT THE STIMULATION.

2               HERE ON THE NUCLEUS YOU CAN SEE  
3       THE CONTACTS.  FOR THE MED-EL DEVICE,  
4       IT'S HARD TO SEE BUT THE LITTLE BIT OF  
5       SILVER THERE.  THOSE ARE THE ACTUAL  
6       ELECTRODES AND THE ACTUAL CONTACTS THAT  
7       ARE THERE.

8               WHEN WE DO PROGRAMMING, THOUGH,  
9       WE ARE LOOKING AT A CHANNEL, NOT AN  
10      ELECTRODE.  AND THE CHANNEL IS THE PATH  
11      WITH WHICH THAT ELECTRODE IS GOING TO  
12      BE STIMULATED AND HOW WE STIMULATE.  SO  
13      AT TIMES WE MAY HAVE TWO ELECTRODES  
14      WORKING TO CREATE ONE CHANNEL.  AND WE  
15      TEND TO USE THE TERMS INTERCHANGEABLY  
16      SO WE MIGHT TALK TO YOU ABOUT A CERTAIN  
17      CHANNEL WE'RE GOING TO TURN OFF OR A  
18      CERTAIN ELECTRODE WE'RE GOING TO TURN  
19      OFF OR LET'S INCREASE THIS CHANNEL OR  
20      LET'S INCREASE THIS ELECTRODE.  FOR  
21      EVERY DAY PURPOSES, YOU DON'T HAVE TO  
22      THINK OF THEM AS BEING DIFFERENT.  YOU  
23      CAN THINK OF THEM AS BEING THE SAME.  
24      THERE REALLY IS A TECHNICAL DIFFERENCE.  
25               ONE OF THE THINGS WE'RE REALLY

1     LOOKING AT IN TERMS OF THE FUTURE IS  
2     HOW TO CREATE MORE EFFECTIVE CHANNELS  
3     SO THAT MIGHT BE SAY THROUGH BILATERAL  
4     IMPLANTATION YOU DOUBLE THE NUMBERS YOU  
5     HAVE. TALK ABOUT VIRTUAL CHANNELS AND  
6     SO USING, SAY, ELECTRODE "A" AND  
7     ELECTRODE "B" AND CREATING A CHANNEL  
8     THAT MIGHT BE IN BETWEEN THOSE TWO THAT  
9     IS NOT DEPENDENT -- THAT'S DIFFERENT  
10    THAN EACH OF THOSE ELECTRODES  
11    INDIVIDUALLY.

12            SO, NOW AS WE TALK ABOUT  
13    CHANNELS AND ELECTRODES, WE HAVE THE  
14    ACTIVE ONES OR THE ONES THAT ARE BEING  
15    USED IN YOUR PROGRAM. WE SOMETIMES  
16    DEACTIVATE OR TURN OFF A CHANNEL OR AN  
17    ELECTRODE AND IT MIGHT BE BECAUSE  
18    INCLUDING THAT SPECIFIC CHANNEL  
19    DECREASES THE QUALITY OF THE SOUND FOR  
20    YOU. IT MIGHT BE THAT THERE'S AN  
21    IMPEDENCE LEVEL THAT'S OUT OF RANGE OR  
22    OUT OF COMPLIANCE AND THAT WE DO NOT  
23    HAVE THE RIGHT AMOUNT OF -- THERE MIGHT  
24    BE A SHORT OR IT MIGHT BE OPEN AND IT'S  
25    JUST BETTER NOT TO HAVE IT IN THE

1 PROGRAM BOTH FOR QUALITY AND FOR SAFETY  
2 REASONS.

3 SOMETIMES WE'RE USING A CODING  
4 STRATEGY. SO YOU MIGHT HAVE 22  
5 CHANNELS BUT IT MIGHT BE USING A CODING  
6 CHANNEL THAT ONLY USES 12. THEN WE  
7 WOULD ONLY HAVE 12 ACTIVE CHANNELS FOR  
8 THAT CODING STRATEGY. OCCASIONALLY, WE  
9 HAVE A CHANNEL WHERE AS WE GET THE  
10 SOUND LOUDER AND WE'RE TURNING UP THE  
11 POWER, YOU'RE NOT HEARING IT ANY  
12 LOUDER. THERE IS NO GROWTH IN LOUDNESS  
13 IN IT. THAT'S AN INDICATION WE SHOULD  
14 TURN THAT CHANNEL OFF AND NOT USE IT.  
15 IT WILL NOT THEN TRANSMIT THE SIGNAL IN  
16 AN APPROPRIATE FASHION.

17 OCCASIONALLY YOU MIGHT GET SOME  
18 NON-AUDITORY SENSATION. FOR EXAMPLE,  
19 YOU MIGHT FEEL SOMETHING NEAR YOUR EYE  
20 OR IN YOUR JAW, IT'S IN ADDITION TO  
21 WHAT YOU'RE GETTING AUDITORY OR INSTEAD  
22 OF. SOMETIMES IF WE GET UP TO A  
23 CERTAIN LEVEL AND YOU START TO FEEL  
24 SOMETHING RATHER THAN HEAR IT, WE CAN  
25 SET THE CHANNEL JUST BELOW THAT AND

1 THAT WILL BE JUST FINE AND WORK WELL.

2 OTHER TIMES, WE REALLY NEED TO

3 TURN IT OFF. ALTHOUGH IT DOESN'T DO

4 ANY HARM TO CAUSE THAT KIND OF

5 STIMULATION, EVERYONE INVOLVED WOULD

6 PREFER TO HAVE THAT NOT HAPPENING SO WE

7 TURN IT OFF. SOMETIMES WE TURN OFF A

8 CHANNEL SPECIFICALLY TO GET THE RATE OF

9 STIMULATION AND HOW QUICKLY THE

10 PROCESSING OCCURS TO GO FASTER. TO

11 STIMULATE OVER 12 CHANNELS CAN HAPPEN

12 MUCH MORE QUICKLY THAN 22 CHANNELS.

13 SOMETIMES IT'S IMPORTANT TO INCREASE

14 THE SPEED. SO THAT'S ANOTHER REASON WE

15 MIGHT TURN OFF AN ELECTRODE OR CHANNEL.

16 WHEN YOU COME IN, WHAT WE ARE

17 DOING, WHAT WE CALL IT IS

18 PSYCHOPHYSICS. WHEN YOU'RE HOOKED UP

19 THROUGH THE INTERFACE UNIT -- WE'VE GOT

20 THE COMPUTER HERE AND INTERFACE UNIT

21 THAT'S CONNECTED TO THE PROCESSOR

22 THAT'S CONNECTED TO YOUR HEAD SET AND

23 WHEN WE DO THAT IT'S CALLED

24 PSYCHOPHYSICS.

25 WHEN WE'RE DOING PSYCHOPHYSICS,

1 THE FIRST THING WE OFTEN DO IS TRY TO  
2 FIND A THRESHOLD. THAT'S WHEN YOU'RE  
3 HEARING THE BEEPS ON A SINGLE CHANNEL  
4 AND WE'RE LOOKING FOR THE SOFTEST LEVEL  
5 THAT YOU HEAR THAT. WE ALSO LOOK FOR A  
6 COMFORT LEVEL. WHAT THAT'S CALLED  
7 VARIES DEPENDING ON THE SPECIFIC DEVICE  
8 THAT YOU'RE USING. IT MIGHT BE A "C"  
9 LEVEL, AN "M" LEVEL OR "MCL" LEVEL.  
10 VERY CONFUSING FOR US SOMETIMES TO  
11 FIGURE OUT WHAT DOES THE COMPANY MEAN  
12 WHEN THEY'RE USING THOSE LEVELS  
13 INTERCHANEABLY. PROBABLY DO LOUDNESS  
14 SCALING.

15 THE THRESHOLD IS THAT LOWEST  
16 LEVEL THAT WE NEED IN ORDER TO HAVE YOU  
17 HEAR IT. BUT AGAIN, DEPENDING ON THE  
18 DEVICE THAT YOU HAVE, IT MIGHT BE SET  
19 TOTALLY DOWN TO ZERO SO MAYBE YOU START  
20 TO HEAR AT 25 BUT FOR THE CODING  
21 STRATEGY WE'RE USING -- WE'RE GOING TO  
22 GO AHEAD AND DROP IT DOWN TO ZERO  
23 BECAUSE IT MIGHT IMPROVE THE SOUND AND  
24 QUALITY. IT MIGHT BE SET AN ARBITRARY  
25 PERCENTAGE. A COUPLE WE SET THAT

1 THRESHOLD LEVEL 10 PERCENT OF THE  
2 HIGHER COMFORT LEVEL OR IT MAY BE AT  
3 ANOTHER LEVEL. IT MIGHT BE IMPORTANT  
4 FOR YOUR CODING STRATEGY THAT YOU  
5 ABSOLUTELY HEAR THAT SOFTEST LEVEL SO  
6 WE MAY ASK YOU HOW MANY TIMES DO YOU  
7 HEAR THE BEEP? IT'S A COUNTED  
8 THRESHOLD. WE WANT TO KNOW NOT THAT  
9 YOU JUST DETECT IT BUT THAT YOU HEAR IT  
10 WELL ENOUGH TO KNOW HOW MANY TIMES  
11 YOU'RE HEARING THE SIGNAL.

12 PARTLY I SAY THIS BECAUSE AS YOU  
13 TALK TO EACH OTHER, YOU MIGHT FIND THAT  
14 THINGS ARE DONE DIFFERENTLY AND THERE'S  
15 SOMETIMES REASONS OTHER THAN JUST MY  
16 OWN PERSONAL PREFERENCES AS AN  
17 AUDIOLOGIST BUT THERE ARE DIFFERENT  
18 APPROACHES WE USE IN ORDER TO COME UP  
19 WITH THE BEST PROGRAM FOR YOUR DEVICE.

20 THE COMFORT LEVEL IS A LOUDER  
21 LEVEL. IT'S ONE THAT YOU WOULD SAY IS  
22 EITHER AT A MOST COMFORTABLE LEVEL OR  
23 WE MAY SET IT AT A LEVEL WHERE YOU SAY  
24 IF YOU GET ANY HIGHER THAT'S GOING TO  
25 BE TOO LOUD SO A MAXIMUM LEVEL OF

1 COMFORT.

2 AND THAT AGAIN DEPENDS ON THE  
3 IMPLANT DEVICE THAT YOU HAVE IN TERMS  
4 OF WHICH APPROACH WE TAKE FOR SETTING  
5 IT. THE OTHER THING IS THAT THE LEVEL  
6 THAT WE SET DURING PSYCHOPHYSICS SO  
7 LET'S SAY THAT UPPER LEVEL OF COMFORT  
8 IS AT 190, THEN IT MAY BE WHEN WE MAKE  
9 THE WHOLE MAP AND TURN IT ON WITH  
10 SPEECH, THAT MAY BE TOO LOW OR IT MAY  
11 BE A LITTLE BIT TOO HIGH SO WHERE WE  
12 END UP SETTING IT IN YOUR MAP MAY NOT  
13 BE THE SAME AS WHAT YOU PERCEIVE ON  
14 SPECIFIC INDIVIDUAL CHANNELS.

15 THIS IS THE LOUDNESS SCALING.  
16 THERE'S A LOT OF DIFFERENT CARDS AND A  
17 LOT OF DIFFERENT SYSTEMS. AS WE GO  
18 THROUGH, WE'RE ASKING YOU TO TELL US  
19 HOW LOUD THE SOUND IS. THAT LETS US  
20 KNOW THERE IS A GROWTH IN LOUDNESS,  
21 WHICH IS IMPORTANT. IT LETS US KNOW  
22 HOW FAST THAT GROWTH IN LOUDNESS OCCURS  
23 WHICH MAY BE A FACTOR IN WHAT WE LOOK  
24 AT FOR A SPECIFIC CHANNEL AND HOW WE  
25 SET IT AND THEN IT LETS US KNOW WHEN

1 WE'RE STARTING TO GET UP TO THAT  
2 MAXIMUM COMFORT LEVEL OR WHEN WE'RE  
3 REALLY HITTING THAT MOST COMFORTABLE  
4 LEVEL, AGAIN DEPENDING ON WHAT OUR GOAL  
5 IS.

6 WITH CHILDREN, WE USE SOMETHING  
7 LESS SOPHISTICATED AND WE ACTUALLY WITH  
8 THE KIDS WE ALMOST ALWAYS -- WE COVER  
9 THIS UP OR WE ADD ONE THAT SAYS ALMOST  
10 TOO LOUD. BECAUSE WE REALLY WANT TO  
11 KNOW BEFORE IT GETS TO BE LOUD AND IT  
12 DOES NOT GO FROM ZERO TO TOO LOUD YOU  
13 KNOW. WITH EVEN YOUNGER CHILDREN WE  
14 MIGHT JUST HAVE THEM SAY SOFT OR FINE.  
15 IT'S STILL HELPFUL TO GIVE US THAT  
16 INFORMATION.

17 SO THRESHOLD AND COMFORT LEVEL  
18 ARE LOUD -- ARE THE WAY YOU PERCEIVE  
19 THAT IS IN LOUDNESS AND HOW LOUD IT IS  
20 DEPENDS ON THE ELECTRICAL CHARGE. SO  
21 WITH AN ELECTRICAL CHARGE WE HAVE THIS  
22 BIPHASIC SO IT'S GOT TWO PHASES UP AND  
23 DOWN THIS IS A REPRESENTATION OF THE  
24 CURRENT PULSE ITSELF AND THAT IS HOW  
25 MUCH CHARGE IS BASED ON THIS AMPLITUDE

1 OR THE HEIGHT AND THE PULSE WIDTH AND  
2 THE WIDTH ACROSS THERE SO IF THIS IS  
3 OUR ORIGINAL SIGNAL, THIS WILL MAKE IT  
4 LOUDER BECAUSE WE INCREASE THE  
5 AMPLITUDE AND AS WE TALK ABOUT THE  
6 NUMBER GOING UP, I DON'T KNOW IF YOU  
7 SOMETIMES HEAR US TALK ABOUT THE NUMBER  
8 THAT WE'RE AT AS THE NUMBER GOES UP,  
9 THAT'S AN AMPLITUDE INCREASE. WE CAN  
10 ALSO INCREASE THE PULSE WIDTH OR  
11 SOMETIMES IT'S CALLED THE PULSE  
12 DURATION THAT YOU ALSO HEAR AS LOUDER  
13 OR OF COURSE WE CAN DO BOTH.

14 WE HAVE DEFAULTS THAT WE START  
15 WITH. WE HAVE RECOMMENDATIONS FROM THE  
16 COMPANY AS TO WHERE TO START. BUT IF  
17 WE CANNOT GET IT TO SOUND LOUDER AS WE  
18 GO UP, WE NEED TO FIND OTHER WAYS TO  
19 MAKE THAT HAPPEN AND WE HAVE THIS KIND  
20 OF CONTROL TO BE ABLE TO DO THAT.

