

Speaking After Loss of Tongue and Larynx

The Problem

Access to personalized augmentative communication applications and devices typically takes more than 6 months to obtain. A 62 year old Air Force Veteran faced with losing his entire tongue and larynx (voice box) to cancer needed a text-to-speech device within two weeks. Given his inability to articulate, he would be unable to use an artificial larynx. The Voice, Speech & Swallowing service needed to think outside the box to find a way for him to communicate.

Aim/Goal

To ensure this patient planned for total laryngectomy/glossectomy would have appropriate and effective means of communication after losing his voice and articulation ability to cancer

The Team

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The Interventions

- Research voice banking options in the community, specifically for veterans
- Connect with a Speech-Language Pathologist at the local VA Hospital to assist the patient in gaining service eligibility
- Coordinate a visit with the patient, family, and representative from VocaliD, an online voice-banking service, to initiate voice-banking process prior to surgery
- Instruct patient on the appropriate headset to purchase for good quality recordings of 3000 sentences
- Ensure the patient completes approximately 6+ hours of voice banking prior to surgery, with a VocaliD representative monitoring recording quality throughout
- Encourage VocaliD to build the patient's synthesized voice in a timely manner, for use on his cell phone in the hospital after surgery
- Confirm the patient is scheduled for follow-up with the VA Hospital to obtain an Augmentative/Alternative Communication (AAC) device

Results

How VocaliD Works

- 1) BANK.** Record ~3,000 sentences (~5-6 hours) on VocaliD's Human Voicebank platform (www.vocalid.co), over several days/weeks
- 2) BUILD.** VocaliD builds a synthesized voice from the recordings
- 3) USE.** The synthesized voice can be used on mobile type-to-speech apps including MyVocaliD

Clips of the patient's real voice prior to surgery

Clips of the patient's synthesized voice

Two weeks after initiation of voice banking, while in the hospital, the patient was able to use text-to-speech for communication from the VocaliD app on his cell phone, with a portable speaker, saying, "I sound just like that!"

Lessons Learned

- Synthesized voices can help maintain a patient's vocal identity, sound natural, and allow for generation of innumerable novel utterances.
- A user-friendly online service is available to assist patient's who will lose their voice to cancer in completing a voice-banking process in a timely and efficient manner.
- Representatives from VocaliD are readily available for in-person assistance, providing an excellent patient experience during a difficult time.
- Voice banking is available to anyone, both for future use or "voice preservation," and for donation to others losing their ability to communicate.

Next Steps

- Determine the appropriate procedure for patient's with private insurance to have access to voice-banking technology in the same timely manner as this veteran

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