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Customized Hearing Health Care

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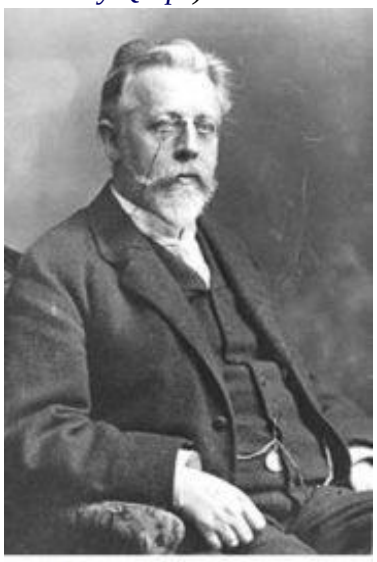
This week at ***Hearing International*** we are pleased to have guest author, Dr. Nancy Tye-Murray of Washington University, St. Louis Missouri. Dr. Tye-Murray has been working in the area of Aural Rehabilitation for many years and now has designed a new Aural Rehabilitation Program called clEAR™ .

In today's changing hearing healthcare environment, more and more audiologists are adopting the philosophy of "customized hearing healthcare" to distinguish themselves from the competition. Customized hearing healthcare has four key elements: understanding and treating the patient's particular hearing-related communication challenges, including the frequent communication partner in the aural rehabilitation plan, creating a sense of belonging and a community among patients who share hearing-related communication difficulties, and last but by no means least, joining the patient on the hearing healthcare journey. This short article is about that last element, being a part of the patient journey.

But first, a little history. Before the advent of the truly wearable hearing aid, which coincided about the time soldiers began returning from World War II with noise-induced hearing loss, the only option available to patients with hearing loss was to receive speechreading and auditory training. Today, we associate speech perception training with computerized programs that are often completed by patients via a personal computer in the home environment and usually, with little contact with an audiologist (e.g., LACE; *Read My Quips*).



Victor Urbantchitsch

But by looking at history, it's possible to see that by computerizing some of our aural rehabilitation interventions, a crucial element of the treatment has been eliminated. As two examples, consider first an excerpt from the speechreading training curriculum developed by Edward Nitchie (1918) and then one from the auditory training curriculum developed by the otologist, Victor Urbantchitsch (1895) (Pictured above, ca 1920):

Nitchie: Have an "assistant read a story (e.g., Ben Franklin, Issac Newton) to you without

voice…until you follow half or more…have your assistant read it again, this time with interruption….let your assistant ask you questions about the story…then endeavor to carry a short conversation with your assistant about the story...”

Urbantchitsch: “I begin by speaking aloud a sustained vowel, usually /a/ or /o/... If these attempts yield no result, I repeat them with increased intensity accomplished by shaping a funnel with the hollow of both hands through which I speak into the ear... [We might resort to] two persons shouting /a/ simultaneously into both ears...”

If you’re thinking that I’m about to suggest that you hire two people to holler into your patients’ ears, you are mistaken. But what I am suggesting, and which is often sorely missing in modern aural rehabilitation curricula and treatment plans, is that hearing healthcare professionals should give their patients more personal attention, both in terms of feedback and support throughout the aural rehabilitation plan. As illustrated beautifully in the two excerpts above, in bygone days, either the hearing healthcare professional or a hearing healthcare assistant oversaw training and provided support and feedback about progress in an ongoing fashion.

clEAR™ (customized learning: Exercises for Aural Rehabilitation) provides affordable auditory training to persons who have hearing loss and is designed to enhance people’s abilities to recognize the speech of their frequent communication partners and the speech of everyday talkers, especially in noisy environments. A unique feature of clEAR is that it includes a recording and automated editing system so that patients can receive customized training designed to help them recognize the speech of a specific frequent communication partner (FCP). Patients also have the option of training with generic voices that are stored on the clEAR website, and may choose to train with male, female, or child speech samples. A second unique feature of clEAR is that the training activities are presented in a game-like format so that training is engaging. The clEAR website also creates an easy way for audiologists to stay in contact with their patients.

We provided clEAR auditory training to about 100 patients with hearing loss and had an over 95% compliance rate (meaning that patients completed the training program) (Tye-Murray et al., 2012). At the end of their training, we asked each patient, “What did you like best about the experience?” The most popular answer was some variant of “Regular contact with an audiologist” and “Knowing that a professional cares about my progress.” It should be added that the contact patients had with the audiologist during our study was minimal. An audiologist greeted them when they arrived and led them to the computer training station for the training. After the training, an assistant thanked them for coming and reminded them of their next appointment. Total contact time was about five minutes. (Click here for a video)

There is a very powerful message in this research outcome: An effective way for an audiologist to be more competitive with the Sam’s Clubs and the Costco‘s of the world is to maintain contact with their patients after the hearing aid fitting (and even if the patient doesn’t opt for a hearing aid) and to convey the sense that they genuinely care about the patient’s predicament and about being an important component of the solution.

Contact can be accomplished as just described, with the patient coming to the clinic for a course in auditory training delivered via the Internet. It also can be accomplished by having the patient receive auditory training and the concomitant support with a personal computer at home. At clEAR, we recommend that patients be enrolled in the clEAR program with the following procedures:

1. Patients' hearing predicament is assessed and treated (e.g., with appropriately fitted hearing aids if aids are warranted and the patient is motivated).
2. If deemed a candidate for clEAR (candidacy for auditory training in general will be the subject of a future article), the audiologist enrolls the patient and provides both an orientation to the website and provides the patient with an auditory training schedule a the practice site. An array of training schedules are available, based on the patient's predicament (e.g., a new hearing aid user; a patient who wants to better understand females' or children's voices better).
3. Patients continue training at home.
4. Throughout training, the audiologist stays in contact with each patient via semi-canned emails (e.g., "Hi Ms. XXX, I see that you played the XXX game for XXX minutes today. Congratulations on you score of XXX……", where the XXX fill in automatically by the clEAR software).
5. The audiologist also stays in contact with the clinic's clEAR community of patients by posting regularly on a communal message board.
6. The audiologist may perform an assessment before and after and even during the training, using the assessment materials stored on the clEAR website.

Using clEAR is just one example of how an audiologist can become part of their patients' hearing healthcare journey. Becoming part of the patient journey doesn't have to be expensive for the audiologist, either in terms of time or effort and the payback can be enormous. Just ask your patients.

Nancy Tye-Murray is a Professor at Washington University in St. Louis and the author of five books, including *Foundations of Aural Rehabilitation: Children, Adults, and Their Family Members (4th Edition, 2015)*, and over 150 peer-reviewed articles. Funded by grants from the National Institute of Health, her research focuses on audiovisual speech recognition, auditory training, and speechreading training. She is also the CEO for clEAR (customized learning: Exercises for Aural Rehabilitation).

References

Tye-Murray, N., Sommers, M. S., Mauzé, E., Schroy, C., Barcroft, J., & Spehar, B. (2012). Using patient perceptions of relative benefit and enjoyment to assess auditory training. Journal of the American Academy of Audiology, 23(8), 623-634.

Urbanisch, V. (1895). Uber Horubungen bei Taubstummheit bei Ertaubung I'm spateren lebenstalter, Gyan Books, Pvt, Ltd. Retrieved December 13, 2016.