21 SO BASED ON THE INFORMATION THAT  
22 YOU TELL US, WE WILL BE MAKING  
23 DECISIONS ABOUT THE AMPLITUDE AND THE  
24 PULSE WIDTH FOR A SPECIFIC CHANNEL OR  
25 FOR ALL OF THE CHANNEL UNIFORMLY.

1           THE OTHER THING YOU PROBABLY  
2       HEARD MORE THAN ELECTRICAL CHARGE YOU  
3       HAVE BEEN TALKING ABOUT WITH AN  
4       AUDIOLOGIST IS SPEECH CODING STRATEGY.  
5       WITH A NUMBER OF DEVICES THERE'S A  
6       CHOICE OF SPEECH CODING STRATEGY THAT  
7       WE LOOK AT.   TYPICALLY WE HAVE A  
8       DEFAULT, A RECOMMENDATION FROM THE  
9       COMPANY.   MOST PEOPLE LIKE STRATEGY "A"  
10      OR DO BEST WITH STRATEGY "A" AND SO WE  
11      WILL START WITH THAT.   IF WE'RE NOT  
12      GETTING WHAT WE NEED, WE MAY TRY A  
13      DIFFERENT STRATEGY.

14           BUT IT'S HOW IT IS WHAT I CALL  
15      MAGIC THAT OCCURS TO TAKE AND TRANSFORM  
16      IT TO ELECTRICAL THAT CAN BE  
17      TRANSMITTED TO THE COCHLEA.   THE  
18      COCHLEA DOES TRANSFER TO AN ELECTRIC  
19      ONE.   WHEN IT CAN'T DO THAT BECAUSE OF  
20      THE SENSORY NEURAL HEARING LOSS THE  
21      IMPLANT MAKES THAT TRANSITION INSTEAD.  
22      OUR GOAL IS TO GET OPTIMAL SPEECH  
23      UNDERSTANDING.   THESE ARE THE DIFFERENT  
24      STRATEGIES BY DEVICES.   PROBABLY ONE  
25      THING ALSO TO BE AWARE OF IS THAT

1     ALTHOUGH THESE ALL HAVE A CIS STRATEGY,  
2     THEY ARE ALL NOT THE SAME.  THEY ARE  
3     SORT OF GENERAL NAMES AND THEY'RE NOT  
4     IDENTICAL AT ALL.

5             ANOTHER FACTOR IS RATE.  I  
6     MENTIONED EARLIER WE MIGHT TURN OFF A  
7     CHANNEL IN ORDER TO INCREASE THE RATE  
8     AND WE'VE GOT A COUPLE OF THINGS.  THE  
9     STIMULATION OR REPETITION RATE IS THE  
10    RATE THAT A SPECIFIC CHANNEL IS  
11    STIMULATED.  SO YOU HAVE ONE CHANNEL  
12    BEING STIMULATED, THAT'S A RATE.  BUT  
13    THEN WE HAVE A TOTAL STIMULATION RATE  
14    WHICH IS THE RATE PER CHANNEL TIMES THE  
15    NUMBER OF POSSIBLE CHANNELS.  SO THAT  
16    ENDS UP BEING SOMETIMES OBVIOUSLY A  
17    LARGER NUMBER AND A FASTER RATE.

18            WHEN YOU ARE LOOKING AT  
19    MARKETING INFORMATION AND THEY TALK  
20    ABOUT RATE AND THEY THROW OUT NUMBERS,  
21    THEN IT'S SORT OF IMPORTANT TO KNOW  
22    WHAT ARE THEY TALKING ABOUT.  ARE THEY  
23    TALKING ABOUT THE TOTAL STIMULATION  
24    RATE OR ARE THEY TALKING ABOUT THE RATE  
25    OR REPETITION RATE FOR A SPECIFIC

1 CHANNEL?

2 ALSO, IF WE -- LET ME SEE IF  
3 THIS WILL GO BACK. OKAY. IF WE  
4 INCREASE THE PULSE WIDTH OR PULSE  
5 DURATION HERE, THAT'S GOING TO SLOW  
6 DOWN THE RATE. SO THERE'S SOMETIMES  
7 THINGS IN THE MARKETING WHEN THEY TALK  
8 ABOUT A RATE, THEY ARE TALKING ABOUT AN  
9 IDEAL RATE UNDER IDEAL CIRCUMSTANCES.  
10 THEY ARE NOT TALKING NECESSARILY ABOUT  
11 THE RATE THAT YOU WILL HAVE BECAUSE  
12 THAT MAY BE CHANGED BASED ON A NUMBER  
13 OF OTHER VARIABLES.

14 I WANT TO GO THROUGH KIND OF  
15 DEPENDS ON WHAT DEVICE YOU HAVE. I  
16 WANT TO GO THROUGH WHAT THE SCREEN IS  
17 THAT WE LOOK AT WHEN WE DO THE  
18 PROGRAMMING AND TALK A LITTLE BIT ABOUT  
19 THAT. THAT IS FOR THE CLARION HIGH  
20 RESOLUTION SOFTWARE PROGRAM THAT WE  
21 USE. ALONG HERE YOU SEE THE CHANNEL  
22 NUMBERS. ONE THROUGH 16. ALONG HERE  
23 ARE THE FREQUENCY BOUNDARIES. FOR ALL  
24 THE DEVICES THEY'RE GOING TO CODE A  
25 FREQUENCY RANGE AND THEY WILL DIVIDE

1 THAT INTO BANDS THAT EACH CHANNEL IS  
2 RESPONSIBLE FOR A SPECIFIC PART OF THAT  
3 RANGE. IF WE HAVE TO DEACTIVATE A  
4 CHANNEL, THEN EACH BAND GETS A LITTLE  
5 BIT WIDER AND MAKES UP FOR THE ONE  
6 MISSING YOU STILL GET THE SAME OVERALL  
7 RANGE BEING CODED.

8 THEN HERE IS THE THRESHOLD. THIS  
9 IS A PICTURE VIEW FOR US AS WE'RE  
10 WORKING SO WE CAN KIND OF SEE WHERE IT  
11 IS BUT THE ACTUAL NUMBER IN TERMS OF  
12 CLINICAL UNITS IS ALONG THE BOTTOM AND  
13 SO FOR THIS, THIS MIGHT BE THE SOFTEST  
14 LEVEL THAT YOU HEARD THE SOUND OR  
15 ACTUALLY FOR THIS PROGRAM, IT HAVE BEEN  
16 SET AT A LEVEL BELOW WHICH YOU HEARD  
17 THE SOUND, WHICH IS THE APPROPRIATE WAY  
18 TO DO IT WITH THE HIGH RESOLUTION.

19 AND THEN THIS IS THE COMFORT  
20 LEVEL. SO HERE IT HAS AN "M" FOR THIS  
21 DEVICE IT'S A MOST COMFORTABLE  
22 LISTENING LEVEL. EACH OF THESE SHOULD  
23 BE SET AT A LEVEL THAT YOU WOULD THINK,  
24 YES I CAN LISTEN TO THAT FOR A LONG  
25 PERIOD OF TIME. THAT WOULD BE FINE.

1           AS YOU SEE, WHAT WE SEE IS A  
2   VERY FLAT THRESHOLD. WE SEE A LITTLE  
3   BIT MORE VARIATION IN THE COMFORT  
4   LEVELS. THAT'S PRETTY NORMAL IN TERMS  
5   OF THE DEVICES THAT ARE AVAILABLE NOW  
6   THAT WE'RE WORKING WITH.

7           THEN NUCLEUS UP HERE YOU SEE THE  
8   CHANNELS. NOW NOTICE THIS GOES FROM 22  
9   TO ONE INSTEAD OF ONE TO 16 SO WHEN --  
10   LET ME GO BACK. HERE. FOR THIS,  
11   CHANNEL ONE CODES THE LOWEST FREQUENCY  
12   INFORMATION. CHANNEL 16 CODES THE  
13   HIGHEST FREQUENCY INFORMATION. FOR THE  
14   NUCLEUS, IT'S THE OTHER WAY AROUND.  
15   THE HIGHER THE NUMBER, THE LOWER THE  
16   PITCH. THIS IS CODING BETWEEN 120 AND  
17   280 IN THE LOW PITCH RANGE THEY DO  
18   WHICH HELPS US THEY START LOW ON THE  
19   LEFT AND HIGH ON THE RIGHT. BECAUSE,  
20   AGAIN, IF YOU'RE TALKING TO OTHER  
21   PEOPLE, THE NUMBER THAT INDICATES THE  
22   FREQUENCY RANGE OF THE CHANNEL MAY WELL  
23   BE TOTALLY OPPOSITE OF THE NUMBERING  
24   SYSTEM THAT'S USED FOR YOUR DEVICE.

25           THEN HERE WE'VE GOT THE

1 THRESHOLD LEVELS. AGAIN, THIS IS IN A  
2 CLINICAL UNIT. AND A VISUAL FOR US.  
3 THE NUMBERING SYSTEM BETWEEN DIFFERENT  
4 SOFTWARES AND DIFFERENT COMPANIES IN  
5 TERMS OF THE AMOUNT OF ELECTRICAL POWER  
6 ALSO VARIES. THEY DON'T USE THE SAME  
7 NUMBERING SYSTEM. SO HERE 147 WITH  
8 NUCLEUS IS NOT COMPARABLE WITH CLARION.  
9 ARBITRARY NUMBERING UNITS SO WHAT WE  
10 KNOW IS THAT THIS 201 IS LOUDER THAN  
11 147. WHERE THOSE NUMBERS ARE IS NOT  
12 VERY IMPORTANT AT ALL AS LONG AS THIS  
13 THRESHOLD IS SET AT THE RIGHT KIND OF  
14 THRESHOLD AND THE COMFORT IS SET AT THE  
15 RIGHT KIND OF COMFORT.

16 SO IF SOMEBODY HAS A PROGRAM  
17 THAT LOOKS LIKE THIS AND SOMEBODY ELSE  
18 HAS ONE THAT LOOKS IS LOWER THAN THAT,  
19 THEY MAY BOTH HEAR EQUALLY WELL. IT  
20 ISN'T THAT ONE LOOKS BETTER THAN THE  
21 OTHER. IT'S DOES THAT FIT YOU AND DOES  
22 IT SOUND RIGHT FOR YOU IS THE CRITICAL  
23 PIECE OF INFORMATION.

24 >>: IS IT AN INDICATION OF HOW  
25 MUCH POWER YOU NEED IN ORDER TO HEAR AT

1 THOSE LEVELS?

2 >>: YES, AND IT WILL AFFECT  
3 YOUR BATTERY LIFE. THE QUESTION WAS,  
4 IS IT AN INDICATION OF HOW MUCH POWER  
5 YOU NEED TO HEAR? AND YES, IT IS. IF  
6 THESE LEVELS ARE LOWER, IT'S TAKING  
7 LESS POWER. IF THEY'RE HIGHER, THEY'RE  
8 TAKING MORE POWER. THAT WILL AFFECT  
9 LIFE. LESS WITH MED-EL THAN CLARION  
10 AND NUCLEUS.

11 THE MED-EL PROGRAMMING SCREEN.  
12 THEY GIVE US THE VISUALS TOO. WE  
13 TOGGLE BACK AND FORTH BETWEEN TWO  
14 SCREENS. THIS ONE SHOWED MORE THE --  
15 HERE ARE THE CHANNEL NUMBERS ONE  
16 THROUGH 12. THIS SHOWS THE CENTER  
17 FREQUENCY. WE HAVE A RANGE OF  
18 FREQUENCY HERE.

19 THRESHOLD, OKAY. I REALIZED  
20 WHEN I WAS DOING THIS YESTERDAY, I  
21 THOUGHT I HAD A REAL MAP UP HERE AND I  
22 DON'T. THIS IS A DEFAULT. THEY'RE ALL  
23 SET TO TWO. THE NUMBERS DO MEAN  
24 SOMETHING. THIS IS NOT A REAL MAP.  
25 YOU WOULD NOT HEAR ANYTHING WITH IT.

1 IT'S JUST A STARTING MAP TO GO FROM.  
2 BUT STILL THE NUMBERS WOULD BE THERE IN  
3 CLINICAL UNITS AND THE COMFORT LEVELS.  
4 FOR THE MED-EL IT'S IN A HIGHER LEVEL  
5 OF COMFORT. IN THE NUCLEUS -- THE  
6 CLARION SEND LOWEST LEVEL, NUCLEUS SUCH  
7 LOUDER AND MED-EL YOU PUSH A LITTLE BIT  
8 HIGH AS PERSON CAN DO WELL WITH IT.  
9 SO WE GO THROUGH AND WE COME UP  
10 WITH THESE THRESHOLDS AND COMFORTS AND  
11 DO THE LOUDNESS SCALING. THEN IF WE'RE  
12 GOING TO MAKE ADJUSTMENTS FROM THAT, WE  
13 USE A FEW OTHER TACTICS TO FIGURE OUT  
14 WHAT TO ADJUST. ONE IS AN AUDIOGRAM.  
15 THIS IS THE AUDIOGRAM WE'RE LOOKING  
16 FOR. THIS IS -- IT MIGHT BE --  
17 ESPECIALLY WITH SOME ADULTS, IT MIGHT  
18 BE CLOSER TO 30 OR 35. IF THOSE ARE  
19 THE LEVELS, THE THRESHOLD LEVELS THAT  
20 YOU'RE HEARING WHEN WE PUT YOU IN THE  
21 BOOTH IS WORSE THAN 35, IF IT'S DOWN  
22 THERE AT 40, THEN WE DEFINITELY WANT TO  
23 BE MAKING SOME CHANGES BECAUSE IF YOU  
24 CANNOT HEAR THE SPEECH, WE KNOW YOU'RE  
25 NOT GOING TO UNDERSTAND IT. AND THAT

1 GIVES US AN INDICATION, ARE YOU EVEN  
2 HEARING IT AT A LEVEL YOU SHOULD HEAR  
3 IT.

4 TYPICALLY, IT'S ABOUT 25 AND 30  
5 IS WHERE MOST PEOPLE THAT ARE DOING  
6 WELL WITH THEIR PROGRAMS THAT WE HAVE  
7 AN AUDIOGRAM THAT WILL SHOW UP AT THOSE  
8 LEVELS.

9 THIS IS AN INDIVIDUAL WHERE YOU  
10 SEE WE HAVE MOST OF THEM HERE AND IT'S  
11 ACTUALLY AT 35. YOU SEE HOW IT DROPS  
12 OFF IN THE HIGH PITCHES. THIS IS AN  
13 INDIVIDUAL WHO TOOK A WHILE TO GET USED  
14 TO HEARING THE HIGH PITCH SOUNDS. I  
15 THINK THAT'S PROBABLY TRUE FOR MOST  
16 ADULTS ANYWAY.

