A Case Study of the Evolving AAC Needs of a Person with Severe Facial Trauma and Future Facial Reconstruction

By: Erin Browne, Rachel Cannon,
Christopher Hicks,
and Laura Nichols Ed.S.,CCC-SLP

Disclosures

Graduate student presenters from the University of Georgia Erin Browne, Rachel Cannon and Christopher Hicks have no financial or nonfinancial relationships to disclose for this presentation.

Laura Nichols Ed.S., CCC is employed as an assistant clinical professor at the University of Georgia and has no financial or nonfinancial relationships to disclose for this presentation.

Learning Objectives

- In order to demonstrate understanding, the listener will ask questions about the fluctuating augmentative communication needs of a man who experienced severe facial trauma and will have facial reconstructive surgery.

- The learner will evaluate the AAC assessment process that was utilized to determine the most appropriate AAC devices for a client with fluctuating communication needs.

- The learner will differentiate the appropriate time and use of a mid-tech AAC device and a high-tech device in this particular case.

Background

“Luke” is a 58-year-old male who experienced an accidental gunshot wound in 1997, which resulted in massive head and facial trauma. Luke lost varying portions of different articulators, including his lips, jaw, tongue, and nose. The damage to his oral speech mechanism causes Luke’s verbal speech to be limited. He also lost his ability to eat solid foods and close his eyes since his accident. Luke worked as a printing pressman up until his incident and continues to keep busy during his everyday life. He actively participates in outdoor activities, such as landscaping, chopping wood and working around his house. Luke has a need to communicate with healthcare providers, as well as his eight siblings and his domestic partner, Mary. Due to Luke’s limited intelligibility, Mary assists his communication with unfamiliar communication partners.

Reason For Referral

Luke will soon undergo a face transplant, one of few in the United States. His doctors referred him to the University of Georgia Speech and Hearing Clinic for an AAC evaluation to determine his augmentative communication needs immediately following surgery and long-term thereafter.

Due to the extensive and innovative nature of the surgery, his verbal speech prognosis is largely unknown. His medical team anticipates lack of movement of his jaw and limited movement of his tongue, as the anterior 2/3 of the tongue will be from a donor. During his recovery, he will have his jaw wired shut for at least 30 days, and his eyes will be kept closed for an undetermined amount of time.

Luke needs to have a way to communicate pain and basic needs right after surgery.

Diagnostic

Currently, Luke is able to verbally speak by plugging his tracheostomy tube. However, this speech is impaired in intelligibility and declines with fatigue. Based on the results of various testing during the evaluation, Luke’s reading, writing, and auditory comprehension abilities are within normal limits. His expressive and receptive language abilities were intact, but his speech intelligibility, which was determined to be approximately 60%, is the main area of concern.

Recommendations

From the diagnostic evaluation, we concluded that Luke will need 2 devices to communicate his needs effectively.

Because Luke will have a reduced level of consciousness and no vision, a simple, mid-tech voice output device is recommended for immediately following surgery.

In the weeks following surgery, Luke's communication needs and abilities will gradually increase. A high-tech speech-generating device will allow him to express unlimited novel thoughts and ideas using text-to-speech technology.

Technology: QuickTalker 12

QuickTalker 12: A lightweight, portable dedicated speech generating device has 12-message locations. It is a digitized speech device with 12 icons that express predetermined messages, such as “I am thirsty”, “I am full”, and “I am in pain”.

Technology: Tobii Dynavox Lightwriter

Tobii Dynavox Lightwriter SL40 is a high-quality text-to-speech device that features an adjustable keyboard, Acapela voices, mobile phone capabilities, and direct selection. Text to speech allows him to communicate novel and on-the-spot messages by typing words and sentences. He needs a way to type efficiently using abbreviation expansion and shortcuts. The Lightwriter will allow Luke to communicate on the phone and via text message as he recovers far from his family and loved ones. The Lightwriter also has an alarm so that he may quickly get the attention of caregivers in an emergency situation. The Lightwriter has an all day battery life with standard usage and can be charged throughout the night. The keyboard can be customized. The keys can be in QWERTY order or ABC order depending on Luke's preference. There are two screens on the device. One screen is for the user to see and the other is for his communication partner.

Session Plans

In order to learn these devices, Luke was seen for therapy at the University of Georgia Speech and Hearing Clinic for 4 sessions.

Luke learned the QuickTalker 12 to be used for the few days post-surgery. With only 12 icons as an option, Luke was able to memorize where each phrase was located within one session. The rows were organized by the type of need (e.g. food, pain, how his day was going).

Prognosis

Due to positive prognostic indicators such as a supportive family, determination, and an extremely optimistic attitude, there is no concern for Luke’s future success with both the QuickTalker 12 and the Tobii Dynavox Lightwriter.