17 WHEN THEY'RE FIRST GETTING THE  
18 IMPLANT IT TAKES AWHILE TO GET USED TO  
19 THE HIGH PITCH SOUND. THOSE ARE THE  
20 SOUNDS USUALLY YOU HAVEN'T HEARD FOR  
21 THE LONGEST. YOU HAVEN'T HAD THE  
22 ANNOYING CRUNKLING OF PAPER AND  
23 SWISHING OF CLOTHES. THAT'S BEEN  
24 WEEDED OUT FOR YOU. ALL OF A SUDDEN WE  
25 BRING IT BACK AGAIN AND IT CAN DRIVE

1 YOU CRAZY.

2 WE TRY TO EASE INTO IT A BIT.

3 THIS IS ONE WE WORKED PRETTY HARD. BY  
4 THE TIME OF THAT TWO YEAR APPOINTMENT,  
5 THIS IS WHERE HE WAS REALLY LIKING HIS  
6 PROGRAM AT, TWENTY-FIVE, ACROSS AND  
7 FELT GOOD ABOUT THAT. BASED ON THE  
8 AUDIOGRAM, WE KNEW WE NEEDED TO WORK  
9 MORE. WE KNEW WHICH CHANNELS TO WORK  
10 ON IN ORDER TO GET THE AUDIOGRAM UP TO  
11 THE PLACE WE WANTED TO HAVE IT.

12 IN ORDER TO DO THAT, WE MIGHT  
13 INCREASE OR REDUCE THE COMFORT LEVELS.  
14 ONE WOULD THINK THAT IF YOUR AUDIOGRAM  
15 IS NOT IDEAL, IF IT'S DOWN, THAT WE  
16 WOULD WANT TO RAISE THOSE COMFORT  
17 LEVELS. BUT SOMETIMES WE CAN KEEP  
18 GETTING IT -- IF WE OVERSHOOT IT, IT  
19 MAY BE THAT WE REALLY NEED TO BRING  
20 THEM DOWN RATHER THAN UP. SO IT IS  
21 SOMETIMES THE OPPOSITE OF WHAT WE THINK  
22 SHOULD HAPPEN IS WHAT SHOULD HAPPEN IN  
23 TERMS OF THAT PROGRAM.

24 TYPICALLY, IF WE'RE MAKING  
25 CHANGES TO THE COMFORT LEVELS, THEY'RE

1 EITHER IN THE HIGH FREQUENCY RANGE OR  
2 LOW FREQUENCY AND NOT THE MIDDLE SO  
3 MUCH BUT ON THE ENDS.

4           HOWEVER, WE CAN DO IF WE HAD  
5 THIS AUDIOGRAM VERY FLAT BUT IT WAS  
6 DOWN HERE AND ACTUALLY I HAD THAT ON  
7 WEDNESDAY WITH A CHILD, THEN WE CAN DO  
8 WHAT WE CALLED GLOBALLY INCREASING  
9 THOSE COMFORT LEVELS. SO WE HAVE  
10 WITHIN THE SOFTWARE A WAY TO JUST BRING  
11 THEM ALL UP A CERTAIN AMOUNT OVER TIME.

12           WE CAN ALSO ADJUST THE FREQUENCY  
13 BOUNDARIES. SO I TOLD YOU WE HAD  
14 BOUNDARIES FOR EACH OF THOSE CHANNELS.  
15 WE CAN WIDEN OR NARROW THE ENDS OF  
16 THOSE BOUNDARIES AND WE CAN ALSO  
17 DEPENDING ON THE SOFTWARE, WE CAN MAKE  
18 CHANGES WITHIN EACH BOUNDARY. SO IT  
19 MIGHT SHIFT EVERYTHING TO BE A LITTLE  
20 BIT HIGHER PITCH OR DROP IT TO BE A  
21 LITTLE LOWER PITCH USING THE SAME  
22 NUMBER OF CHANNELS.

23           THERE'S ALSO A GAIN SETTING.  
24 WHAT THE GAIN DOES IS IT GIVES A LITTLE  
25 BIT OF A BOOST BEFORE THE SIGNAL GETS

1 SENT ON TO A THROUGH TO A SPECIFIC  
2 CHANNEL. AGAIN, THIS IS SOMETHING  
3 WHERE ALL THREE OF THE COMPANIES AND  
4 ALL THE SOFTWARE HAS GAIN BUT IT WORKS  
5 DIFFERENTLY FOR EACH DIFFERENT -- EACH  
6 CODING STRATEGY IN EACH SYSTEM. BUT  
7 SOMETIMES WHAT WE MAY DO IS A HIGH  
8 FREQUENCY EMPHASIS WITH GAIN. WE DO  
9 THAT FAIRLY OFTEN WITH YOUNG CHILDREN.  
10 WE WANT THEM TO HEAR THOSE SOUNDS  
11 THEY'RE USING WHAT THEY HEAR TO DEVELOP  
12 LANGUAGE. WITH ADULTS WE MORE OFTEN  
13 THAN NOT DECREASE THE GAIN IN THE HIGH  
14 FREQUENCY BECAUSE YOU CAN'T TOLERATE  
15 THOSE HIGH PITCHED SOUNDS AND YOU WANT  
16 THEM MUFFLED A LITTLE BIT. YOU KNOW  
17 THE LANGUAGE.

18 THE OTHER THING IS THAT WE JUST  
19 FOR THE ESPRIT PROCESS SOURCE, THEY'RE  
20 NOW RECOMMENDING AN OVERALL INCREASE IN  
21 GAIN ON THOSE EAR LEVEL PROCESSORS TO  
22 HELP GET IMPROVED SPEECH UNDERSTANDING.

23 SO SOMETIMES WE'LL GET A  
24 RECOMMENDATION FROM THE COMPANY  
25 SPECIFICALLY FOR THAT. ANOTHER THING

1 THAT WE DO IS CALLED BALANCING WHERE  
2 WE'RE LOOKING AT TWO ADJACENT CHANNELS  
3 SOUNDING EQUALLY LOUD. THIS USED TO BE  
4 STANDARD. WE WORKED REALLY, REALLY  
5 HARD TO FIGURE OUT A WAY FOR CHILDREN  
6 TO DO IT. WE FELT LIKE THIS WAS ONE OF  
7 THE MOST IMPORTANT THINGS TO HAVE  
8 HAPPEN. WITH THE NEW WAY THAT THE  
9 CODING STRATEGIES ARE WORKING, IT'S  
10 MUCH LESS IMPORTANT. SO YOU MAY NOT  
11 HAVE EVER DONE THIS BUT IF WE'RE  
12 RUNNING INTO QUALITY ISSUES, THEN WE  
13 MIGHT GO BACK AND LOOK AT THIS. AND  
14 REALLY IT'S COMPARING -- PRESENTING A  
15 SIGNAL AT 80 PERCENT ON THIS CHANNEL  
16 AND THIS CHANNEL, BACK AND FORTH, AND  
17 SAYING, OKAY, WHICH ONE IS LOUDER? ARE  
18 THEY EQUALLY LOUD? AND MAKING THOSE  
19 FINE ADJUSTMENTS. IT'S A LOT LIKE WHEN  
20 YOU GO TO THE EYE DOCTOR. THEY'RE  
21 FLIPPING THE MACHINE BACK AND FORTH AND  
22 TYPICALLY MY IMPRESSION IS PATIENTS  
23 HATE DOING BALANCING. THEY GO "I DON'T  
24 KNOW. LET ME LISTEN TO IT AGAIN. I  
25 DON'T KNOW. LET ME LISTEN TO IT

1 AGAIN." THEY'RE A DIFFERENT PITCH.  
2 THEY'RE NOT THE SAME PITCH. IT MAKES  
3 IT A VERY DIFFICULT TASK.  
4 ANOTHER THING WE MIGHT DO IS  
5 CHANGE THE CODING STRATEGY. SO YOU  
6 MIGHT HAVE STARTED, LET'S SAY,  
7 COMPARING TWO CODING STRATEGIES  
8 INITIALLY, SHOWED A PREFERENCE FOR ONE.  
9 IT MAY BE THAT OVER TIME WE DECIDE  
10 YOU'RE NOT REALLY DOING QUITE AS WELL  
11 AS WE THOUGHT YOU SHOULD. LET'S GO  
12 BACK AND TRY THE OTHER CODING STRATEGY  
13 AGAIN. WE MIGHT TRY THAT.  
14 USUALLY ONCE YOU SETTLE ON A  
15 CODING STRATEGY OR ONCE WE START YOU  
16 WITH ONE, WE DO NOT CHANGE IT BECAUSE  
17 THAT'S A BIG CHANGE AND UNLESS WE HAVE  
18 A GOOD REASON, IT WILL SET YOU BACK AND  
19 YOU WILL HAVE TO RELEARN SOME THINGS.  
20 SO WE USUALLY DON'T MESS WITH THAT  
21 UNLESS WE THINK THERE REALLY EVENTUAL  
22 IMPROVEMENT WHICH DOES HAPPEN WHEN THEY  
23 CREATE NEW CODING STRATEGIES.  
24 WE DON'T WANT TO DENY YOU ACCESS  
25 TO SOMETHING THAT MIGHT BE BETTER JUST

1 BECAUSE THERE'S A TRANSITION TIME OR  
2 ANOTHER TIME THAT WE'VE CHANGED CODING  
3 STRATEGIES IS WITH SOME OF THE EAR  
4 LEVEL PROCESS SOURCE, WE'VE HAD TROUBLE  
5 WITH POWER USAGE. WE MIGHT HAVE  
6 SWITCHED TO ANOTHER CODING STRATEGY TO  
7 SEE IF YOU DO AS WELL BECAUSE IT TAKES  
8 LESS POWER. SO A REAL PRACTICAL  
9 REASON.

10 AGAIN, WE MAY MAKE ADJUSTMENTS  
11 TO TRY TO HELP YOU HEAR BETTER THROUGH  
12 CHANGING THE PULSE WIDTH OR PULSE  
13 DURATION ON ALL OR SOME CHANNELS. WE  
14 MAY TRY DEACTIVATING CHANNELS.  
15 PROBABLY THE MOST COMMON DEACTIVATION  
16 OF CHANNELS FOR QUALITY THAT WE DO ARE  
17 WITH THE MED-EL. I WOULD SAY AT LEAST  
18 HALF OF OUR USERS HAVE THE COUPLE OF  
19 THE HIGHEST PITCH TURNED OFF. WITH THE  
20 NUCLEUS THE MOST HIGH PITCH IS ALMOST  
21 ALWAYS TURNED OFF. THERE'S SOME THINGS  
22 THAT SOMETIMES HAPPEN AS A BASIC PART  
23 OF THE PROGRAMMING.

24 THEN THERE'S SOME ADDITIONAL  
25 THINGS THAT YOU HAVE CONTROL OVER OR WE

1 JOINTLY HAVE CONTROL OVER. ONE IS  
2 VOLUME. IF YOU'VE GOT A VOLUME  
3 SETTING, IF YOUR NOB OR CONTROL IS SET  
4 TO VOLUME WHAT THAT DOES WHEN YOU  
5 CHANGE IT, IT CHANGES THE COMFORT  
6 LEVEL.

7 AS YOU INCREASE THE VOLUME, IT  
8 INCREASES THE COMFORT LEVEL, AS YOU  
9 DECREASE IT DECREASES THE COMFORT  
10 LEVEL. YOU DON'T PERCEIVE THAT AS A  
11 CHANGE IN LOUDNESS. IT WILL SEEM  
12 LOUDER OR SOFTER. WE HAVE THE ABILITY  
13 USUALLY IN THE SOFTWARE TO LIMIT HOW  
14 MUCH THAT CAN GO UP AND GO DOWN. FOR  
15 EXAMPLE, WITH SOME OF THE EAR LEVEL  
16 PROCESS SOURCE, THE NOB MAY SEEM VERY  
17 SENSITIVE IF YOU BARELY TOUCH IT IT MAY  
18 SEEM LIKE A JUMP IN LOUDNESS. WE MIGHT  
19 LIMIT THE VOLUME CONTROL IF YOU TURN IT  
20 ALL THE WAY UP IT MIGHT INCREASE THE  
21 VOLUME 10 PERCENT OR DECREASE IT  
22 10 PERCENT SO IT'S A SMALLER ADJUSTMENT  
23 ON THE VOLUME CONTROL ITSELF.

24 WITH CHILDREN WE ALWAYS LIMIT  
25 IT. IF THEY CAN TELL US IT'S TOO LOUD

1 OR OFF, WE DON'T WANT THAT TO HAPPEN.

2 THE OTHER THING IS THE

3 MICROPHONE SENSITIVITY AND THAT IS

4 REALLY THE DISTANCE WITH WHICH THE

5 MICROPHONE WILL PICK UP SOUND. THAT IS

6 ALSO PERCEIVED AS A CHANGE IN LOUDNESS

7 BY YOU. IF YOU SET IT SO IT PICKS UP

8 FROM A GREATER DISTANCE, IT SOUNDS

9 LOUDER TO YOU. LOTS OF TIMES ADULTS

10 WILL DECREASE THAT MICROPHONE

11 SENSITIVITY IN A RESTAURANT OR NOISY

12 SITUATION WHICH MAKES SENSE. IF YOU'RE

13 SITTING AT A TABLE OF FOUR PEOPLE, YOU

14 WANT TO HEAR THOSE FOUR PEOPLE NOT

15 EVERYBODY IN THE RESTAURANT. YOU TURN

16 DOWN THE SENSITIVITY AND BRING IT IN.

17 WITH CHILDREN, THEY TEND TO LEARN TO DO

18 THAT THE SAME WAY A NORMAL HEARING

19 PERSON DOES. THEY MAKE THOSE

20 ADJUSTMENTS ON THEIR OWN WITHOUT

21 ADJUSTING THE SENSITIVITY TO THE

22 MICROPHONE.

23 WITH ADULTS, THIS IS PROBABLY

24 THE CONTROL THAT ADULTS USE MOST OFTEN

25 IS THE MICROPHONE SENSITIVITY CONTROL.

1 BUT YOU WOULD NEVER GET ME TO PLACE ANY  
2 BETS ON WHAT ANYBODY WOULD LIKE WITH  
3 THEIR MICROPHONE SENSITIVITY. PEOPLE  
4 DEVELOP VERY STRONG OPINIONS ABOUT  
5 WHERE THEY WANT IT SET. IT VARIES FROM  
6 ALL THE WAY ON TO ALL THE WAY DOWN.  
7 WITH CHILDREN, WE ASSIGN A SETTING. WE  
8 SAY THIS IS OPTIMAL. WE'LL LEAVE IT  
9 THERE. IT WORKS. WITH ADULTS, IT  
10 NEVER WORKS. IT'S ALWAYS BEING  
11 ADJUSTED.

12 SOMETHING ELSE YOU MAY HAVE  
13 HEARD ABOUT IS INPUT DYNAMIC RANGE.  
14 IT'S ANOTHER SOMETHING THAT WITH  
15 DIFFERENT DEVICES HAVE A DIFFERENT  
16 AMOUNT OF CONTROL ON. I WANTED TO TALK  
17 A LITTLE BIT ABOUT WHAT IT WAS. IT'S  
18 REALLY THE AMOUNT OF AUDITORY  
19 INFORMATION CODED IN THE ELECTRICAL  
20 RANGE. WITH THE COCHLEAR IMPLANT, YOU  
21 DO NOT GET ALL THE INFORMATION. THERE  
22 IS A LIMITED AMOUNT THAT YOU'RE GOING  
23 TO GET. WHAT HAPPENS IS ANYTHING BELOW  
24 THAT RANGE YOU DO NOT HEAR. ANYTHING  
25 ABOVE THAT RANGE GETS COMPRESSED DOWN

1 INTO THE RANGE SO THAT IT'S NOT TOO  
2 LOUD.

3 WITH NORMAL HEARING THIS FROM  
4 SOFT TO LOUD SOUNDS IS ABOUT 100 TO 12  
5 DECIBAL. THE GOAL IS TO GET  
6 120-DECIBAL TO DOWN TO 30-DECIBAL RANGE  
7 TO HAVE IT SOUND NORMAL. SORT OF LIKE  
8 GETTING AN ELEPHANT INTO A BOTTLE AND  
9 HAVING IT COME OUT NORMAL IN THE END.

10 THIS IS THAT INPUT DYNAMIC RANGE. THE  
11 SOUNDS HAVE TO GO THROUGH HERE IN ORDER  
12 TO GET INTO EVEN BEING CODED. THAT  
13 RANGE CAN BE SMALLER, IT CAN BE LARGER  
14 OR SMALLER. AND AS I SAID, ANYTHING  
15 BELOW THAT IS DISCARDED AND NOT PICKED  
16 UP. ANYTHING ABOVE THAT IS COMPRESSED  
17 DOWN INTO THAT RANGE.

18 THIS IS A GOOD THING. BECAUSE  
19 WITH THE FAN GOING, IF YOUR INPUT  
20 DYNAMIC RANGE IS TOO LOW THAN THAT FAN  
21 ON THE COMPUTER GETS TO BE PRETTY LOUD  
22 BECAUSE IT'S CODED IN HERE AS SORT OF A  
23 ABOVE SOFT LEVEL, IF THIS IS SET TO  
24 HIGH, YOU'RE GOING TO PICK UP THOSE  
25 SOUNDS THAT ARE REALLY NOT THAT HELPFUL

1 FOR UNDERSTANDING SPEECH. SO IT CAN BE  
2 AT A HIGH LEVEL HERE. IF WE GET IT TOO  
3 HIGH THOUGH WHAT HAPPENS IS YOU'RE  
4 MISSING THE SOFT LEVELS OF SPEECH.

5 IF WE GET IT TOO LOW, THE FANS  
6 DRIVE YOU CRAZY. YOUR SENSITIVITY  
7 DETERMINES WHERE THE LOWER END OF THAT  
8 INPUT DYNAMIC RANGE IS. AS YOU'RE  
9 ADJUSTING THE SENSITIVITY YOU'RE  
10 ADJUSTING WHERE THAT LEVEL OF SOUND IS  
11 LET IN.

12 THEN THE SOUND GETS MAPPED IN  
13 ALONG ON THOSE ELECTRODES FROM  
14 THRESHOLD UP TO COMFORT FOR THAT UPPER  
15 END OF COMFORT. BUT IT'S NOT MAPPED IN  
16 A LINE. IT'S A LOUDER SOUND UP TOWARD  
17 THE LOUDER END.

18 IT GETS TO BE WHY I CALL IT  
19 MAGIC BECAUSE IT GETS TO BE  
20 COMPLICATED. YOU HAVE ALL OF THESE  
21 THINGS WORKING TOGETHER AND SORT OF  
22 AFFECTING EACH OTHER. SOMETIMES WHEN  
23 WE'RE WORKING WITH YOU, WE TAKE THINGS  
24 PRETTY SLOWLY. WE MAKE AN ADJUSTMENT  
25 IN ONE AREA BUT NOT ALL AREAS AT ONCE

1 BECAUSE THEY MIGHT BE COUNTER  
2 PRODUCTTIVE OR IT COULD MAGNIFY -- THE  
3 GOAL IS TO GET CRITICAL SPEECH  
4 INFORMATION SO YOU CAN UNDERSTAND IT.  
5 THAT'S OBVIOUSLY WHAT EVERYBODY WANTS.  
6 SO HOW DO WE KNOW IF IT'S A GOOD  
7 MAP OR A GOOD PROGRAM? IF WE GET A  
8 SMILE LIKE THIS, THEN WE'RE FEELING  
9 PRETTY GOOD ABOUT IT. THERE'S SEVERAL  
10 WAYS THAT WE EVALUATE IT. ONE IS  
11 THROUGH DETECTION. WE'LL PUT YOU IN  
12 THE BOOTH AND GET AN AUDIOGRAM. THAT'S  
13 ONE WAY.  
14 WE MAY ALSO DO WHAT WE CALL LING  
15 SOUNDS AND SEE IF YOU CAN DETECT IT AH,  
16 OO, EE. A BIG ONE IS WHAT ARE YOU  
17 TELLING US. THE OTHER THING WE LIKE TO  
18 KNOW IS MAYBE WHAT YOUR SPOUSE HAS TO  
19 SAY ABOUT HOW YOU HEAR, WHAT OTHER  
20 PEOPLE THAT YOU WORK WITH HAVE TO SAY  
21 ABOUT HOW YOU HEAR.  
22 YOUR VOICE AND VOLUME AND VOCAL  
23 QUALITY ARE OFTEN A FACTOR. WE WANT  
24 ONCE SOMEONE IS WEARING THE PROCESSOR  
25 AND HAVE THINGS SET WELL, WE START TO

1 HEAR NORMAL FEEDBACK IN YOUR SPEECH AND  
2 YOUR PATTERN OF FLOW. IF THINGS GET A  
3 LITTLE BIT OFF, THAT MAY SHIFT BACK  
4 AGAIN TO HOW IT WAS BEFORE YOU WERE  
5 IMPLANTED.

6 THEN WE ALSO DO A LOT OF  
7 TESTING. WE DO TESTING WITH WORDS AND  
8 SENTENCES BOTH IN QUIET AND NOISE.  
9 WE'RE REALLY TRYING TO FIGURE OUT ARE  
10 YOU UNDERSTANDING THOSE WORDS AND  
11 SENTENCES AT A LEVEL WE WOULD EXPECT  
12 YOU TO GIVEN YOUR HEARING HISTORY, HOW  
13 LONG YOU'VE HAD YOUR IMPLANT, ET  
14 CETERA.

15 >>: DO YOU DO THESE DETECTION  
16 MEASURES RIGHT AFTER YOU CHANGE THE MAP  
17 OR DO YOU WAIT?

18 >>: IT DEPENDS. IDEALLY WE DO  
19 IT RIGHT AFTER WE CHANGE THE MAP.

20 >>: WHY?

21 >>: BECAUSE WITH THE DETECTION,  
22 IT DOESN'T TAKE TIME TO ADJUST TO. IF  
23 WE MAKE A CHANGE AND WE WANT TO KNOW IF  
24 THAT CHANGE WAS EFFECTIVE, WE WILL GET  
25 AN AUDIOGRAM TO FIND OUT. BUT WHAT WE

1 MAY GET IS WE MAY GET AN AUDIOGRAM THAT  
2 LOOKS PRETTY GOOD, INDICATES A FEW  
3 CHANGES NEED TO BE MADE, MAKE A FEW  
4 CHANGES AND DO SOME OTHER KINDS OF  
5 INTERACTION AND TESTING DECIDE IT'S  
6 OKAY NOW GO BACK, GET ANOTHER  
7 AUDIOGRAM.

8 WITH YOUNG CHILDREN, WE OFTEN  
9 DON'T GET ANOTHER AUDIOGRAM IF WE  
10 CAN'T. IF WE HAVE A CHILD THAT CAN  
11 GIVE US ONE GOOD AUDIOGRAM, WE WILL GET  
12 IT BEFORE MAKING THE CHANGES NOT AFTER.  
13 IT WILL TELL US WHAT CHANGES WE NEED TO  
14 MAKE. SOME CHILDREN CAN'T HANG IN FOR  
15 TWO AUDIOGRAMS. THE 12 MONTH 18 MONTH  
16 OLD WITH THINGS--

17 >>: HOW ABOUT TEN YEAR OLDS?

18 >>: TEN YEAR OLDS CAN DO IT.

19 SOME PEOPLE MAY TELL YOU GET SICK OF IT  
20 MAY HAVE HAVING FIVE AUDIOGRAMS IN ONE  
21 APPOINTMENT, MAKE CHANGES, COME BACK,  
22 MAKE MORE CHANGES. WE TYPICALLY GET AN  
23 AUDIOGRAM AT EVERY APPOINTMENT EXCEPT  
24 MAYBE A FEW. THE GENERAL RULE IS WE'RE  
25 GETTING AN AUDIOGRAM BECAUSE -- IT'S A

1 MEASURE OF DETECTION FOR US THAT'S  
2 CRITICAL THAT WE FEEL.

3 I WAS AT A MEETING A COUPLE  
4 WEEKS AGO WHEN SOMEONE WAS SAYING THEY  
5 DON'T GET AN AUDIOGRAM. BIG IMPLANT  
6 CENTER DON'T GET AUDIOGRAMS TYPICALLY.  
7 IT BROUGHT UP QUITE A BIT OF  
8 DISCUSSION. I WAS RELIEVED TO HEAR THE  
9 AUDIOLOGIST IN THE ROOM ALL STILL  
10 PLACED A REAL PRIORITY ON GETTING AN  
11 AUDIOGRAM. THE ARGUMENT WAS THE  
12 AUDIOGRAM DOESN'T TELL YOU ANYTHING  
13 ABOUT CLARITY. THAT'S TRUE. I COULD  
14 GIVE YOU TWO PROGRAMS ONE THAT YOU  
15 HEARD WELL WITH AND ONE YOU HEARD AWFUL  
16 WITH.

17 THE IDEA IS NOT THAT IT  
18 NECESSARILY BE THE FINAL WORD BUT IF  
19 YOU CAN'T DETECT THE "S "THEN YOU  
20 CANNOT USE THAT TO HELP UNDERSTAND  
21 SPEECH. IT'S IMPORTANT THAT YOU CAN  
22 UNDERSTAND THE WHOLE GAMBIT OF SPEECH.  
23 WITH CHILDREN WHO CAN'T TELL US ABOUT  
24 THE QUALITY THE AUDIOGRAM IS IS  
25 SOMETIMES THE MOST IMPORTANT THING WE

1 USE.

2 >>: HOW OFTEN ARE YOU USING THE  
3 SPEECH PERCEPTION? ONLY WHEN YOU THINK  
4 YOU NEED TO?

5 >>: WE TEND TO DO IT EVERY SIX  
6 MONTHS.

7 >>: BUT NOT BEFORE THAT?

8 >>: BUT NOT BEFORE THAT. WE  
9 MAY DO SOME. IT DEPENDS WHAT A PERSON  
10 CAN DO. THE QUESTION ABOUT WHY WOULD  
11 YOU DO IT IMMEDIATELY IS BECAUSE IF WE  
12 MAKE A CHANGE, THEN THAT MAY -- IT MAY  
13 TAKE SOME TIME TO ADJUST TO THE CHANGE.  
14 IF WE MAKE A CHANGE AND DO SOME  
15 PERCEPTION, THAT MAY NOT BE A GOOD  
16 INDICATOR OF POTENTIAL.

17 >>: BUT THE AUDIOGRAM IS.

18 >>: BUT THE AUDIOGRAM IS.  
19 THAT'S ONLY, DO YOU HEAR IT? SO IF YOU  
20 GET THIS AUDIOGRAM, LET'S SAY WE'RE  
21 WELL ESTABLISHED AND YOU HAD IN THE  
22 PAST, YOU'VE HAD THIS AUDIOGRAM. THIS  
23 IS WHAT WE'RE GETTING ON A REGULAR  
24 BASIS. YOU COME IN AND WE DO AN  
25 AUDIOGRAM AND IT LOOKS LIKE THIS.

1           I KNOW WE NEED TO MAKE SOME  
2           CHANGES TO GET THAT AUDIOGRAM BACK TO  
3           WHERE IT SHOULD HAVE BEEN. WE CAN DO  
4           THAT, PUT YOU IN THE BOOTH AND ASK YOU  
5           TO RAISE YOUR HANDS WHEN YOU HEAR IT  
6           AND I KNOW WHETHER WE'RE THERE OR NOT.  
7           WHEN I GIVE YOU WORDS AND SENTENCES,  
8           DOING REALLY UNDERSTANDING OF THE WORDS  
9           AND SENTENCES, THAT MAY REQUIRE SOME  
10          ADJUSTMENT TO THIS NEW SORT OF SOUND.

11          GIVEN THAT, ADULTS TEND TO WHEN  
12          WE MAKE A CHANGE THEY WILL SAY "OH,  
13          YES. THAT'S CLEAR." ALTHOUGH THERE MAY  
14          BE NEED TO BE TIME TOR ADJUSTMENT,  
15          THERE ARE CHANGES WE CAN MAKE THAT  
16          DON'T REQUIRE TIME THAT YOU KNOW  
17          IMMEDIATELY, YES, THAT TOOK AWAY THE  
18          GARGLE THAT I WAS HEARING. SO THERE'S  
19          SOME THINGS THAT REQUIRE TIME AND  
20          THERE'S SOME THINGS THAT WE CAN DEAL  
21          WITH IN TERMS OF THE PARAMETERS. BUT  
22          THAT'S WORKING WITH PEOPLE WHO KNOW  
23          WHAT HEARING IS AND KNOW WHAT THEY'RE  
24          TRYING TO MATCH.

25          CHILDREN, NUMBER ONE, DON'T GIVE

1 US THAT INFORMATION. THEY DON'T HEAR  
2 IT THAT WAY. THEY LEARN TO UNDERSTAND  
3 SPEECH THROUGH A SIGNAL AND BLESS THEIR  
4 HEARTS WITH A REALLY YOUNG CHILD WE CAN  
5 GIVE THEM A FAIRLY LIMITED PROGRAM AND  
6 THEY WILL LEARN HOW TO USE IT WELL  
7 BECAUSE THEIR BRAINS CAN DO WHAT WE  
8 CAN'T DO THROUGH THE MECHANICS.  
9 UNFORTUNATELY, ADULTS ARE BEYOND THE  
10 POINT OF HAVING THE BRAIN OVERCOME THE  
11 TECHNOLOGY AS WELL.

12 IT JUST IS MORE CHALLENGING TO  
13 LISTEN WITH AN IMPLANT IF YOU GET IT AS  
14 A CHILD.

15 >>: I ALWAYS THOUGHT THE  
16 CHILDREN DO SO MUCH BETTER THAN WE DO.

17 >>: CHILDREN JUST WILL MAKE UP  
18 FOR ANYTHING WE DON'T KNOW. IF WE GET  
19 THE IMPLANT IN YOUNG ENOUGH, THEY CAN  
20 DO IT.

21 SOME OF THE THINGS THAT WE --  
22 ONE OF THE REASONS WE DO THE TESTING IN  
23 THE BOOTH WITH THE WORDS, WORDS AND  
24 SENTENCES IS TO EVALUATE. WHETHER  
25 YOU'RE MAKING THE PROGRESS THAT WE

1 EXPECT YOU TO MAKE AND WHETHER YOU'RE  
2 MAINTAINING THE LEVEL WE EXPECT YOU TO  
3 MAINTAIN. IT'S SOMETIME AN IDENTIFIER  
4 OF A PROGRAMMING PROBLEM.

5           INITIALLY WITH A PROGRAM WHAT WE  
6 SEE IS TYPICALLY PEOPLE PREFER OTHER  
7 PEOPLE'S VOICES OVER THEIR OWN. THEY  
8 MAY WELL HAVE DIFFICULTY MONITORING  
9 THEIR OWN VOICE INITIALLY AND OFTEN  
10 YOU'VE BEEN TALKING THROUGH A HEARING  
11 AID FOR SO LONG THAT NOW YOU'RE GETTING  
12 DIFFERENT INPUT AND IT'S VERY  
13 CHALLENGING FOR A PERSON'S WITH THEIR  
14 OWN VOICE.

15           AGAIN, A SENSITIVITY, THOSE HIGH  
16 FREQUENCY SOUNDS I SAY IT IS THE NUMBER  
17 ONE COMPLAINT WE HEAR FROM ADULTS, TOO  
18 MUCH HIGH FREQUENCY. IMMEDIATELY  
19 PEOPLE NOTICE THEY DETECT SOUNDS AT A  
20 GREATER DISTANCE. GOSH, YOU KNOW, I  
21 HEARD THE PHONE RING FROM THREE ROOMS  
22 AWAY OR I HEARD A BIRD SINGING OUTSIDE,  
23 THAT KIND OF DIFFERENCE.

24           THERE ARE QUALITY PERCEPTIONS  
25 THAT EVENTUALLY CLEAR UP WITH TIME AND

1     ADDITIONAL PROGRAMMING.  SO INITIALLY  
2     NOBODY HAS A GOOD QUALITY.  IT IS  
3     IMPOSSIBLE TO GIVE SOMEONE A BEST  
4     QUALITY PROGRAM ON THE FIRST DAY.  
5     LET'S SAY WE GOT TO AN IDEAL PROGRAM  
6     AFTER TWO YEARS OF WORKING, WE GOT THIS  
7     GOOD PROGRAM.  IF WE HAD PUT THAT  
8     PROGRAM OUT ON THE FIRST DAY, IT WOULD  
9     HAVE SOUNDED AWFUL.  IT'S A COMBINATION  
10    OF AUDITORY TIME AND SYSTEM WORKING  
11    TOGETHER.

12            OVER TIME WHAT WE GENERALLY SEE  
13    IS A GREATER INCREASE FOR TOLERANCE FOR  
14    COMFORT LEVELS.  SPEECH PERCEPTION IS  
15    THE BIGGEST FACTOR.  IMPLANT  
16    PERFORMANCE IS THE LENGTH OF TIME USING  
17    THE IMPLANT.  WITH ADULTS, THAT'S  
18    TYPICALLY THE BIGGEST IMPROVEMENT  
19    HAPPENS OVER THE FIRST THREE MONTHS.  
20    WE WILL SEE IMPROVEMENTS GO ON  
21    DEFINITELY TWO MAYBE THREE YEARS.  
22    ANOTHER BIG THING IS CONFIDENCE  
23    INCREASING.  INITIALLY YOU CAN'T TRUST  
24    WHAT YOU'RE HEARING AT ALL.  AS YOU  
25    LEARN TO TRUST IT MORE, THEN WE SEE

1 THAT CONFIDENCE INCREASE.

2 THESE ARE THE KINDS OF THINGS  
3 THAT WE HOPE WE HAVE TALKED TO YOU  
4 ABOUT BEFORE YOU GOT YOUR IMPLANT.  
5 THERE ARE FACTORS THAT AFFECT HOW WELL  
6 YOU WITH AN IMPLANT THAT ARE TOTALLY  
7 OUTSIDE CONTROL OF THE PROGRAM OR THE  
8 IMPLANT ITSELF.

9 ONE OF THEM IS HOW LONG HAVE YOU  
10 BEEN DEAF. IF YOU'VE NOT HEARD  
11 ANYTHING OR BEEN ABLE TO HEAR WITH A  
12 HEARING AID FOR 40 YEARS, THAT'S VERY  
13 DIFFERENT THAN IF YOU LOST YOUR HEARING  
14 LAST MONTH ALL OF A SUDDEN AND ARE NOW  
15 GETTING AN IMPLANT. HOW LONG YOU'VE  
16 USED YOUR IMPLANT. MOST IMPROVEMENT IN  
17 ADULTS WILL BE IN THE FIRST THREE  
18 MONTHS. DEFINITELY CAN BE CONTINUED  
19 IMPROVEMENT OVER THE FIRST TWO TO THREE  
20 YEARS.

21 I HATE TO SAY IT THAT I'M  
22 BECOMING -- BUT AGE IS A FACTOR. IT  
23 TENDS NOT TO BE A VERY SIGNIFICANT  
24 FACTOR UNTIL YOU GET UP CLOSE TO 80 BUT  
25 75, 80, ALONG IN THERE, IT DOES TEND TO

1     AFFECT HOW WELL YOU'RE GOING TO DO.  
2     YOU MIGHT SEE SOME DECLINE IN  
3     PERFORMANCE AS YOU MOVE INTO THAT AGE  
4     RANGE.  THAT'S POSSIBLE.

5             HOW WELL YOU HEARD BEFORE YOU  
6     LOST YOUR HEARING.  WE ARE IMPLANTING  
7     PEOPLE WITH BETTER AND BETTER HEARING  
8     BEFORE THEY GET THEIR IMPLANT.  THOSE  
9     PEOPLE TEND TO MAKE PROGRESS MUCH MORE  
10    QUICKLY THAN PEOPLE THAT HAD WORSE  
11    HEARING BUT THE LENGTH OF HEARING IS  
12    MORE IMPORTANT TYPICALLY THAN HOW GOOD  
13    THE HEARING WAS.  THE FACTORS WORK  
14    TOGETHER.

15            PERSONALITY.  THERE ARE SOME OF  
16    YOU WHO ARE RISK TAKERS, WILLING TO GET  
17    ON THE PHONE, WILLING TO TALK TO NEW  
18    PEOPLE; AND THERE ARE OTHER PEOPLE THAT  
19    WANT TO STAY PRETTY MUCH CONTROLLED  
20    WITH WHO YOU'RE TALKING TO, WHAT  
21    CONVERSATIONS YOU'RE HAVING AND THAT  
22    WILL MAKE A DIFFERENCE IN YOUR RATE OF  
23    PROGRESS.  WE ARE NOT SUGGESTING THAT  
24    WE CHANGE YOUR PERSONALITY.  WE WANT  
25    YOU TO BE AWARE THAT THAT IS A FACTOR.

1 DO YOU NEED TO USE AUDITORY  
2 SKILLS? WE HAVE ONE GENTLEMAN I WORKED  
3 WITH BECAUSE OF HEALTH ISSUES WHO WAS  
4 PRETTY MUCH AT HOME WITHOUT ANY  
5 CONVERSATION HAPPENING. MOST OF THE  
6 TIME IT'S HARD TO MAKE PROGRESS IF YOU  
7 DON'T HAVE ANYTHING TO LISTEN TO. IF  
8 THERE ARE OTHER HEALTH ISSUES GOING ON,  
9 THAT WILL BE A FACTOR AS WELL.

10 THIS IS REALLY WHY YOU CAME WAS  
11 TO FIND OUT WHAT YOU COULD DO AND I'M  
12 GETTING TO IT NOW AT THE VERY END. THE  
13 FIRST PART IS PROBABLY THE THING YOU  
14 WANT ME NOT TO TELL YOU IS TO BE  
15 PATIENT AND REMEMBER PERFECTION IS NOT  
16 POSSIBLE. YOU HEARD THIS. AT EVERY  
17 APPOINTMENT WHEN YOU GO TO SEE THE  
18 AUDIOLOGIST, WE PROBABLY TELL YOU THE  
19 SAME THING.

20 YOU NEED TIME. YOU NEED TIME TO  
21 ADJUST TO THE NEW SIGNAL TO FIGURE OUT  
22 WHAT YOU NEED TO HEAR AND TO PRACTICE  
23 MANAGING THE DEVICE. THAT FIRST FEW  
24 MONTHS IS PRETTY IMPORTANT FOR THAT.

25 OTHER THINGS YOU CAN DO TO HELP

1 IS IF YOU MAKE SOME NOTES ABOUT WHAT  
2 YOU'RE HEARING AT HOME, WHAT THINGS  
3 SOUND LIKE. WHAT ARE YOU OBSERVING?  
4 DO YOU HAVE QUESTIONS? MAKE THOSE  
5 NOTES. WHEN YOU COME IN, WE'LL  
6 DEFINITELY TAKE TIME TO GO THROUGH  
7 THOSE. THAT WILL BE VERY HELPFUL FOR  
8 US.

9 SOME SPECIFIC THINGS TO NOTICE  
10 ARE, WAS ANYTHING TOO LOUD? IF YOU  
11 FIND SOMETHING PAINFULLY LOUD, WE DON'T  
12 WANT YOU TO WAIT UNTIL YOUR NEXT  
13 APPOINTMENT. YOU SHOULD CALL AN  
14 AUDIOLOGIST RIGHT AWAY IF YOU'RE  
15 FEELING PAIN. WE DO NOT WANT PAIN,  
16 OKAY? BUT ANNOYING AND OVERWHELMING  
17 THAT MAY BE JUST SOMETHING YOU'VE  
18 NOTICED OVER THE LAST COUPLE OF WEEKS.

19 HAS THERE BEEN ANY CHANGE TO THE  
20 QUALITY OF SOUND? YOU MAY HAVE NOTICED  
21 WE OFTEN SEE PEOPLE THAT HAVE A CYCLE  
22 THAT THEY GO LET'S SAY FOUR MONTHS,  
23 THAT FIFTH MONTH THEY START TO NOTICE  
24 SOME CHANGE, THE 6TH MONTH THEY'RE  
25 REALLY NOTICING IT. WE HAVE OTHER

1 PEOPLE THAT GO SIX YEARS AND NEVER  
2 NOTICE ANY CHANGE AT ALL. SO IT IS,  
3 AGAIN, A PRETTY WIDE GAMUT OF WHAT WE  
4 HEAR. WE ALWAYS WANT TO KNOW IF  
5 THERE'S SOMETHING NEW TO CELEBRATE THAT  
6 YOU'RE DOING WITH YOUR IMPLANT.

7 WE LIKE TO KNOW JUST BECAUSE WE  
8 LIKE GOOD NEWS AND WE CARE ABOUT YOU  
9 AND YOUR HEARING. HELPS US TO KNOW  
10 WHAT YOU'RE DOING WITH THE IMPLANT. AS  
11 YOU'RE ABLE TO DO NEW TASKS, IT GIVES  
12 US AN INDICATION HOW WELL THE DEVICE IS  
13 WORKING FOR YOU.

14 WHAT DO OTHERS SAY ABOUT HOW YOU  
15 HEAR OR ABOUT YOUR VOICE QUALITY? IT  
16 MAY BE THAT SOMEONE ELSE YOU LIVE WITH  
17 KNOWS BETTER THAN YOU DO FOR SURE.  
18 THAT HAPPENS WITH PEOPLE WHO ARE LOSING  
19 THEIR HEARING. WITH MY DAD, IT WAS  
20 ALWAYS MY MOM WHO NOTICED HE WASN'T  
21 HEARING. IT WAS NEVER HIM THAT NOTICED  
22 HE WASN'T HEARING.

23 THERE'S SOME DESCRIPTORS TO  
24 DESCRIBE THE SOUND QUALITY THAT CAN BE  
25 HELPFUL. CAROL MENTIONED A LIST OF

1 8,000 WORDS OR SOMETHING. MORE IS NOT  
2 ALWAYS BETTER. THERE ARE WORDS YOU CAN  
3 GIVE ME THAT DON'T HELP ME AT ALL  
4 BECAUSE I DON'T KNOW WHAT THEY MEAN IN  
5 TERMS OF YOU. SOMETIMES IF YOU CAN GET  
6 IT NARROWED DOWN TO A SMALLER SET OF  
7 DESCRIPTORS: TINNY, SQUEAKY, SHRILL,  
8 SCRATCHY, TRAILING SOUNDS.

9 IF YOU TELL ME THAT, I THINK IN  
10 TERMS OF REDUCING THE HIGH PITCHES.  
11 IT'S THE SAME THING. SOMETIMES I HAVE  
12 AN APPROACH THAT'S THE MOST COMMON  
13 APPROACH TO TAKE FOR IMPROVING A  
14 CERTAIN QUALITY ISSUE AND WHAT WORKS  
15 FOR YOU IS THE EXACT OPPOSITE OF WHAT  
16 WORKS FOR MOST PEOPLE.

17 >>: WHAT DO YOU MEAN BY  
18 TRAILING SOUNDS?

19 >>: A SIGNIFICANT NUMBER OF  
20 PEOPLE REPORT THE SOUND CONTINUES ON.  
21 THEY MIGHT HAVE IN A WORD LIKE BABY,  
22 THEY MIGHT STILL HEAR THE B -- B -- I  
23 NEVER HAD ANYBODY ABLE TO SAY IT BUT I  
24 THINK IF YOU HAD TRAILING SOUNDS, YOU  
25 WOULD KNOW IT. IT'S THAT THE SOUND

1 DOESN'T QUIT AT THE END OF THE WORD.  
2 IT KEEPS GOING.  
3 HOLLOW, BARREL LIKE. THAT MEANS  
4 WE'RE GETTING TOO MUCH IN THE LOW  
5 PITCHES. AGAIN, SOMETIMES IT'S THE  
6 EXACT OPPOSITE. ALSO, IF THERE'S A  
7 BACKGROUND HUM THAT MAY TELL US THERE'S  
8 -- IT MIGHT BE IN TERMS OF THE INPUT  
9 DYNAMIC RANGE OR LEVELS PICKING UP A  
10 FAN NOISE. IT MAY ALSO BE THAT YOU'RE  
11 PICKING UP THE NOISE WITHIN THE  
12 PROCESSOR ITSELF AND PROCESSOR NOISE  
13 AND THERE'S SOMETIMES THINGS WE CAN DO  
14 TO ADJUST THAT.  
15 SO THERE MAY BE SOMETIMES WHEN  
16 YOU COME SEE US AND YOU SAY IT SOUNDS  
17 THIS WAY AND WE MAY SAY BACK, DOES IT  
18 SOUND MORE TINNY OR MORE HOLLOW? AND  
19 SO WE MAY SORT OF FORCE YOU INTO A  
20 COUPLE OF OTHER DESCRIPTORS THAT YOU  
21 DON'T WANT TO USE. OR WE MAY KEEP  
22 TALKING TO YOU BECAUSE A LOT OF TIMES  
23 WHAT I DO IS TRY TO FIGURE OUT WHAT  
24 DOES THAT WORD YOU SAY MEAN. I TRY  
25 DIFFERENT THINGS. AS YOU'RE TALKING

1 ABOUT IT, THEN I'M TRYING TO FIGURE OUT  
2 WHAT ARE THE FACTORS THAT MIGHT AFFECT  
3 THE DESCRIPTORS YOU'RE USING.

4 >>: WHAT IF MY SON SAYS THAT  
5 SOUNDS ROBOTIC. WHAT DOES THAT MEAN?

6 >>: HE JUST HAD A CHANGE IN HIS  
7 PROGRAM?

8 >>: RIGHT.

9 >>: THAT PROBABLY MEANS HE  
10 NEEDS MORE TIME TO GET USED TO IT.  
11 TYPICALLY WITH SOMEONE WHO HAS HEARD,  
12 WHEN WE START AT THE HOOKUP, THEY WILL  
13 HAVE SOME TIME WHERE THEY SAY IT SOUNDS  
14 ROBOTIC IN THE QUALITY THAT THEY HAVE.  
15 WE DON'T EXPECT THAT TO GO ON FOR A  
16 LONG PERIOD OF TIME.

17 I WOULD THINK WITH YOUR SON THE  
18 EIGHT WEEKS MIGHT BE AN OUTSIDE LIMIT  
19 TO ADJUST TO THAT AND PROBABLY FOUR  
20 WEEKS WOULD BE MORE REASONABLE TO  
21 ADJUST TO IT. THEN WITHIN THAT, WE  
22 MIGHT -- I CAN THROW OUT WHAT I WOULD  
23 START WITH. THAT DOESN'T MEAN IT WOULD  
24 BE THE ANSWER. I MIGHT INCREASE THOSE  
25 MID RANGES JUST A LITTLE BIT IN TERMS

1 OF TRYING TO IMPROVE THE QUALITY OR  
2 WORK WITH THE GAIN. I PROBABLY  
3 WOULDN'T WORK WITH THE GAIN. I WOULD  
4 PROBABLY WORK WITH THE COMFORT LEVELS.

5 >>: WHEN DOES THE FIRST  
6 PROGRAMMING NORMALLY OCCUR? AT WHAT  
7 TIME LEVEL AFTER YOUR PROCESSOR IS  
8 PICKED UP?

9 >>: THE WAY WE DO IT WE DO  
10 TYPICALLY A HOOKUP, TWO MONTH CHECK,  
11 THREE MONTH CHECKS, SIX, NINE.

12 >>: YOU DO ONE AT EACH ONE OF  
13 THOSE SESSIONS?

14 >>: WELL, IT DEPENDS. DEPENDS  
15 ON THE PERSON, DEPENDS ON HOW WELL  
16 THEY'RE DOING. IF WE GET A GOOD  
17 AUDIOGRAM -- I DON'T KNOW IF WE'VE EVER  
18 DONE A TWO WEEK CHECK WITHOUT MAKING  
19 CHANGES. BY TWO WEEKS EVERYBODY NEEDS  
20 SOME CHANGE. PRETTY MUCH THE ONE  
21 MONTH. ONCE WE GET TO THE SIX MONTH,  
22 WE MIGHT EVEN SKIP THE NINE MONTH AND  
23 NOT DO IT IF THINGS SEEM PRETTY STABLE  
24 AND THE PERSON IS DOING WELL. WE WILL  
25 NOT CHANGE A PROGRAM IF ALL OF THE

1 INDICATORS ARE THAT THINGS ARE WORKING  
2 WELL.

3 IT'S SORT OF LIKE THE RULE OF  
4 DON'T WAKE A SLEEPING BABY. WE ARE  
5 LIKELY TO MESS IT UP MORE THAN IMPROVE  
6 IT.

7 >>: I HAVE TWO PROCESSORS A  
8 BODY AND A 3-G FOR THE LAST TWO WEEKS  
9 THE 3-G IS PICKING UP ALL SORTS OF  
10 STATIC. THE BODY PROCESSOR DOESN'T.  
11 IS THIS MORE A PROBLEM WITH ME AND MY  
12 EAR OR THE EQUIPMENT?

13 >>: IT JUST STARTED THE LAST  
14 COUPLE OF WEEKS? PROBABLY THE  
15 EQUIPMENT AND NOT YOU. WHEN THERE IS A  
16 NEGATIVE THING THAT STARTS, WHEN THINGS  
17 ARE GOING WELL AND SOMETHING IS  
18 NEGATIVE, THEN IT'S USUALLY NOT YOU.  
19 IT'S USUALLY EQUIPMENT RELATED.

20 THE OTHER THING IS THAT PEOPLE  
21 WILL SAY YES, THAT SOUNDS NORMAL. MY  
22 MOM'S VOICE DOESN'T SOUND NORMAL OR IT  
23 DOES SOUND NORMAL. YOU NEED TO  
24 REMEMBER YOUR IDEA OF NORMAL MAY NOT BE  
25 QUITE RIGHT. WE HAVE ONE GENTLEMAN

1        THAT I HAVE WORKED WITH WHO HE JUST --  
2        HE YELLS ALL THE TIME.  HE JUST TALKS  
3        IN THIS REALLY LOUD VOICE.  WHEN WE GET  
4        THE PROGRAM UP TO WHERE IT OUGHT TO BE,  
5        HE DOESN'T LIKE IT BECAUSE HIS VOICE IS  
6        TOO LOUD.  AS A LISTENER -- TALK TO  
7        OTHER PEOPLE.  YOUR VIEW OF NORMAL  
8        MIGHT BE A LITTLE BIT WARPED FROM THE  
9        LENGTH OF TIME THAT YOU'VE HAD YOUR  
10       HEARING AIDS AND NOT BEEN ABLE TO HEAR  
11       WELL.

12                THE OTHER THING YOU MIGHT DO IS  
13        TO TALK TO YOUR AUDIOLOGIST ABOUT THE  
14        CONTROLS ON YOUR PROCESSOR IN USING  
15        THEM.  WE HAVE SOME PEOPLE WHO ARE VERY  
16        ADEPT AT USING THEIR CONTROLS.  WE HAVE  
17        SOME PEOPLE WHO FIDDLE WAY TOO MUCH  
18        WITH THEIR CONTROLS AND WE HAVE OTHERS  
19        THAT ARE NOT USING THEM AT ALL.  WE  
20        HAVE PEOPLE WHO COME IN AND SAY, WHEN I  
21        GO IN THIS SITUATION, IT'S REALLY  
22        AWFUL.  DID YOU TRY TURNING DOWN THE  
23        SENSITIVITY?  NO, I DON'T LIKE TO TOUCH  
24        THOSE NOBS.  I DON'T LIKE TO DO  
25        ANYTHING WITH THEM.  THINK IN TERMS OF

1 SHOULD YOU BE MAKING MORE ADJUSTMENTS  
2 OR FEWER ADJUSTMENTS. THAT'S DIFFICULT  
3 TO KNOW IN THAT FIRST FEW MONTH TIME  
4 PERIOD.

5 AS YOU GO ON, IF YOU DON'T KNOW  
6 HOW TO MAKE AN ADJUSTMENT FOR A  
7 DIFFERENT SITUATION THEN PRETTY  
8 ROUTINELY, THEN YOU'RE PROBABLY EITHER  
9 FIDDLING TOO MUCH OR NOT ENOUGH.  
10 ALTHOUGH SOME PEOPLE DO WELL IN ALL  
11 SITUATIONS.

12 >>: BACK TO THE SENSITIVITY  
13 LEVEL, IF LIKE THE LOGIC OF I WANT TO  
14 HEAR EVERYTHING THAT'S AROUND ME SO I  
15 WANT TO CRANK UP THE SENSITIVITY LEVEL,  
16 IS DISTORTING OR CHANGING THAT SOUND IN  
17 A DIFFERENT SITUATION THEN? OR IS IT  
18 JUST AN INDIVIDUAL THING?

19 >>: YEAH, IT'S AN INDIVIDUAL  
20 THING. WE HAVE DEFINITELY SOME OF OUR  
21 VERY BEST USERS OF AN IMPLANT THAT WEAR  
22 THEIR SENSITIVITY ALL THE WAY UP. WE  
23 HAVE SOME ALL THE WAY DOWN. I THINK IT  
24 WAS THURSDAY I SAID, OKAY, THE MORE I'M  
25 IN THIS, THE LESS I KNOW. MY ABILITY

1 TO PREDICT THAT I DON'T TRUST AT ALL.  
2 BECAUSE THERE'S THE THEORY AND WE GET  
3 THE THEORY BUT IN PRACTICALITY, WE SEE  
4 THE WHOLE GAMUT AND IT IS IF SOMEONE  
5 CAN TOLERATE MORE SOUND, IT'S PROBABLY  
6 BETTER TO HAVE THAT SENSITIVITY UP AND  
7 BE GETTING THAT SOUND ESPECIALLY WITH  
8 THE MED-EL.

9 >>: HE WANTS TO GET IT UP. HE  
10 FEELS LIKE WHEN IT'S DOWN, I'M NOT  
11 GETTING THAT BIG RANGE OF SOUND.

12 >>: I WOULDN'T NECESSARILY SAY  
13 THAT WITH ALL THE DEVICES BUT I THINK  
14 WITH THE TEMPO THAT FALLS WITHIN THE  
15 RELATIVELY COMMON.

16 >>: I WAS ALWAYS WORRIED IN A  
17 MORE QUIET SITUATION OR LIKE YOU WERE  
18 SAYING IN A SITUATION THAT'S SO LOUD IS  
19 HE MISSING SO MUCH MORE THAN THAT COULD  
20 BE RIGHT THERE?

21 >>: NO. WHAT HAPPENED IS IT  
22 MIGHT BE THAT HE WOULD PICK UP A SOUND  
23 LIKE THE FAN NOISE THAT WOULD BE REALLY  
24 ANNOYING BUT HE WOULD MAKE AN  
25 ADJUSTMENT THEN ON THAT IF THAT WAS

1 OCCURRING.

2 >>: OKAY.

3 >>: I'M NOT MAKING AN  
4 ADJUSTMENT FOR THIS FAN NOISE.

5 >>: RIGHT.

6 >>: IF HE CAN DO THAT WITHOUT  
7 DOING IT WITH HIS PROCESSOR CONTROLS,  
8 IF HIS AUDTORY SYSTEM CAN MAKE THAT  
9 ADJUSTMENT, THEN THAT'S GREAT.  
10 ANYTHING THE AUDITORY SYSTEM CAN DO IT  
11 THAN IF WE HAVE TO DO IT MECHANICALLY.

12 >>: WHEN YOU'RE IN AN  
13 ENVIRONMENT WITH A LOT OF BACKGROUND  
14 NOISE RATHER THAN FIDDLE OR CHANGE YOUR  
15 SETTING, SHOULD YOU GO TO ONE OR TWO  
16 SETTING BACK ON THAT?

17 >>: I'M NOT SUGGESTING YOU  
18 SHOULDN'T MAKE A CHANGE IN A NOISY  
19 SITUATION. I THINK THE MICROPHONE  
20 SENSITIVITY IS DESIGNED SPECIFICALLY TO  
21 HELP IN THOSE NOISY SITUATIONS. I  
22 THINK THAT'S A VERY REASONABLE THING TO  
23 DO. THE PROBLEM IS SOMETIMES PEOPLE  
24 ARE MAKING AN ADJUSTMENT ON THEIR  
25 PROCESSOR LIKE EVERY FIVE MINUTES AND

1 THAT MEANS THAT THEY'RE NEVER REALLY  
2 HEARING IN -- THAT MEANS YOU'RE LOOKING  
3 FOR THAT PERFECT UNDERSTANDING IN THAT  
4 SITUATION THAT'S PROBABLY NOT GOING TO  
5 OCCUR AND ALL YOU'RE DOING IS CONFUSING  
6 YOUR AUDITORY SYSTEM BY CHANGING THE  
7 SIGNAL CONSTANTLY.

8 >>: I'M TALKING ABOUT THE ONE  
9 AND NUMBER TWO SETTING.

10 >>: IT DEPENDS WHAT'S  
11 PROGRAMMED IN IT.

12 >>: AS AN AUDIOLOGIST, I CAN  
13 PUT ANYTHING I WANT IN ONE AND TWO.  
14 THERE ARE NO RULES. IT MIGHT BE THAT I  
15 WOULD PROGRAM YOUR PROCESSOR TO USE P1  
16 MOST OF THE TIME. IF YOU'RE IN A NOISY  
17 SITUATION GO TO P2.

18 >>: IN A CLASSROOM, ATHLETIC  
19 EVENT, RESTAURANT, SOMETIMES THE TWO IF  
20 IT'S PROGRAMMED CORRECTLY IS HELPFUL;  
21 OTHERWISE IT'S EASIER TO GO DOWN A  
22 LITTLE BIT, I THINK.

23 >>: I THINK YOU SHOULD TALK TO  
24 YOUR AUDIOLOGIST ABOUT HOW DO YOU HAVE  
25 P2 PROGRAMMED? WHICH OF THESE DO YOU

1 THINK I SHOULD DO BETTER WITH IN NOISE?  
2 ALTHOUGH I THINK IT'S ABSOLUTELY FINE  
3 FOR YOU TO DO SOME EXPERIMENTING WITH  
4 THE DIFFERENT SETTINGS IF I AS  
5 AUDIOLOGIST SAY YOU SHOULD BE HEARING  
6 BETTER IN NOISE WITH P1 BUT YOU AS THE  
7 USER SAY P2 YOU SHOULD USE P2. I WOULD  
8 TAKE YOUR JUDGMENT OVER MINE ANY DAY OF  
9 THE WEEK, YOU'RE THE ONE LISTENING.

10 >>: HOW FAR ALONG ARE YOU WHEN  
11 YOU GET THE SENSITIVITY SETTING? WHEN  
12 DOES THAT GET PROGRAMMED IN?

13 >>: DEPENDS ON YOUR DEVICE AND  
14 YOUR APPROACH AND AUDIOLOGIST. WITH  
15 THE EAR LEVEL PROCESS SOURCE, I THINK  
16 THAT'S WITH ALL OF THEM.

17 >>: I HAVE A COCHLEAR.

18 >>: RIGHT. WE CAN PROGRAM THE  
19 NOB TO BE VOLUME OR SENSITIVITY.

20 >>: SAY THAT AGAIN.

21 >>: IT CAN BE EITHER VOLUME OR  
22 SENSITIVITY, NOT BOTH. SO YOUR NOB  
23 MIGHT ALREADY BE SENSITIVITY.

24 >>: COULD YOU COMMENT ON THE  
25 WHISPER SETTING WITH THE

1 NUCLEUS, PLEASE?

2 >>: THE NUCLEUS ESPIRIT HAS A  
3 WHISPER SETTING THAT LOWERS THE BOTTOM  
4 END. IT LETS IN SOFTER SOUNDS.  
5 TYPICALLY WORKS WELL IN A QUIET SETTING  
6 AND IT IS AWFUL IN A NORMAL SETTING OR  
7 A MORE CONVERSATIONAL -- WITH OTHER  
8 PEOPLE IN OTHER NOISE SETTING.

9 WE JUST GOT A CALL FROM A  
10 TEACHER ABOUT A CHILD WHO WAS REALLY  
11 STRUGGLING IN THE CLASSROOM AND WHAT  
12 HAD HAPPENED IS HIS SETTING HAD BEEN  
13 LEFT ON WHISPER WHEN HE GOT BACK IN THE  
14 REGULAR CLASSROOM AND SO BECAUSE OF THE  
15 OTHER NOISE, HE WAS NOT HEARING THE  
16 SPEECH AS WELL. HE WAS GETTING TOO  
17 MUCH OTHER INFORMATION.

18 THERE'S THAT -- I REALIZE THAT I  
19 JUST GOT DONE SAYING THAT'S PROBABLY  
20 JUST FINE TO LEAVE THAT SETTING UP IN  
21 TERMS OF THE SENSITIVITY. IT'S A  
22 SIMILAR KIND OF SETTING BUT IT WORKS  
23 VERY DIFFERENT ON THE ONE PROCESSOR  
24 THAN ON THE ESPIRIT THREE. WITH  
25 CHILDREN, WE RECOMMEND IT NOT GO IN THE

1 WHISPER SETTING.

2 AS ADULTS, IF YOU'RE HAVING  
3 TROUBLE HEARING THE SOFT SPOKEN PERSON  
4 ACROSS THE ROOM OR YOU'RE IN CHURCH AND  
5 SOMEONE STANDS UP TO SAY SOMETHING YOU  
6 CAN'T HEAR THEM, YOU MIGHT TRY TO PUT  
7 IT ON WHISPER SETTING TO PULL THAT IN  
8 CLOSER. IT'S SORT OF A TRIAL AND ERROR  
9 FOR SOMEBODY WHO KNOWS WHAT THEY'RE  
10 DOING.

11 I'VE TALKED A LITTLE BIT ABOUT  
12 MAGIC THAT HAPPENS WITH THE IMPLANT.  
13 THERE IS THE REALITY THAT WE HAVE NO  
14 MAGIC WE DO WHEN WE PROGRAM. WE GO  
15 THROUGH THE PROCESS BUT THERE ISN'T AN  
16 ELECTRODE THAT WORKS FOR NOISE OR A  
17 SPECIFIC SETTING THAT HELPS MAKE IT  
18 WORK WELL IN NOISE.

19 THERE ARE ALL THOSE OTHER  
20 FACTORS THAT COME INTO IT AND THE  
21 LIMITATIONS OF THE TECHNOLOGY HAVE A  
22 MUCH BIGGER IMPACT ON WHAT YOU DO THAN  
23 HOW WE PROGRAM -- NOT TO MINIMIZE WHAT  
24 WE DO, WE WANT TO SPEND TIME WORKING  
25 WITH YOU ON IT DEFINITELY WORTH THE

1 WORK TO GET THE BEST PROGRAM. THERE'S  
2 A REAL LIMIT TO WHAT CAN HAPPEN.

3 I WOULD SAY THAT ALMOST ALL  
4 IMPLANT RECIPIENTS FEEL REALLY STRONG  
5 THAT THEY HEAR BETTER WITH THEIR  
6 IMPLANT THAN THEY DO WITH THE HEARING  
7 AID. I DO NOT KNOW A SINGLE IMPLANT  
8 RECIPIENT WHO DOES NOT WISH IT WAS  
9 BETTER. THEY CAN NAME TEN DIFFERENT  
10 SITUATIONS. SO IT'S REALLY HARD  
11 BECAUSE IT'S LIKE THIS HUGE IMPROVEMENT  
12 OVER NOT HEARING BUT IT IS NOWHERE NEAR  
13 PERFECTTION IN TERMS OF HEARING. THERE  
14 ARE DEFINITE LIMITS TO WHAT CAN HAPPEN.

15 THIS IS MY ADVICE. EVEN THOUGH  
16 YOU'RE MOVING AT A SNAIL'S PACE, YOU  
17 FIND YOU HIT THE MARK MORE OFTEN AS  
18 TIME GOES BY.

19 >>: ONE THING I'VE OFTEN  
20 WONDERED, I'VE HAD MY IMPLANT FOR 15  
21 YEARS. WHENEVER I GO TO THE PROGRAM --  
22 I GET USED TO MY AUDIOLOGIST AND I CAN  
23 FOLLOW HER AND I HEAR HER GREAT BUT I  
24 GO OUT INTO THE REAL WORLD AND TEST,  
25 IT'S A DIFFERENT STORY. I SUGGEST TO

1 THEM MAYBE THEY PLAY BACKGROUND MUSIC  
2 OR MAYBE THEY HAVE SOMETHING GOING OFF.  
3 REAL LIFE ISN'T THIS STERILE THING ONE.  
4 PERSON'S VOICE WILL BE QUIET, JUST  
5 GREAT. ONE YOU CAN PICK UP. THAT'S  
6 WHEN YOU HAVE TO DO ADJUSTMENT. I WISH  
7 WHEN BEING PROGRAMMED THERE WAS MORE  
8 INTERFERENCE WHICH WOULD BE MORE  
9 REALISTIC.

10 >>: ONE OF THE BIG ISSUES AT  
11 THE IMPLANT MEETING THAT HAPPENED LAST  
12 APRIL IN DC ONE, OF THE BIG THEMES WAS  
13 DOING TESTING IN MORE REALISTIC  
14 LISTENING CONDITIONS. WE CHANGED THE  
15 LEVEL OF TESTING WE'RE DOING -- THE  
16 TESTING WAS ALWAYS DONE AT 70-DBS  
17 LEVEL, A LEVEL LOUDER THAN MOST PEOPLE  
18 CAN MAINTAIN FOR MORE THAN A FEW  
19 MINUTES.

20 ACTUALLY, DR. FIRSZT JUST  
21 FINISHED HEADING UP A MULTI CENTER  
22 STUDY THAT SHOWED THE RESULTS WITH  
23 IMPLANT PERFORMERS. IF WE PRESENT AT  
24 60-DB, WHICH WAS THE MORE AVERAGE  
25 CONVERSATIONAL LEVEL, IMPLANT USERS DID

1 AS WELL AT 60 AS THEY DID AT 70.  
2 PEOPLE TALK AT 60 DBS AND 50-DBS.  
3 LET'S TEST AT THOSE LEVELS.  
4 WE STARTED AT A LOUDER LEVEL  
5 BECAUSE WE ONLY IMPLANTED PEOPLE WHO  
6 COULDN'T HEAR AT ALL EVEN WITH A  
7 HEARING AID. WE TESTED AT 60. THEY  
8 DIDN'T HEAR AT ALL. TESTED AT 70. FOR  
9 THE LAST 20 YEARS THAT'S BEEN THE NORM  
10 BUT IT'S RECENTLY BEING CHANGED.  
11 GETTING READY TO -- PUT IN A  
12 GRANT ON MONDAY WE HOPE GETS FUNDED TO  
13 DO SOME EVALUATION WITH CHILDREN  
14 LISTENING TO NOISE AND SOFTER LEVELS TO  
15 SEE IF WE CAN FIGURE OUT WHAT IS  
16 AVERAGE PERFORMANCE IN THOSE SITUATIONS  
17 AND ARE THERE PARAMETERS THAT CAN HELP.  
18 ONE OF THE ISSUES -- IT'S NOT A  
19 BAD IDEA TO BRING IN NOISE. ONE OF THE  
20 ISSUES IS IT IS NEVER THE NOISE YOU ARE  
21 IN AND THE NOISE ENVIRONMENTS VARY SO  
22 DRASTICALLY WE CAN'T MANUFACTURE THAT  
23 SETTING. WHEN SOMETHING THAT'S REALLY  
24 EXCITING THAT COCHLEAR IS GOING TO BE  
25 DOING IN THE FUTURE THEY'RE WORKING ON

1 THIS IS I CAN'T REMEMBER THE NAME OF  
2 IT, BUT IT'S SOME SORT OF BASED ON --  
3 GENETICS IS IN THE NAME BUT IT HAS  
4 NOTHING TO DO WITH GENETICS. IT WILL  
5 LET YOU RECORD, LET'S SAY, YOUR HUSBAND  
6 AND LISTEN TO 33 -- SECOND BLIPS OF IT  
7 THERE WILL BE EIGHT CHOICES ON A  
8 COMPUTER SCREEN AND WILL YOU HEAR THIS  
9 RUNNING CONVERSATION AND YOU PICK WHICH  
10 FOUR YOU LIKE THE BEST. YOU CAN DO IT  
11 WITH NOISE, IN QUIET, WITH SOMEONE'S  
12 VOICE YOU KNOW. IT'S IN THE FUTURE.  
13 THEY JUST INTRODUCED IT EVEN AS A  
14 CONCEPT BUT IT'S GOING TO HELP ADDRESS  
15 SOME OF THE THINGS YOU'RE TALKING  
16 ABOUT.

17 >>: ARE YOU FAMILIAR WITH  
18 PROGRAMMING OR SPEECH PERCEPTION USING  
19 THE FM BOOT ON THE 3-G. I KNOW MY SON  
20 HAS THE BOOT FOR THE 3-G. IT'S HARD TO  
21 GET A SENSE OF HOW WELL HE'S HEARING  
22 WITH THAT BOOT ON. I DON'T KNOW IF  
23 IT'S HELPING HIM OR NOT.

24 >>: THE CENTER JUST HAD SOME  
25 AUDITORY VERBAL THERAPIST COME IN AND

1 TALK ABOUT AUDITORY VERBAL THERAPY  
2 RECOMMENDATIONS THEY MADE. BY THE TIME  
3 A CHILD IS WALKING, THEY SHOULD HAVE AN  
4 FM SYSTEM HOOKED UP TO TO THEIR SPEECH  
5 PROCESSOR. IN THAT WEEK, WE GOT  
6 SEVERAL CALLS AND I SAY UNH-UNH, UNTIL  
7 YOU HAVE SOMEONE WHO CAN TELL YOU WHAT  
8 THE QUALITY OF SOUND IS BECAUSE WE'VE  
9 HAD THOSE SAME KINDS OF QUESTIONS WITH  
10 CHILDREN WHO ARE GOOD REPORTERS OF THE  
11 FM. WE NEED TO HAVE SOMEBODY TELL US  
12 WHAT'S THE QUALITY. WITH YOUR  
13 EXPERIENCE THAT YOUR SON HAS, IF THE  
14 QUALITY IS NOT DEGRADED BY USE OF THE  
15 FM AND NOT CUTTING IN AND OUT WHICH IS  
16 ONE OF THE ISSUES THAT CAN HAPPEN IF  
17 NOT SET UP RIGHT, THEN IT HAS TO BE AN  
18 IMPROVEMENT BECAUSE YOU ARE GETTING THE  
19 SIGNAL THROUGH THE MICROPHONE AND THE  
20 DISTANCE BECOMES NOT SO MUCH OF AN  
21 ISSUE. SO IN A CLASSROOM SETTING, IT  
22 IS VERY LIKELY TO BE AN IMPROVEMENT.  
23 IN A ONE-ON-ONE QUIET CONVERSATION, IT  
24 PROBABLY DOESN'T MATTER AT ALL.  
25 >>: HE'S TOLD ME SOUND FIELD --

1 TO BE BOOT.

2 >>: THAT DOESN'T SOUND RIGHT.

3 >>: ALMOST EVERYBODY I KNOW WHO

4 HAS USED THE SOUND FIELD WELL PREFERS

5 THE DIRECTLY COUPLED PERSONAL BOOT OR

6 FM BETTER THAN THE SOUND FIELD. THAT

7 SOUNDS LIKE SOMETHING'S NOT RIGHT.

8 >>: OTHER QUESTIONS?

9 >>: THE ISSUE THAT SHE WAS

10 QUESTIONING YOU ABOUT WITH THE QUALITY

11 OF THE FM SIGNAL, AS A LONG TIME FM

12 USER WITH A HEARING AID, I CAN TELL YOU

13 THAT THE SIGNAL CAN VARY DEPENDING ON

14 WHERE YOU ARE IN RELATION TO THE--

15 >>: TRANSMITTER.

16 >>: -- TRANSMITTER. COULD BE A

17 LOT OF DIFFERENT THINGS. AND THE OTHER

18 THING WITH THE -- USED TO BE WITH THE

19 FM, I DON'T KNOW HOW IT IS WITH THIS

20 PARTICULAR SETUP, THE DRAW BACK OF THE

21 FM WHILE IT'S WONDERFUL IF THE TEACHER

22 IS WEARING THE MIC AND YOUR SON IS

23 PICKING IT UP THAT WAY THE DOWNFALL IS

24 YOU'RE NOT GETTING ALL THE OTHER

25 CONVERSATION.

1 >>: WITH THE SYSTEM THAT HE'S  
2 GOT, IT DOESN'T TURN OFF THE MICROPHONE  
3 TO THE PROCESSOR.

4 IT DOESN'T? ALL RIGHT.

5 >>: HE'S GETTING THAT JUST AS  
6 WELL AS HE WOULD WITHOUT IT. HE'S NOT  
7 GETTING IT THROUGH THE MICROPHONE WITH  
8 THE EXTRA BOOT. I DON'T KNOW WHAT FM  
9 SYSTEMS YOU USED WITH YOUR HEARING  
10 AIDS, PHONIC. THERE ARE A LOT NOT  
11 QUITE AS HIGH CALIBER AS HE'S USING.

12 OTHER QUESTIONS? WELL, THANK  
13 YOU. IT'S BEEN GREAT.

14 >>: THANK YOU.

15 >>: EXCUSE ME. I HAD MY  
16 IMPLANT DONE IN INDIANA MANY, MANY  
17 YEARS AGO. I'M WONDERING IS IT  
18 DIFFICULT TO CHANGE TO START HAVING MY  
19 PROGRAMMING DONE HERE? ONE TIME MY  
20 FAMILY LIVED IN INDIANA SO WE WENT DOWN  
21 THERE AND STAYED, EVERYTHING BUT THINGS  
22 HAVE CHANGED. IS IT DIFFICULT?

23 >>: AS A RULE OF THUMB, WHAT WE  
24 DON'T LIKE -- WE DON'T LIKE TO DO A  
25 SURGERY AND THEN YOU ARE MOVING

1 IMMEDIATELY SOME PLACE ELSE. WE WORK  
2 AS A TEAM. WE WORK WITH OUR SURGEON  
3 AND WE WORK IN TERMS OF THAT FOLLOWUP.  
4 PEOPLE DO MOVE. PEOPLE DO CHANGE.  
5 ONCE YOU GET ESTABLISHED --

6           THERE WAS A WOMAN THAT CAME TO  
7 SEE US WHO WAS I DON'T KNOW LIVING IN  
8 ANOTHER STATE WITH HER HUSBAND. THEY  
9 WERE GETTING READY TO MOVE HERE. SHE  
10 WAS HAVING TO MAKE A DECISION WHETHER  
11 TO HAVE THE SURGERY DONE AT THE PLACE  
12 WITH THE PHYSICIAN SHE HAD A  
13 LONG-STANDING RELATIONSHIP WITH OR  
14 SHOULD SHE HAVE IT DONE HERE? WE SAID  
15 YOU REALLY NEED TO WHEREVER YOU HAVE  
16 THE SURGERY IF YOU HAVE IT THERE, YOU  
17 NEED TO GO BACK THERE FOR AT LEAST SIX  
18 MONTHS, PROBABLY A YEAR. AFTER THAT,  
19 YOU PRETTY WELL WORKED THROUGH THOSE  
20 ISSUES AND GET ESTABLISHED.

21           WHAT WE DO THEN WHEN PEOPLE ARE  
22 TRANSFERRING IN, WE SEND YOU OUT A  
23 PACKET OF INFORMATION. WE ASK YOU TO  
24 SEND ALL OF YOUR RECORDS. WE WANT  
25 COMPLETE INFORMATION AS WE'RE WORKING

1 WITH YOU. ONCE WE GET THAT, THEN WE  
2 CAN TAKE OVER YOUR CARE AND DO THAT  
3 TRANSFER. WE DO THAT WITH PEOPLE THAT  
4 ARE LEAVING THE AREA AS WELL AS COMING  
5 INTO THE AREA. OKAY?

6 >>: RUTH, THANK YOU SO VERY,  
7 VERY MUCH. THAT WAS VERY, VERY  
8 INFORMATIVE.

9 >>: SURE. I HOPE SO.

10 I HOPE THE REST OF YOU FOUND  
11 THAT TO BE TRUE, TOO. I HAVE ONE  
12 LITTLE MATTER OF BUSINESS THAT NEEDS TO  
13 TAKE PLACE AND THAT WILL WILL BE  
14 DECIDING OUR NEXT MEETING. TYPICALLY,  
15 IF WE WERE TO BE ON THE SCHEDULE THAT  
16 WE HAD ORIGINALLY SET UP, IT'S THE  
17 THIRD WEEK END OF THE MONTH. IT WOULD  
18 PUT US INTO MARCH.

19 UNFORTUNATELY, FOR THE MARCH --  
20 FOR THE SPRING CALENDAR, I AM  
21 BABY-SITTING MY GRANDDAUGHTER EVERY  
22 OTHER WEEKEND. THAT TURNS OUT TO BE A  
23 WEEKEND I HAVE MY GRANDDAUGHTER. SHE'S  
24 NOT LIKE LITTLE MATT IN THE CAR SEAT  
25 HERE. SHE WOULD BE RUNNING AROUND AND

1 I DON'T THINK I WANT TO BRING HER HERE.  
2 I'M WONDERING IF WE COULD SCHEDULE THE  
3 MEETING FOR THE WEEKEND OF THE 13TH OR  
4 THE 6TH OF MARCH? THE 6TH WOULD BE THE  
5 FIRST WEEKEND. FIRST WEEKEND WOULD BE  
6 MY PREFERENCE. DOES ANYBODY HAVE A  
7 SCHEDULE THAT THEY KNOW THEY WOULD BE  
8 OCCUPIED ON THE FIRST WEEKEND?

9 >>: SO WE TALKED ABOUT INVITING  
10 DORA WEBER, I BELIEVE IT, WAS TO -- JOE  
11 HAD MENTIONED THAT SHE WANTED TO HEAR A  
12 PRESENTATION FROM DORA WEBER.

13 >>: IT TURNED OFF.

14 >>: SORRY. I WAS GOING TO SAY  
15 SOMETHING IS WRONG HERE. SOMETHING IS  
16 WRONG. I WAS NOT ON. THANK YOU.  
17 WE'RE SETTING UP THE NEXT MEETING.

18 >>: OKAY.

19 >>: MY PREFERENCE WOULD BE THE  
20 FIRST SATURDAY IN MARCH IF THAT WOULD  
21 WORK FOR EVERYONE. THE FIRST SATURDAY  
22 IN MARCH HAPPENS TO BE THE 6TH OF  
23 MARCH. DOES THAT WORK FOR EVERYONE?

24 FOR THE PARENTS THAT ARE HERE,  
25 AND I THINK ONE OF THEM LEFT US, THE

1 CENTER HERE HAS BEEN TALKING TO ME  
2 ABOUT WANTING AN INVOLVED PARENT THAT  
3 MIGHT BE INTERESTED IN A CHILDREN'S  
4 PROGRAM. IF YOU WOULD LIKE TO WORK ON  
5 SOMETHING LIKE THAT, SO I NEED TO TALK  
6 WITH YOU MORE. BUT I'M GOING TO BE  
7 TALKING WITH DOROTHY KERR, WHO IS THE  
8 DIRECTOR HERE. I WILL BE TALKING WITH  
9 HER IN THE NEAR FUTURE. THAT WAS ONE  
10 OF THE THINGS THEY WANTED TO DO AT SOME  
11 POINT WAS TO HELP SUPPORT A PARENTS  
12 GROUP HERE.

13 WE HAVE THE DATE SET. NOW WE  
14 HAVE THE TOPIC. SO SOMETIMES I CAN'T  
15 GET THE PERSON WE WANT ON THE DATE THAT  
16 WE SET. IT'S BEEN AWHILE. WE HAVEN'T  
17 HAD ADVANCED BIONICS OR MED-EL.

18 >>: CAN I JUMP IN?

19 >>: JENNIFER ROLLY WHO WAS AN  
20 AUDIOLOGIST DECIDED TO NOT DIVORCE HER  
21 HUSBAND BUT MOVE LOVINGLY BACK WITH HIM  
22 TO THE DENVER AREA IS NOW OUR  
23 REPRESENTATIVE FOR ADVANCED BIONICS.  
24 I'M SURE SHE WOULD LOVE TO COME AND DO  
25 SOMETHING. WE LIKE TO TAKE ADVANTAGE

1 OF BEING ABLE TO VISIT WITH HER WHEN  
2 SHE COMES. I WANT TO PUT A PLUG IN FOR  
3 HERE.

4 >>: IF YOU WANT TO E-MAIL ME  
5 WITH HER CONTACT INFORMATION, THAT'S  
6 WHAT I WILL DO. BECAUSE IT IS MY  
7 BELIEF THAT WE AS A CHAPTER SHOULD HAVE  
8 BALANCED INFORMATION FOR EVERYONE WHO  
9 MIGHT BE COMING HERE, IS MY REASON FOR  
10 MAKING SURE THAT WE HAVE ALL THE  
11 IMPLANT MANUFACTURERS, AT LEAST DURING  
12 THE CYCLE HAVE A PRESENTION HERE SO  
13 THOSE PEOPLE SEEKING INFORMATION CAN  
14 RECEIVE IT.

15 THE OTHER ITEM -- WHEN I FIRST  
16 RE-ESTABLISHED COMING BACK HERE, ONE OF  
17 THE THINGS PEOPLE ASKED FOR WAS MOVE  
18 THE MEETING PERIODICALLY. I DO HAVE A  
19 PRESENTER AND SPOT IN APRIL IN THE  
20 MADISON AREA. IF I WERE TO CHECK MY  
21 CALENDAR, THE APRIL TIME WOULD BE  
22 APRIL 3rd. THAT'S HOW I REMEMBER IT  
23 BEING.

24 IT'S GOING TO BE IN A RESTAURANT  
25 IN MADISON. THINK IT'S THE OLD WORLD

1       BUFFET.

2               >>:   OLD COUNTRY?

3               >>:   THEY HAVE A MEETING ROOM.

4       IT'S ON THE EAST SIDE NEAR THE  
5       INTERSTATE.   THE PRESENTER IS GOING TO  
6       BE AUDIOLOGY DIRECTOR, KATHY BREWER.  
7       THE TOPIC I BELIEVE IS GOING TO BE ORAL  
8       REHABILITATION AND WE DON'T GET MANY OF  
9       THE PEOPLE FROM OVER THERE TO THE  
10      BROOKFIELD MEETINGS SO I THINK WE WILL  
11      BE GETTING A DIFFERENT POPULATION,  
12      PEOPLE THAT WILL BE COMING FROM SOUTH  
13      OF THE BORDER THAT I THINK USE SERVICES  
14      UP HERE.   IT WILL BE A GOOD OPPORTUNITY  
15      FOR THOSE OF US WHO REGULARLY ATTEND  
16      HERE TO GO OVER THERE SO WE CAN  
17      INTERACT AND SHARE OUR EXPERIENCES WITH  
18      THOSE INDIVIDUALS ALSO.

19              I WILL PROBABLY DO THE SAME  
20      THING I DID THIS TIME WHERE I WILL SET  
21      UP A TIME BEFORE THE MEETING WHERE WE  
22      WILL GET TOGETHER BEFORE.   OBVIOUSLY,  
23      WE WILL BE DOING THIS.   THAT  
24      INFORMATION WILL BE OUT.   I WILL HAVE  
25      IT ON THE WEBSITE.   WE WILL ARRANGE TO

1 DO THAT PRIOR TO THE PRESENTATION LIKE  
2 WE DID TODAY. I HOPE THOSE OF YOU WHO  
3 HAVE BEEN COMING TO OUR GATHERING ARE  
4 FINDING IT A GOOD TIME.

5 WHAT HAPPENS IS WE COME TO THE  
6 MEETINGS, HAVE OUR PRESENTERS, GET THE  
7 INFORMATION, TIME IS TOO SOON TOO SHORT  
8 TO DO CHATTING. I HOPE THOSE THAT DID  
9 COME WILL GET THE WORD OUT TO OTHERS.  
10 WE HAD A PRETTY GOOD TIME, I THOUGHT,  
11 CATCHING UP AND SEEING WHAT EVERYONE IS  
12 DOING. IT'S A SHARING CLOSE PERSONAL  
13 TIME.

14 I AM GOING TO SEND SANTA CLAUS  
15 AWAY FOR A MOMENT. I THINK THIS IS  
16 GOING TO BACKFIRE ON ME. SANTA CLAUS  
17 IS GOING TO COME VISIT SPECIAL PEOPLE  
18 BUT ONLY IF YOU HAVE A NOTE ON THE  
19 BOTTOM OF YOUR CHAIR. YOU NEED TO LOOK  
20 AT THE BOTTOM OF YOUR CHAIR AND SEE IF  
21 YOU HAVE A NOTE ON THE BOTTOM OF YOUR  
22 CHAIR.

23 HERE COMES SANTA CLAUS.

24 >>: KERRY HAS ONE.

25 YOU HAVE WON A WONDERFUL GIFT.

1 WILL YOU COME FORWARD AND GET IT?  
2 SANTA HAS A GIFT FOR YOU. WANT TO SIT  
3 ON SANTA'S LAP? I HAVE NO IDEA OF WHAT  
4 THIS IS BUT IT'S A LITTLE GADGET FOR  
5 YOU, AND SANTA ALWAYS GIVES CANDY SO  
6 YOU GET CANDY TOO.

7 AND WHO ELSE HAD ONE UNDER THEIR  
8 CHAIR?

9 >>: SHE'S COMING UP.

10 >>: AND BECAUSE SHE'S COME  
11 TWICE AND SHE'S THINKING ABOUT AN  
12 IMPLANT, SANTA LOVES YOU. THANK YOU.  
13 ANYWAY, THIS WILL BE SOME INCENTIVE FOR  
14 YOU THAT WILL HOLD YOUR BATTERIES SOME  
15 DAY. SHE'S BEEN THINKING FOR THE LAST  
16 FOUR MONTHS ABOUT AN IMPLANT SO WE KEEP  
17 ENCOURAGING HERE. THANKS, JANE, FOR  
18 COMING.

19 AND THEN I HAVE SOMETHING FOR  
20 THE YOUNGEST -- WELL, THE SECOND  
21 YOUNGEST PERSON THAT'S HERE. DO YOU  
22 WANT TO COME UP? SANTA HAS A GIFT FOR  
23 YOU.

24 >>: WE'RE SO HAPPY THAT YOU  
25 CAME. CAN YOU TELL US WHAT YOUR NAME

1 IS?

2 >>: KATE OR KATIE.

3 >>: AND SANTA HAS SOME M & M'S

4 FOR YOU SO YOU CAN EAT THEM ON THE WAY

5 HOME AND I HOPE SANTA IS GOOD FOR YOU.

6 I WISH YOU ALL A BLESSED CHRISTMAS,

7 TOO, SANTA DOES.

8 >>: THANK YOU, SANTA CLAUS. SO

9 THAT SHOULD CONCLUDE OUR MEETING.

10 WE'RE RUNNING A LITTLE EARLY. I THINK

11 RUTH HAS OFFERED TO STAY IF YOU HAVE

12 ANY QUESTIONS YOU WANT TO TALK TO HER

13 ONE ON ONE, YOU CAN. THANK YOU ALL.

14 HAVE A SAFE TRIP HOME, AND I LOOK

15 FORWARD TO SEEING YOU IN MARCH.

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